

KERALA VETERINARY AND ANIMAL SCIENCES UNIVERSITY, POOKODE

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ANNUAL REPORT 2020-21

Patron

Vice Chancellor

Kerala Veterinary & Animal Sciences University
Pookode, Wayanad

Acknowledgements

Hon. Vice Chancellor
Registrar
Finance Officer
Director (Academics & Research)
Director (Entrepreneurship)
Chief Engineer (ID Wing)
Controller of Examinations
Deans, College of Veterinary & Animal Sciences, Mannuthy&Pookode
Deans, College of Dairy Science & Technology, Mannuthy
Director Clinics
Director Farms
Director (Student's Welfare)
Special Officers
College of Avian Sciences and Management, Thiruvazhamkunnu
College of Dairy Science and Technology, Pookode, Chettachal&Kolahalamedu
College of Dairy Science and Technology Chettachal, Thiruvananthapuram
College of Food Technology, Thumburmuzhy
Officers and Heads
Station heads
Faculty members
Librarian

Published By

Directorate of Entrepreneurship

Kerala Veterinary & Animal Sciences University
Pookode, Lakkidi P.O., Wayanad- 673576

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Sl. No.	CONTENTS	Page No.
1	About the University	2
2	From the office of Vice Chancellor	3
3	From Registrar's office	4
4	Finance wing	9
5	Directorate of Academics and Research	11
6	Infrastructure Development Wing	21
7	Directorate of Entrepreneurship	22
8	Academic Staff College	24
9	KVASU laboratory facility	25
10	College of Veterinary and Animal Sciences, Mannuthy	28
11	College of Veterinary & Animal Sciences, Pookode	130
12	College of Dairy Science and Technology, Mannuthy	149
13	College of Dairy Science and Technology, Pookode	182
14	College of Dairy Science and Technology, Kaimanam, Thiruvananthapuram	191
15	College of Dairy Science and Technology, Kolahalamedu, Idukki	192
16	College of Avian Sciences and Management (CASM) Thiruvazhamkunnu	193
17	College of Food Technology, Thumburmuzhy	207
18	Instructional Farms University livestock farm and fodder research & development scheme, Mannuthy Centre for pig production and research, Mannuthy Goat and sheep farm, Mannuthy University poultry and duck farm, Mannuthy Instructional Livestock Farm, Pookode Cattle breeding farm, Thumburmuzhy Livestock Research Station, Thiruvazhamkunnu Base farm, Kolahalamedu, Idukki	208
19	Meat Technology Unit, Mannuthy	239
20	University Dairy Plant, Mannuthy	241
21	Directorate of Clinics, KVASU University Veterinary Hospital and Teaching Veterinary Clinical Complex, Mannuthy University Veterinary Hospital, Kokkalai Teaching Veterinary Clinical Complex, Pookode	245
22	Centre for Animal Adaptation to Environment and Climate Change Studies (CAADECCS)	261
23	Centre For One Health Education, Advocacy, Research And Training (COHEART), Pookode	265
24	Centre for Wildlife Studies, Pookode	272
25	Bioscience Research & Training Centre, Thiruvananthapuram	278

About the University

Kerala Veterinary and Animal Sciences University with headquarters in Pookode, Wayanad has landed assets of KVASU of about 957.95 acres spread across different campuses in Thrissur, Wayanad, Palakkad, Idukki and Thiruvananthapuram districts of Kerala . The powers of the University are vested in its authorities –the Management Council Chaired by the Chancellor, the Board of Management (Board) and Academic Council chaired by the Vice Chancellor. The ex-officio members include the Chancellor, Vice Chancellor, Registrar, Finance Officer, Directors and Deans. The functions and powers of these officers are defined in the University Act. The academic staff comprise of Professors, Associate Professors and Assistant Professors apart from research fellows and scholars at various phases of instruction or research. University now has a faculty occupancy of around 78% which would be one of the country's best and a teacher student ratio of 1:8. Further, the academic activity is supported by a non teaching cum farm staffing of nearly 948.

The territorial jurisdiction of the University extends to the whole of the state of Kerala. The University encompasses three faculties- the Faculty of Veterinary and Animal Sciences, the Faculty of Dairy Science and Faculty of Poultry Science; with eight constituent colleges-

1. College of Veterinary and Animal Sciences, Mannuthy, Thrissur
2. College of Veterinary and Animal Sciences, Pookode Wayanad
3. Verghese Kurien Institute of Dairy Science and Technology, Mannuthy, Thrissur
4. College of Dairy Science and Technology Pookode Wayanad,
5. College of Dairy Science and Technology, Kaimanam, Thiruvananthapuram
6. College of Dairy Science and Technology, Kolahalamedu, Idukki
7. College of Avian Sciences and Management, Thiruvazhamkunnu, Palakkad
8. College of Food Technology, Thumburmuzhy, Thrissur

The University has one affiliated college, Sarathi Institute of Veterinary & Animal Sciences, Thaliparamba, Kannur.

The University has wide network of instructional and research farms spread throughout the state, which include the instructional livestock farms attached to College of Veterinary and Animal Sciences, Pookode and Livestock Farm and Fodder Research & Development Scheme at Mannuthy, Livestock Research Station, Thiruvazhamkunnu, Palakkad, University Poultry and Duck Farm, Mannuthy, Centre for Pig Production and Research, Mannuthy, Goat and Sheep Farm, Mannuthy, Cattle Breeding Farm, Thumburmuzhy and Base Farm, Kolahalamedu. KVASU hosts the All India Co-ordinated Research Project on Poultry, Centre for Advanced Studies in Poultry Science and Centre for Advanced Studies in Animal Breeding and Genetics at Mannuthy. The recent development in the inter-disciplinary initiatives of the University is the establishment of five schools and seven centres, an emerging academic feature of importance. They are School of Bio-Energy studies and farm waste management, School of Applied Production and Biotechnology, School of Zoonosis, Public Health and Pathobiology, School of New Media and Research, School of Animal Nutrition and Feed Technology, Centre for Animal Adaptation to Environment and Climate Change studies, Centre for Ethno pharmacology, Centre for Livestock Development and Policy Research, Centre for Small Laboratory Animal Production, Central Instrumentation Laboratory and central store. Centre for Wildlife Studies and Centre for One Health

Education, Advocacy, Research and Training (COHEART) are located at Pookode, Wayanad. The Centre for Livestock Policy Research is located in Thiruvananthapuram, the State capital along with Regional Research Training Centre. The University offers its services through Teaching Veterinary Clinical Complex at College of Veterinary and Animal Sciences, Pookode, Peripheral Veterinary Clinic and Entrepreneurship Centre, Kakkavayal, Wayanad, Veterinary Hospital Complex at Mannuthy, Veterinary Hospital at Kokkalai, Thrissur. Products from University Meat Plant and Dairy Plant at Mannuthy offers quality assured livestock products to public. The products developed under various stations of the University are being marketed under the brand *kasavu*”.

Our mandate:

A reading of the Act and Statutes bestows the responsibility of leading the State with innovative research and education in Animal agriculture and Veterinary sciences including all supporting and allied subjects including management and policy sciences. An added aspect is the responsibility to train farmers to enhance productivity and profit in animal agriculture, promote factor productivity by entrepreneurship acting individually and as concerns, if necessary by forming companies. Focus on entrepreneurship; actable research and commercialization of research productivity are the innovative aspects of institutional design.

Funds and funding

KVASU is funded primarily by the legislature of the state of Kerala as grants in aid in its annual budgets. Apart from Govt. of Kerala, KVASU receive funds from Indian Council for Agricultural Research (ICAR), Externally Aided Projects from other agencies and internal revenue of the University.

OFFICE OF THE VICE CHANCELLOR

The functions and duties of the Vice Chancellor are defined in Section 13 of the Act 2010. The Vice Chancellor shall exercise general control over the affairs of the University and shall be responsible for the due maintenance of discipline in the University.

Vice Chancellor

Dr. M. R. Saseendranath, Vice Chancellor

Vice Chancellor shall be Ex-officio chairman of Management Council, Board of Management, and Academic Council. He shall ensure that all the provisions of the Act, the statutes, and the Regulations are observed and shall have all the powers necessary for that purpose. He shall correspond on policy matters with Governments in the Centre and state, offices of His Excellency the Chancellor, Hon’ble Vice-Chancellor of other Universities, High Government officials and other dignitaries.

The office of the Vice-Chancellor also plans for the development of various University units and aids advice to the Faculty Deans and construction wing to carry out expansion and

modification plans, University physical structure, identify areas of academic development such as identify new courses and academic programmes and implementing them in various faculties. In addition to the statutory functions, the office of the Vice-Chancellor shall also function as a facilitator or arbitrator for grievances and redressed by registering and preferring complaints to the Grievance Redressed Committee and also the University Appellate Tribunal. Vice Chancellor has in exercise of duties attended several conclaves, meetings and programmes representing the University with Hon^{ble} Chancellor, Hon^{ble} Pro Chancellor, Agricultural Production Commissioner and with UGC, ICAR, Indian Veterinary Council and AIU and several funding agencies like NABARD, RIDF etc.,

Office of the Vice Chancellor

The office of the Vice-Chancellor consists of the Private Secretary to Vice-Chancellor, usually in the cadre of Assistant Registrar, Officer on Special Duty to the Vice-Chancellor (normally Assistant/Associate Professor) other staff supporting them such as Assistant, Personal Assistant, Class IV, etc.,

OFFICE OF THE REGISTRAR

The function and duties of the Registrar is defined in the section 14 of the Act 3, 2010. Registrar is the Chief Administrator and Vigilance Officer of the University, Custodian of records, common seal and such other property of the University as the Management Council and Board of Management entrust him. The administrative hierarchy of the Registry is as follows: Registrar>Joint Registrar>Deputy Registrar>Assistant Registrars – Labour Officer>Section Officers>Assistants. A digital filing system named eDocs (Electronic Document Circulation System) has been developed in the University by the University IT Cell and also the programme is under testing Stage. It is expected that this computer programme could be implemented shortly in all the offices/stations/ units under the University. University has decided to implement a project on Special Live Stock Zone at Madikai panchayath at Kasargod district which is envisaged in 90 acres of land with an initial budget outlay of Rs. 10 crores allotted in the State Budget 2019-20 through PWD. The project for implementing Regional Centre of KVASU at Koyilandy Municipality, Kozhikode district is under progress and Municipality agreed to hand over the land for the same.

Resume of works during the reporting period

- Action initiated to appoint HoD&HoUD in the University.
- Action initiated for the SC/ST Special Recruitment of for the post of Assistant Professors.
- Conducted Recruitment and Selection to the Post of Registrar.
- Appointed law officer on deputation basis.
- UGC regulation 2018 on Minimum qualification for appointment of teachers and academic staff in University ad colleges and other measures for the maintenance of Standard Higher Education implemented in University.
- The tenure of Finance Officer extended for 1 year.

- Action initiated to conduct Career Advancement Promotion 2021.
- The probation declaration Orders were issued to the eligible Assistants and Computer Assistants whose service have been regularized.
- Assistant Section officers were promoted to the post of Section officer so as to fill the vacancies in the S.O cadre.
- Promotion granted to 3 computer assistant (Sel.Gr) to the post of Office Superintendent.
- Letter communicated to the Government regarding several issues with KAU.
- Letter communicated to the Government regarding sanctioning of Non – teaching posts
- Discussed various issues of KVASU with Hon’ble CM in the meeting held on 19.1.2020.
- Willingness of University to appoint Labour Officer KVASU, on deputation basis is communicated to Kerala Government.
- As per the Government order, the tenure of deputation of KVASU Law officer extended for one more year.
- Transfer of NTS in respective cadres have been done so as to smoothening the Administration of Offices.
- Detailed report on Staff strength and work load of KVASU submitted before Work study team from P&ARD of Kerala Government on their visit on 21st & 22nd January 2020.
- 9 non-teaching posts were created by defreezing of posts in the reserve pool based on the decision of Establishment Committee and BoM .
- Transfer of NTS in respective cadres have been done as a part of General transfer 2020
- Consequent to the retirement of senior officers, promotion has been granted to Administrative Officers as per eligibility and seniority.
- One candidate appointed in Assistant post through compassionate – employment Scheme.
- Sri.Suresh Kiliyancode, DLO, Wayanad appointed as Labour officer of KVASU on Deputation basis.
- The appointment of Assistants and Computer Assistants recruited through Kerala Public Service Commission has been regularized based on their eligibility.
- Based on seniority and eligibility, promotion has been granted to Assistants and Computer Assistants to the respective higher posts.
- Assistants and Computer Assistants were joined through Inter university transfer from other Universities on reciprocal basis.
- Letter communicated to the Government regarding Land issues with KAU.
- Letter communicated to the Government regarding appointment to Assistant post through Internal Selection from lower categories.
- Appointment to the post of Office Attendant through compassionate Employment Scheme.
- Granted promotion to the cadre of Executive Engineer from the below cadre of Assistant Executive Engineer.
- Granted promotion to the cadre of Senior Farm Supervisor from the below cadre of Farm Supervisor Gr.I.

- Granted promotion to the cadre of Farm Supervisor Gr.I from the below cadre of Farm Supervisor Gr.II.
- A proposal has been submitted before Govt to consider the certificate Course of 'Animal Handling in Zoo and Forest' as a qualification for various posts under the Animal Husbandry Department.
- The proposal to create the required posts under the IT cell has been submitted to the Government.
- Created posts of Clerical Assistant through re-structuring of posts.
- Granted promotion to the posts of Clerical Assistants from Office Attendants based on eligibility and seniority.
- Invited applications from permanent labourers and Office Attendants for promotion to various posts in Class III category.
- Submitted report before Govt. regarding the details of employees uploaded in the KSCBC Portal.
- Initiatives were taken for the amendment of Statute regarding the post of Office Attendants.
- Regularized the service and declared probation of Office Attendants.
- Granted higher grade promotion to the Office Attendants based on eligibility and seniority.
- 8 Vacancies in the posts of Office Attendant at KVASU Head Quarters, Pookode are filled through Employment Exchange.
- Deputation was granted to 12 faculty members for pursuing Ph. D programme during the academic year 2020-21
- 3 Assistant professors were appointed from the previous rank list published in 2015 in the vacancies occurred due to the termination of teachers in compliance with the Court verdicts.
- Deputation period of 6 Dairy extension officers from Dairy Development Department in the University has been extended for One year.
- NCA vacancies arose consequent to the 2015 Assistant Professor selection were notified. Recruitment and selection of Assistant Professors were conducted for these vacancies and appointment orders were issued to 14 eligible candidates in various departments.
- Actions were taken to provide orientation classes to newly recruited Assistant professors
- 6 meeting of the Board of Management was conducted successfully.
- 3 Meeting of the Management Council was conducted successfully.
- 2 meeting of the Establishment Committee was conducted successfully.
- Election the Management Council was conducted successfully and the 4th Council was constituted on 08/03/2021.
- As per the decision of 64th Board of Management, constituted a committee to examine proposals for enhancement of PG/Phd allowance.
- As per the decision of 64th Board of Management, executed an agreement with Kerala

Police Telecommunication Department and KVASU towards construction of Microwave Link Tower in connection with Digital Communication System implemented by Kerala Police.

- As per the decision of 64th Board of Management, Letters were sent to three MLAs in connection with several problems facing the University.
- Prepared and submitted report to Registrar in connection with Kolahalamedu land issues for attending Minister level meeting.
- As per the instruction from Government, University vehicles were registered in Govt. Website (VEELS). For this, information and guidance gave to all Stations of the University.
- Initiatives were taken for the mileage test of two vehicles (KL 12 K 69 & KL 12 H 3126) attached to General Administration Wing.
- Letter sent to Regional Transport Office for the exemption from tax and cancellation of registration of the disposed vehicles (KL 08 C 598 – Autoriksha, KL 12 H 7032 – Power Tiller, KL 08 N 3681 – Car)
- A Technical cum Purchase Committee constituted in connection with the purchase of a new vehicle to Meat Technology Unit, Mannuthy.
- Initiatives were taken to the registration of new vehicles purchased by Meat Technology Unit, Mannuthy and University Veterinary Hospital Mannuthy.
- Initiatives were taken for the amendment of statute relating Director of Clinics and Director of Farms.
- Submitted report on various petitions to CMO Portal.
- Letter sent to Private Secretary, Agri (AHF) Department towards the Lease Deed with Kerala State Industrial Development Corporation (KSIDC).
- University issued orders to extend the term of Standing Counsel & Associate Standing counsels.
- A committee is constituted consisting of Hon'ble Vice Chancellor, Addtl. Secretary, Law Department (BoM Member), Law Officer and Registrar for conducting an evaluation and regular monitoring of the court cases pertaining to the University.
- Issued order on the basis of the direction of Hon'ble High Court of Kerala in WP(c)No.23650/2019 filed by DrShibu Simon in order to obtain seniority.
- Convened a meeting with the Standing Counsel & Associate Standing counsel to discuss the status of the cases of the University as per the direction of Hon'ble Vice Chancellor.
- Prepared and submitted the present status report to the Registrar in connection with the construction activities at Pookode Campus.
- Issued order on the basis of the direction of Hon'ble High Court of Kerala in WP(c)No.14174/2015 filed by Dr. Anumol Joseph in order to get appointment as Assistant Professor.
- Issued order on the basis of the direction of Hon'ble High Court of Kerala in WP(c)No.19038/2020 filed by Praveena P & others in order to get appointment as Farm

Assistant.

- Till March 22nd 2021, 82 RTI applications (including 3 appeals) have been received in this section, out of it replies were sent to 75 applications and 7 applications were under processing.
- Replies were sent to various petitions in CMO Portal. NO complaint is pending as on 22/03/2021
- Clarifications and modifications were communicated regarding the land lease agreement between KSEBL and KVASU. The final draft agreement is now under vetting of KSEBL law officer.
- As per the direction of 36th MC meeting letters were sent to DSW and DAR regarding the setting up of Employment Information Guidance Bureau under KVASU.
- As per the minutes of meeting of University Officers on 17/02/2021 it has been decided to honor workers with distinguishable work record with letter of appreciation. In this circumstance a circular has been sent to all stations regarding the same.
- Orders were issued for shifting the Guest house, KVASU, Pookode from Dean's office to the Registrar office.
- Letter sent to ID wing Director to take initiative regarding the demarcation of Land at CBF
- Letter sent to ID wing director to look into the possibility of constructing a research infrastructure near CAADECCS.
- Audit report of 2014-15,2015-16 were submitted to the Finance officer, KVASU
- The University has taken necessary action to regularise the casual labourers who were made permanent as per the Order No.GA/LO/1832/2017 dated 24.04.2017 and issued Order No.KVASU/GA/LO/735/2015 dated 28.02.2020.
- Meetings were held at Mannuthy under the chairmanship of Labour Officer, Leaders of labour unions and University officers on 07.09.2020 & 03.11.2020 regarding the labourers labour issues.
- The University has taken necessary action to enroll all permanent labourers in National Pension Scheme.
- Implement the Work Norms for Labourers.
- The University has taken necessary action as per the direction from the State Insurance Directorate to enroll all permanent labourers in Group Personal Accident Insurance Scheme.
- The University has taken necessary action to sanction Wage arrear,Increment arrear and other benefits of regularization to labourers who were made permanent w.e.f. 01.01.2017.
- As per the Judgement dated 12.07.2019 of WP© No.6199/2014 of Kerala High Court the University has appointed four petitioners as casual labourers.
- The University has submitted letters to government to sanction 118 labour post for Pookode station from government.
- The University has published the Hand Book of Pay and Allowances for Permanent/Casual Labourers of the Veterinary University. And distributed to all Farms.

Details of the meeting of the various authorities of the University held during the reporting year 2020-21

Meetings of the Board of Management held during the period 2019-20			Meetings of the Management Council held during the period 2019-20	
Sl. No.	No. of the Meeting	Date	No. of the Meeting	Date
1	66 th Meeting	10/06/2020	35 th Meeting	10/06/2020
2	67 th Meeting	21/08/2020	36 th Meeting	16/01/2021
3	68 th Meeting	04/11/2020	37 th Meeting	30/03/2021
4	69 th Meeting	28/12/2020	Management Council- 3 No.s Board of Management- 6 No.s	
5	70 th Meeting	16/01/2021		
6	71 st Meeting	30/03/2021		

FINANCE WING

During the financial year 2020-21, Non Plan Grant of Rs. 80.17 crores was allotted to the University and the same amount has been received. An amount of Rs. 100 crores has been disbursed as Non Plan Grant for utilization. An amount of Rs. 11 crores (first instalment) has been received as State Plan Grant under E-Lams. Further Rs. 14.6070 crores was received as IInd Installment under the State Plan Grant. Both the above amount have been transferred to the various stations for the implementation of State Plan Projects. Over the above, an additional Non Plan Grant of Rs. 9.08 crores was sanctioned to the University for utilization.

Since the Non Plan Grant allotted was inadequate, the University is relying on the Internal Revenue to meet contingencies and other day-to-day activities. An amount of Rs. 59.86 crores has been incurred towards payment of pay and allowances of the Teaching staff, Non-Teaching Staff and Labourers. Moreover, Rs. 16.18 crores has been incurred towards the disbursement of pensionary benefits of all categories of employees. An amount of Rs. 19.93 crores was transferred as contingency fund to the various stations during the period.

The details of the pension benefits disbursed to the Labourers, Non-teaching staff and teaching staff during this report period is shown below.

1. Pension - 88746911
2. Commutation - 32667108
3. DCRG - 32876177
4. Terminal Surrender - 7589426

Total 16,18,79,622

During this financial year, an amount of Rs.1,90,26,340/- towards PF closure, Rs.2,67,047/- towards closure of Family Benefit Scheme(FBS) , WorkersFamily Benefit Scheme(WFBS), Welfare Fund Scheme(WFS), Workers Welfare Fund Scheme(WWFS) and Rs.2,49,93,104/- towards PF NRA and PF Temporary advance have been disbursed from this office.

An amount of Rs.3,85,27,825/- have been received and disbursed towards ICAR Projects, AICRP Projects, Outreach Programme, ICMR Projects during the financial year 2020-21. Also an amount of Rs.91,27,633/- has been received and disbursed towards NASF, SERB, DST, NAHEP, NMPB Projects during the period of report. Towards the NCVTC Project, an amount of Rs.1,00,000/- has been received and disbursed during this financial year. An amount of Rs.12,85,755/-, Rs.7,64,100/-,2,92,500/-, have been disbursed towards KSCSTE Project, CAD /INSPIRE Scholarship and Indo-African Fellowship respectively. Apart from this, an amount of Rs.15,00,000/-(AHD Project) and Rs. 2,49,000(NABARD financial assistance) have been disbursed to the concerned Project Implementing Officers. An amount of Rs.67000/- is disbursed to ILFC, Pookode for planting vegetable crops in the farm. For imparting training an amount of Rs.55,62,100/- has been expended during the financial year 2020-21.

Out of the State Plan Project(e-LAMS) of Rs.11 crore, unutilized surrendered amount of Rs.1,91,21,449/- has been redistributed to the various stations of KVASU. An amount of Rs.2,05,33,540/- being the resumption amount refunded was distributed to various stations. An amount of Rs.23,75,000/- has been disbursed towards various Revolving Fund Projects of the University. An amount of Rs.14.6070 crore towards State Plan Fund 2020-21 and unutilized amount of Rs.60,28,804/- received from various stations have been transferred to the respective stations of KVASU. For implementing four RKVY projects in the University an amount of Rs.270 Lakh(2nd instalment) was disbursed. An amount of Rs.610.73 Lakh was transferred to the ID Wing, KVASU towards implementation of RIDF Project.

All the objections under the ‘outstanding paras’ of the AG audit report2011-13 have been waived based on the replies furnished to the AG. The Income and Expenditure statements (Annual Accounts) of the University for the FYs 2016-17 & 2017-18 were submitted to the Kerala State Audit Department (KSAD). Replies to the Enquiry reports based on the auditing of Annual Accounts for the FY 2013-14 to FY 2017-18 were furnished to KSAD. The Annual Accounts for the FY 2018-19 has been successfully compiled and the Annual Accounts for the FYs 2019-20 & 2020-21 is on the verge of completion.

The pay slips were issued to the teachers , who have acquired Ph.D during the period, those who have Career Advancement Promotion(CAP), those who have applied for the Earned Leave and Leave Salary . The Junior–Senior anomaly ofthe teaching staff is on scrutiny. The details of Leave of each and every employeehave been informed to the respective stations based on the decision for non-issue of pay slips from the Finance Wing for the Leave salary. The pay slips for the Non-Teaching SDO’s related to Increment, Promotion, Transfer, ELS and Leave salaryhave been issued. The files of the employees, who are nearing the date of

retirement are being forwarded to the KSAD and intimation to various offices has been forwarded for obtaining Objection/ No Objection Certificate. Necessary files have also been forwarded to the KSAD for rectifying the objections raised. The pay slips as per 2019 Pay revision have been issued to the Non-Teaching SDO's. Also, the pension revision of the UGC pensioners is on progress.

DIRECTORATE OF ACADEMICS AND RESEARCH

The Directorate of Academics and Research is headed by the Director of Academic and Research and is assisted by a Joint Registrar, One Deputy Registrar, two Assistant Registrars, three Section Officers, one office superintendent, thirteen Section Assistants and two Computer Assistants. A separate wing under the Controller of Examinations is also functioning which is supported by the staff of Academic section. The Directorate implements, supervises and monitors all academic activities of the University as well as the research programmes. A Monitoring and Evaluation Cell is constituted under the Directorate for the monitoring and evaluation of various projects undertaken by the faculty in the University.

ACADEMIC PROGRAMMES (2020-21)

KVASU offers Doctoral, Postgraduate, Undergraduate, PG Diploma, Diploma and Certificate programmes under Veterinary and Animal Science, Dairy Science and Technology and Poultry Science faculties, in addition to various Technology Enabled Distance Learning Programmes. Altogether there are 40 courses offered by the University including the conventional courses.

1. Academic Programmes in various colleges

1. College of Veterinary & Animal Sciences, Mannuthy

1. Ph.D. Programme in Veterinary and Animal Sciences (in 20 disciplines)
2. Ph.D. Programme Climate Change in Animal Agriculture
3. Ph.D. Programme in Biosciences (in 10 disciplines)
4. M.V.Sc. Programme. (in 20 disciplines)
5. M.Sc. in Biostatistics
6. M.Sc. in Quality Systems in Dairy Processing
7. M.Sc. in Bio-Chemistry and Molecular Biology
8. M.Sc. in Applied Microbiology
9. M.Sc. in Animal Biotechnology
10. M.Sc. in Animal Science
11. B.V.Sc & AH Programme
12. Post Graduate Diploma in Climate services in Agriculture
13. Post Graduate Diploma in Climate services
14. Diploma in Laboratory Techniques
15. Diploma in Poultry Production

16. Diploma in Dairy Science
17. Diploma in Feed Technology

2. College of Veterinary & Animal Sciences, Pookode

1. Ph.D Programme in Veterinary and Animal Sciences (in 19 disciplines)
2. Ph.D. Programme in Biosciences
3. M.V.Sc Programmes (in 19 disciplines)
4. B.V.Sc & AH Programme
5. BSc.Poultry Production and Business Management
6. M S Wildlife Studies
7. Post Graduate Diploma in Veterinary Cardiology
8. Post Graduate Diploma in Veterinary Anaesthesiology
9. Diploma in Dairy Science

3. College of Dairy Sciences & Technology, Mannuthy, Thrissur

1. M. Tech (Dairy Technology, Dairy Microbiology and Dairy Chemistry)
2. B.Tech (Dairy Technology)

4. College of Dairy Sciences & Technology, Pookode, Wayanad

B.Tech (Dairy Technology)

5. College of Dairy Sciences & Technology, Chettachal, Thiruvananthapuram

B.Tech (Dairy Technology)

6. College of Dairy Sciences & Technology, Kolahalamedu, Idukki

B.Tech (Dairy Technology)

7. College of Food Technology, Thumburmuzhy, Thrissur

B.Tech (Food Technology)

8. College of Avian Sciences & Management Thiruvazhamkunnu, Palakkad

B.Sc. Poultry Production & Business Management

Technology enabled distant learning programmes (Offered by the University faculty)

1. Post Graduate Diploma in One health
2. Post Graduate Diploma in Ethnopharmacology
3. Post Graduate Certificate in One Health
4. Post Graduate Diploma in Toxicologic Pathology
5. Post Graduate Diploma in Food Safety and Quality Assurance
6. Post Graduate Diploma in Therapeutic Management of Infectious Diseases of Pet Animals and Pet Birds
7. Post Graduate Diploma in Dairy Entrepreneurship
8. Post Graduate Diploma in Poultry Entrepreneurship
9. Post Graduate Certificate Course in Veterinary Homeopathy
10. Post Graduate Certificate in Community based disaster Management
11. Diploma in Integrated Farming Systems

12. Diploma in Dairy Entrepreneurship
13. Diploma in Poultry Entrepreneurship
14. PG Diploma in Small Animal Theriogenology
15. Post Graduate Diploma in Recent Advancement in Therapeutic and Prophylactic Management of Infectious Diseases of Livestock

Certificate Programmes

1. Certificate Course on Animal Handling
2. Certificate Programme on Livestock Production
3. Certificate Course on Histological and Museum Techniques
4. Certificate course on Dairy Cattle Production and Management
5. Certificate course on Multi skill development programme in Integrated Resources Management Centered on Livestock and Poultry

2. Major activities conducted by the Academic Section of the Directorate

a. Admission Process (2020-21)

Unlike the previous year the admission process of regular courses for the academic year 2020-21 in the constituent colleges of Kerala Veterinary and Animal Sciences University was conducted through online mode to avoid crowding at the Headquarters in accordance with the COVID-19 guidelines of the Government. University made allotments manually and provided the allotment memo through University website to the allotted students. Students were allowed to remit fees through online mode and directed to submit their original certificates at the concerned Colleges. Students from outside Kerala state and those affected by COVID were directed to submit the copy of the fee remitted and the certificates online and were given provisional admission until they present the documents for physical verification.

A rank list was prepared among the qualified candidates after verifying certificates uploaded by the candidates through online application portal of the University website for BSc, Diploma and MS/MSc programmes. An entrance examination was conducted observing COVID protocol after getting permission from respective District Collectors, for MVSc, M.Tech and PhD programmes at four colleges (CVAS, Pookode, CVAS, Mannuthy, CDST, Mannuthy and CDST, Thiruvananthapuram) of the University. According to the rank lists prepared, three round of allotments for BSc, Diploma and MS/ MSc Programmes and one round of allotment for MVSc, M.Tech and PhD programmes were made manually and provided the allotment letters to the students through online application portal, considering the reservation criteria approved by the Government and the Academic Council of the University.

The number of students applied to various courses and provisionally admitted after remittance of fee for the year 2020-21 is as detailed below.

Sl. No	Course name	Total seats	Total students Applied	Admitted students
1.	Ph.D. in Veterinary and Animal Sciences	Pookode-30	29	Pookode- 3
		Mannuthy- 35 +7 ICAR		Mannuthy- 16+ 3 ICAR
2.	Ph.D. in Dairy Sciences & Technology	3	9	3
3.	Ph.D Programmes in Biosciences	86	4	-
4.	Ph.D. programme in Climate Change in	2	-	-

	Animal Agriculture			
5.	M.V.Sc	Pookode- 54+ 17 ICAR	286	Pookode- 32 + 9 ICAR
		Mannuthy- 76+ 25 ICAR		Mannuthy- 53 + 18 ICAR
6.	M.Tech.	8	71	8
7.	M.Sc. in Biostatistics	5	15	4
8.	M.Sc. in Quality Control in Dairy Industry	6	12	3
9.	MS in Wildlife Studies	11	40	11
10.	M.Sc. in Biochemistry and Molecular Biology	16	52	16
11.	M.Sc. in Applied Microbiology	10	26	5
12.	M.Sc. in Animal Biotechnology	15	6	1
13.	M.Sc. in Animal Sciences	10	12	3
14.	B.Sc Poultry Production and Business Management	Pookode- 25	438	Pookode- 22
		Thiruvazhamku nnu- 50		Thiruvazhamku nnu- 41
15.	Diploma in Poultry Production	30	261	10
16.	Diploma in Laboratory Techniques	30		16
17.	Diploma in Dairy Science	Mannuthy 30		12+ 15 (In service)
		Pookode- 30		23
18.	Diploma in Feed Technology	20		5
19.	P.G. Diploma in Climate Services in Animal Agriculture	20	1	-
20.	P.G. Diploma in Climate Services	20	4	-
21.	P.G. Diploma in Veterinary Cardiology	2	1	-
22.	P.G. Diploma in Veterinary Anaesthesia	2	1	-

The students were advised to report to the respective Colleges for certificate verification on different dates vide the allotment letters issued to the students through online application portal and most of the students remitted the prescribed fees were reported at the Colleges for certificate verification. This admission process has helped the University to avoid gathering of students at the University Headquarters during the COVID-19 pandemic. The number of students admitted to each programme after physical verification is being collected from the colleges for consolidating the data at the University level.

- b. The University had conducted two spot admissions for B.Tech programmes as directed by the Commissioner for Entrance Examinations, Kerala, on 04.12.2020 and 30.12.2020. Through the first spot admission 20 seats in B.Tech. (Dairy Technology) and three seats in B.Tech. (Food Technology) were filled. By conducting the second spot admission 15 seats in B.Tech. (Dairy Technology) and one seat in B.Tech. (Food Technology) were also filled.

College	Total intake	Total students admitted after spot admission
College of Dairy Science and Technology, Pookode	20	20

College of Dairy Science and Technology, Mannuthy	40	40
College of Dairy Science and Technology, Kolahalamedu	20	20
College of Dairy Science and Technology, Thiruvananthapuram	20	20
College of Food Technology, Thumburmuzhy	20	20

- c. Two students were admitted through Lateral Entry to third semester of B.Tech (DT) Programme as the students applied had OGPA above 8.0 for the Diploma in Dairy Science Programme conducted by the University.
- d. The University had conducted spot admissions to one vacant seat of B.V.Sc.&A.H Programme at College of Veterinary and Animal Sciences, Pookode as directed by the Commissioner for Entrance Examinations, Kerala and Veterinary Council of India on 08.03.2021. Out of the 32 students participated in the spot admission, the student with highest rank was allotted to that vacant seat.

College	Total intake	Total students admitted after spot admission
College of Veterinary and Animal Sciences, Pookode	80	80
College of Veterinary and Animal Sciences, Mannuthy	100	100+2*

*2 students were allotted by Government of India to the wards of Kashmiri migrants over and above the total intake.

- e. As per the orders of the Government of India and Government of Kerala, 10 % seats have been reserved for students under EWS quota as supernumerary seats to various programmes of the University except for BVSc&AH. However, as per the direction of the Veterinary Council of India, applications are being prepared for forwarding to the Ministry of Fisheries, Animal Husbandry and Dairying, Government of India for approval of reserving seats to Economically Weaker Sections and Kashmiri migrants as supernumerary for BVSc &AH programme.
- f. The number of candidates admitted to each Technology Enabled Distant Learning Programme by remitting the fees is as below.

Sl. No	Course name	Total seats	Total students Applied	Number of students remitted the fee
1.	Post Graduate Diploma in Ethnopharmacology	100	8	4
2.	Post Graduate Diploma in One Health	50	25	18
3.	Post Graduate Diploma in Toxicologic Pathology	15	3	0
4.	Post Graduate Diploma in Food Safety and Quality Assurance	20	17	7
5.	Post Graduate Diploma in Therapeutic Management of Infectious Diseases of Pet Animals and Pet Birds	Flexible	53	29
6.	Post Graduate Diploma in Poultry Entrepreneurship	Flexible	5	3
7.	Post Graduate Diploma in Dairy Entrepreneurship	Flexible	2	0
8.	PG Diploma in Small Animal Theriogenology	Flexible	14	13
9.	Post Graduate Diploma in Recent Advancement in Therapeutic and Prophylactic Management of Infectious Diseases of Livestock	Flexible	14	5

10.	Diploma in Integrated Farming Systems (Malayalam)	Flexible	3	0
11.	Diploma in Poultry Entrepreneurship	Flexible	2	0
12.	Diploma in Dairy Entrepreneurship	Flexible	4	2
13.	Post Graduate Certificate in Veterinary Homoeopathy	100	71	45
14.	Post Graduate certificate in One Health Surveillance	100	3	4
15.	Post Graduate Certificate in Community Based Disaster Management	25	3	2

g. The results for the following number of students were published during the above period.

SL No	Name of the Programme	Admission	No of Students
1.	Ph.D Programmes	2017	2
		2016	5
		2015	2
		2013	1
2.	M.V.Sc. Programmes	2018	5
		2017	4
		2016	3
3.	M.Tech. Programmes	2018	3
		2017	3
4.	B.V.Sc. & A.H	2012	1
		2013	5
		2014	198
5.	B.Tech. (Dairy Technology)	2016	65
		2015	6
6.	B.Tech. (Food Technology)	2015	3
7.	BSc PPBM	2015	6
		2016	59
8.	Diploma in Dairy Science	2017	15
		2016	2
		2015	2
9.	Diploma in Laboratory Techniques	2018	4
10.	Diploma in Poultry Production	2019	11
11.	Diploma in Feed Technology	2019	3
12.	PG Diploma in Veterinary Anaesthesia	2018	1
13.	PG Diploma in Food Safety and Quality Assurance	2018	3
14.	PG Diploma in Ethno pharmacology	2017	4
		2018	2
15.	PG Diploma in Therapeutic Management of Pet Animals And Pet Birds	2018	63
		2016	1
16.	Post Graduate Diploma in Poultry Entrepreneurship	2018	3
17.	PG Diploma in One Health	2018	13

h. 28th Academic Council Meeting was held on 19.03.2020

i. 29th Academic Council Meeting was held on 07.10.2020.

j. Notified the reexamination result of B.Tech.(DT) & B.Tech.(FT) 2015 & earlier admission

- k. Comprehensive examination results of 40 students for M.V.Sc. programmes were notified.
- l. Comprehensive examination results of 14 students for Ph.D. programmes were notified
- m. Application for the renewal of ICAR accreditation for the University and the three constituent colleges, viz., College of Veterinary and Animal Sciences, Mannuthy, College of Veterinary and Animal Sciences, Pookode and College of Dairy Science and Technology, Mannuthy was submitted through online and sanction was accorded by the ICAR to upload the self-study reports (SSR) and to remit the accreditation fee of Rs. 6 lakh (+18 % GST).
- n. Merit Scholarship for the following number of students were granted during the period.

Sl. No.	Name of the Programme	Colleges	Year of Admission and Year of study	No. of students
1	B.Sc. (PP&BM)	CVAS, Pookode	2018 Admn – 1 st year	5
2	B.Sc. (PP&BM)	CASM, Thiruvazhamkunnu	2017Admn – 2 nd year	5
3	B.Tech (DT)	CDST, Mannuthy	2019Admn – 1 st year	2
4	B.Tech (DT)	CDST, Pookode	2019Admn – 1 st year	1
			2018 Admn- 2 nd year	2
			2017 Admn- 3 rd year	2
			2016 Admn- 4 th year	2
5	B.Tech (DT)	CDST, Kolahalamedu	2017Admn – 3 rd year	2
			2018 Admin – 2 nd year	2
			2019 Admin – 1 st year	1
6	B.Tech (DT)	CDST, Thiruvananthapuram	2016Admn – 4 th year	2
			2017 Admn – 3 rd year	2
			2018 Admn- 4 th year	2
7	BVSc &AH	CVAS, Pookode	2018 Admn- 2 nd year	2

- o. Merit cum Means Scholarship for the following number of students were granted during the period

Sl. No.	Name of the Programme	Colleges	Year of Admission and Year of study	No. of students
1	B.Sc. (PP&BM)	CASM, Thiruvazhamkunnu	2019 Admn – 1 st year	1
			2018 Admn- 2 nd year	1
2	B.V.Sc. & A.H.	CVAS, Mannuthy	2019 Admn – 1 st year	6
3	B.V.Sc. & A.H.	CVAS, Pookode	2019 Admn – 1 st year	4
			2017 Admn- 3 rd year	1
4	B.Tech (DT)	CDST, Mannuthy	2019 Admn- 1 st year	2

- p. The following number of certificates were issued to the students who have completed their study from the University:
 - i. Provisional Certificate - 467
 - ii. Transcript - 639
 - iii. Original Degree/ Diploma - 486
 - iv. Migration Certificate - 133

Scholarships awarded

1. Ph.D.: Senior Research Fellowship @ Rs.5000/- per month to all student admitted, except deputed candidates and those awaiting any other Scholarship from the Government/ University, and Research grant @ Rs. 50000/- per student.
2. M.V.Sc&M.Tech:- Junior Research Fellowship @ Rs. 4000/- per month to all students admitted except deputed candidates and those awaiting any other Scholarship from the Government/ University and Research grant @ Rs, 25000/- per student.
3. M.Sc./M.S.: Assistantship @ Rs. 5000/- to 20% number of students admitted, subject to a maximum of 2 Assistantship in each discipline.
4. KVASU Merit Scholarship:- @ Rs. 1500/- per semester for encouraging 10% meritorious under graduate students to purchase their studies in the University.
5. KVASU Merit cum Means Scholarship:- @ Rs. 20,000/- per student per annum KVASU has been awarding KVASU Merit Cum Means scholarship to economically backward and meritorious UG students other than SC/ST of the KVASU.
6. Internship allowance and Study Tour allowance are also provided to the students.

Residency Programme

M.V.Sc./M.Tech. cum Residency Programme was conducted in subjects which comes under the areas of Clinical, Para clinical, Livestock and Poultry Production and Dairy Technology. Sr. Residency can be extended to 4th and 5th year based on the recommendation from the Head of hospital and Dean concerned and approval from KVASU. The students will be paid fellowship at the following consolidated rates.

- | | |
|--------------------------------------|------------------------|
| • First year (1st and 2nd semester) | Rs. 20,000/- per month |
| • Second year (3rd and 4th semester) | Rs. 25,000/-per month |
| • Third year (5th and 6th semester) | Rs. 30,000/-per month |
| • Fourth year | Rs. 35,000/-per month |
| • Fifth year (Optional) | Rs. 40,000/- per month |

Number of resident positions will be allotted as per requirement of the Heads of Departments, on completion of programme of senior residents in those departments.

RESEARCH ACTIVITIES

(A) State Plan Projects 2019-20 (RIDF)

The Government have accorded sanction for the release of Rs. 1,37,07,000/- (Rupees One Crore Thirty Seven lakh and Seven Thousand Only) towards the RIDF project entitled “Establishment of referral and diagnostic laboratory for supporting livestock farming and diagnostic zoonotic disease vide order no G.O (Rt)No. 188/2021/AHD dated, 07/05/2021 and orders for releasing the funds to the Director, ID Wing , KVASU were issued from the University.

(B)State Plan Projects 2021-22 (RIDF)

Two RIDF proposals for a total budget of 1788.85 Lakhs for the financial year (2021-22) have been submitted to Government as a combined project for approval and funding.

(C)State Plan Projects 2021-22

Administrative Sanction for State Plan projects for the year 2021-22 with total outlay of Rs.48.20 crores has been received vide.G O.(Rt.)No.243 /2021/AHD dtd.19/06/2021 and request for releasing the first instalment has been sent by the Finance officer.

A) RKVY Projects

The amount sanctioned to the RKVY projects in the University is detailed below.

Sl No	Name of RKVY Project Proposal	RKVY assistance (Rs in lakh)	Fund sanctioned during 2019-20 and 2020-21
1	Establishment of state of the art laboratories for diagnosis, research, teaching and demonstration facilities in the field of tick and tick-borne diseases for the mitigation of economic losses to the livestock farmers(Department of Veterinary Parasitology, CVAS, Pookode)	224.00	76.60
2	<ul style="list-style-type: none">Health care management programme for augmenting production andreproduction in small scale and marginal cattle farms of Kerala, (University Veterinary Hospital, Mannuthy)	150.00	35.50
3	Strengthening of Centre for Animal Adaptation to Environment and Climate Change Studies (CAADECCS) for assessment of thermal stress in Dairy cattle(Department of Veterinary Physiology,CVAS,Mannuthy)	170.00	101.50
4	Establishment of Molecular Virology Laboratory in Bioscience Research and Training Centre (Thonnakkal, Thiruvananthapuram)	73.00	1.40
	TOTAL	665.00	550.45

B) Externally aided projects/Revolving fund projects

There are 44 externally aided projects ongoing in the University as on date.

SI No	Name of Funding Agency	Number of ongoing projects
1	ICAR	10
2	DST	08
3	DBT	01
4	RKVY	06
5	KSCSTE	06
6	AHD	05
7	ATMA	02
8	NABARD	01
9	IDSP	01
10	DTRA	01
11	NMPB	01
12	SERB	01
13	Others	01
	TOTAL	44

Besides, 37 projects are running in the University under revolving fund mode.

C) ICAR Grants and Scholarships/Fellowships

The following demands are submitted to ICAR under various components for the year 2021-22 from the University during this period as follows.

SI No	Name of Component	Amount allotted (in lakh)
1	Development Grant	1981.25
2	Tribal Sub Plan	25.00
3	National Talent Scholarship(UG)	9.293
4	National Talent Scholarship(PG)	3.319316
4	Student READY (In-Plant Training)	4.68
5	Veterinary Internship	93.24
6	Junior Research Fellowship	2.83440
7	Merit cum Means Scholarship	0.088608
	TOTAL	2119.705324

(D) Research Collaboration

Memorandum of Understanding (MoU) has been signed between KVASU and following firms/institution for Research Collaboration during the year 2021-22.

1. KEMIN
2. ANPL
3. CCARI
4. NRCM

INFRASTRUCTURE DEVELOPMENT WING

The Infrastructure Development Wing located in the Pookode campus of Kerala Veterinary and Animal Sciences University is entrusted with the construction, maintenance, planning and development of basic facilities of the University. The wing headed by the Director is comprised of technical and administrative staff. Kerala Public Works Department rules and regulations are followed by the ID Wing in executing the works. The wing is also monitoring the water / electricity supply of the Mannuthy and Pookode campuses of the University. Quarters allocation at Mannuthy & Pookode campus and facilitating the accommodation to the University are done from ID wing. In the year 2020-21, 94 works have been completed through e-tender procedures and 9 works have been completed through short tender procedures. The wing commenced the execution of works pertaining to 2021-22.

In Pookode campus, the maintenance works of the roof of academic block, hostel, road, renovation of different teaching departments, farms, construction of extension of Pig Farm and urgent works related with water / power supply have been completed. Construction of retaining wall near type V quarters is in progressing.

In Mannuthy campus, renovation and maintenance of different teaching departments, repair of hostel buildings, water tank construction with pipe line works, maintenance of road, additional works for the College of Dairy Science and Technology, Multi Facilitation Centre, different works including waste management related with Pig Farm, Poultry Farm, University Livestock Farm etc have been completed. The works related with construction of new hostel, examination hall and Meat Technology Unit are completed. Initial works for the Construction of a Virology Laboratory at an estimated cost of Rs.32 crores, and construction of milking parlour for Rs. 53 lakhs are in progressing.

In Thiruvazhamkunnu campus, the renovation and maintenance of the Cattle Shed, hostel building, canteen, construction of goat farm and chicken shed have been completed. Construction of second floor of the Academic Block and Farm Shed under RKVY project is also in progressing

In Thumburmuzhi campus, boundary fencing works and construction of calf shed are completed.

In Kolahalamedu campus, maintenance to street light work has been completed. The construction works of new Check dam, open well and pond for water supply system are in progressing.

Approximately, the works with a total cost of Rs. 9.54 crores have been carried out in 2020-21. Also proposals are being formulated by identifying fund from different sources to execute projects for the overall development of the University.

DIRECTORATE OF ENTREPRENEURSHIP

The Directorate of Entrepreneurship headed by Director (Entrepreneurship) has Publications, Training, Entrepreneurship, Media and Informatics, Technology Enabled Distance Learning as major divisions. Directorate of Entrepreneurship with headquarters at Pookode, Wayanad focus on capacity building of farmers, entrepreneurs and extend services through outreach programmes, developing model farms, supporting self-help groups in improving production and productivity of livestock. This division also conducts need based researches in different fields, workshops, exhibitions and seminars on behalf of the University. The Publication Division coordinates the publication works of University publications. Technology enabled Distance Learning Centre coordinates the conduct of various distance learning courses of the University. The evening clinic under the leadership of the Director provides veterinary services and advisories to owners of large and small ruminants, pet animals in the State in coordination with Directorate of Clinics.

The Academic Staff College of the University functioning under the directorate, focus on career advancement programmes of the faculty and other advanced training programmes. The directorate launched the Technology Business Incubation Division (TBIC) in Mannuthy campus during this year, with main focus on student entrepreneurship and startups. The Directorate of Students Welfare (DSW) monitors the student welfare activities, coordination of NSS activities etc. The Technology Information and Sales Center functions at Pookode, which has a sales outlet where the University publications and KVASU products are sold to the public. The meat and meat products of Brahmagiri Development Society are sold from the outlet as part of MoU between the two parties.

The Directorate plays a vital role in commercializing new ideas and raising productivity and employment in all sectors, specially benefitting the farming community. The University student-focused activities include the Student Entrepreneurship, personality development programmes, educating students in cultivating a startup business idea, etc. Entrepreneurship division gives major emphasis to entrepreneurship development, extension, knowledge dissemination, distance learning and awareness programmes.

Directorate manages the website of the University and updates timely news and events. An official face book page and You Tube Channel is launched as social media platform for knowledge and information exchange.

Activities undertaken during the period

1. As per the invitation of KDISC for concept notes for skilling projects, KVASU submitted proposals under knowledge mission for imparting Entrepreneurship training for unemployed youth/alumni/gulf returnees/ educated women with career break/entrepreneurs for providing better skilling and employability.
2. Directorate of Entrepreneurship developed a 15 minutes video about Kerala Veterinary and Animal Sciences University, covering history and broad profile of the University.
3. Coordinates animal husbandry related programmes of KVASU programmes for Farm Information Bureau (FIB)

4. Evening clinic started functioning at TVCC, Mannuthy to deal with emergency cases.
5. Technology information and sales counter is functioning at Pookode, with sale of KVASU_Safe Meat products and Malabar Meat products of BDS.
6. As part of State Plan project, tribal development activities with regard to education, health and livelihood interventions are being taken up in selected tribal colonies. Poultry were distributed to Priyadarsini tribal colonies for 15 families; feed and food kit distributed to Narangakandy and Chembatty tribal colony. Vegetable seedlings and tuber seeds distributed to Priyadasini tribal colony aiming to promote cultivation and organic agriculture.
7. Participated in tree planting programme as part of World Environment Day at Pookode campus. 3000 saplings were planted.
8. Organised National on-line workshop on “Comprehensive Management of Working Dogs – Phase II’ – 27-29, July 2020
9. Website Management Committee constituted
10. Minister Adv. K. Raju inaugurated the Academic Staff College building , Human Resource Development Centre –Meat Technology Unit and Vaccine technology Transfer by KVASU on 18th September 2020.
11. Organised Webinar "Young Innovators Programme 2020-23 " on 23.07.2020, on Cisco Webex Meeting platform.
12. The inaugural programme of the obligatory three months training for the Assistant Directors of the Animal Husbandry Department being organized by Directorate of Entrepreneurship was held on 01-12-2020. Hon'ble Vice Chancellor, Dr.M.R.Saseendranath inaugurated the training programme on online mode at CV&AS, Mannuthy. Twenty five Assistant Directors are deputed for the training.
13. Conceptual Framework Entwining Translational Anatomy with Veterinary Clinical Sciences" jointly organized by Department of Veterinary Anatomy, Directorate of Entrepreneurship and Academic Staff College, KVASU, on 19th and 20th of August, 2020.

MoUs signed

- Kerala Veterinary and Animal Sciences University (KVASU) entered into agreement with Brahmagiri Development Society (BDS) in terms technical support in production and marketing of poultry feed. The project aims to supply layer feed to all farms in Kerala, like those under Kerala Chicken project and Kudumbashree run poultry units. Achieving self-sufficiency in poultry feed manufacture with improved technology support from KVASU, eliminating middlemen is the primary aim of the agreement.
- KVASU signed MoU with M/S RedBulbBlueBulb Media for starting KVASU YouTube Channel for information and technology transfer to the public and farming community at large.

2.Organised Farmer Webinar Series

- Farmers Webinar Series entitled “Monsoon management in dairy farming and flood preparedness” was organized from 13th to 17th July, 2020.
- Four day webinar series for poultry farmers was organized during 21.07.2020 to 24.07.2020 through zoom video application
- Webinar on “Profitable goat farming” was organised from 3rd to 7th August, 2020 through online mode.
- Webinar on “Commercial Pig Farming” was organized from 15th to 24th September, 2020 through online mode

3. Publications

- Published ‘Eternal Flame’ the Multiple Choice Question Bank prepared by faculty of KVASU
- Published brochures various topics related to Animal Husbandry
- Published a booklet about the University
- Published KVASU e-Newsletter ‘Windows ‘ January- March 2020 issue & April-June 2020 issue and October-December 2020
- Publishes monthly newsletter ‘KVASU NEWS’ January 2021, February 2021 issues.
- Publication division printed 4 folders (500 nos) in March, 2020, 5 folders(500nos) in November, and published data book -2021and calendar-2021.
- Orders given for printing 7 books which will be published in January 2021

4. Distance Learning Centre

- The courses ongoing: PG Diploma in Poultry Entrepreneurship, PG Diploma in Dairy Entrepreneurship.

ACADEMIC STAFF COLLEGE

The Academic Staff College (ASC) came into existence under Kerala Veterinary and Animal Sciences University, on 29th December 2015 within the premises of the College of Veterinary and Animal Sciences, Mannuthy, Thrissur. The first of its kind to be established by a professional university, the ASC has its motto “Siddhirbhavathi Karmaja”. The ideology behind the venture was to emphasize on the central role the teachers play in the elaborate system of education. The ASC was formed with the purpose of providing continuous teacher training/enhancement programmes that are subject-specific as well as general in nature that lead to the holistic development of the participants.

1. Organized 4th Orientation Programme on - “New Vistas for Disaster Resilient Academic Ecosystem Management” under the auspices of Directorate of Entrepreneurship, Kerala Veterinary & Animal Sciences University from 25th November to 15th December 2020
2. Valedictory Ceremony of Fourth Orientation Programme (online) of Academic Staff College was conducted on 15-12-2020.
3. Conducted and coordinated one month long Farmer friendly lecture series

KVASU LABORATORY FACILITIES

KVASU-Labs are implementing the ISO standard, "General Requirements for the Competence of Testing and Calibration Laboratories, ISO/ IEC HIOZS: 2005" for obtaining accreditation by NABL. The systems as mandated by the standard have been adopted in the selected labs.

1. Central Instruments Laboratory, CoVAS, Mannuthy For determination of T3 and T4 by Radio immune assay.
2. Feed Analysis Laboratory, Dept. of Animal Nutrition, CoVAS, Mannuthy for Determination of moisture and total ash in feeds and fodder.
3. Quality Control Laboratory, Dept. of Veterinary Public Health, CoVAS, Mannuthy for Determination of coliforms in drinking water /ground water.
4. Food Quality Assurance Laboratory, Dept. of Veterinary Public Health, CoVAS, Pookode for Determination of coliforms in drinking water /ground water.
5. Feed and Fodder Analysis Laboratory, Dept. of Animal Nutrition, CoVAS, Pookode for determination of proximate principles in animal feeds.
6. The laboratories attached to School of Applied Animal Production and Biotechnology, CoVAS, Mannuthy and Molecular Biology Laboratories attached to Departments of Veterinary Microbiology and Veterinary Biochemistry also possess many sophisticated equipment.

The list below shows the total infrastructure facilities available across various laboratories of Mannuthy and Pookode campuses.

Name of the equipment	Positioned at CoVAS, Mannuthy	Positioned at CoVAS, Pookode
1. Atomic Absorption Spectrophotometer	1	1
2. Triple Quadruple- GCMSMS	1	Nil
3. Ultra High Performance Liquid Chromatography	1	1
4. Vertical Electrophoresis Apparatus With Power Pack	3	1
5. Mini-protean® Tetra Hand cast Systems	3	1
6. Criterion™ Electrophoresis Cell	3	1
PROTEAN® I12™ IEF System For 2-D Electrophoresis	1	Nil
8. Mini Trans-blot® Wet Transfer Cell	1	Nil
9. Trans-blot® SD Semi-dry Transfer Cell	1	Nil
10. Trans-blot® Turbo™ Semi-dry Transfer Cell	1	Nil
11. Chemidoc MP Imaging System	5	3
12. Multimode ELISA Plate Reader	5	3
13. Microplate Washer	2	1
14. Gradient Thermal Cycler	10	7
15. Densitometer	1	Nil

16.Homogenizer	2	1
17.Freeze Drier/ Lyophilizer; cold Trap	1	1
18.Vacuum Concentrator	1	Nil
19.Orbital Shaker	3	2
20.Rotary Flash Evaporator	2	1
21.Gamma Counter	1	Nil
22.Phosphor Imager	1	Nil
23.Nanodrop Spectrophotometer	1	1
24.Fluorospectrometer- Nanodrop	1	Nil
25.Semi-micron Analytical Balance	1	Nil
26.Micron Analytical Balance	Nil	1
27.Electronic Weighing Balance	10	4
28.Bio-chemical Analyser	4	2
29.HaematologyAnalyser	4	2
30.Ultra-centrifuge	1	Nil
31.Refrigerated Centrifuge (High-speed)	5	3
32.Stereo Zoom Microscope	2	1
33.Trinocular Research Microscope	2	1
34.Inverted Research Microscope	2	1
35.CO ₂ Incubator	4	2
36.Beta Counter With Cell Harvester	1	Nil
37.Autoclave	8	4
38.Ice Flaker	2	1
39.Spectrophotometer UV-VIS-NIR	1	Nil
40.Automated Mammalian Cell Counter	2	1
41.pH/Ion Selective Electrode (ISE) Meter	10	7
42.Incubator	15	10
43.Hot Air Oven	14	10
44.Deep Freezer -86°C	2	1
45.Real Time PCR	3	1
46.Automatic Fraction Collector	1	Nil
47. Electrofusion Apparatus/ ElectroporatorGene PulserXcell	1	Nil
48.Microwave Digestion System	1	Nil
49.Fourier Transform Infrared Spectrometer (FTIR)	1	Nil
50.Biosafety Cabinet Class II	2	1
51.Shaker Water Bath	4	2
52.Fume Hood	2	1
53.Fluorescence Spectrometer	2	Nil
54.Ultrasonic Cleaner	2	1
55.Electrolyte Analyzer for Na/K/Cl estimation	1	1

56.Accelerated Solvent Extractor	1	Nil
57.Deep freezer -20°C	8	4
58.Flow cytometer	Nil	1
59.Capillary gel electrophoresis system	1	nil
60.Gas chromatograph	1	1
61.Micro Ultra centrifuge	Nil	1
62.Scanning electron microscope	1	Nil
63.Liquid chromatograph Mass spectrometer	1	Nil
64.Inductively coupled OES analyzer	1	Nil
65.Sodium potassium electrolyte analyzer	1	Nil

COLLEGE OF VETERINARY AND ANIMAL SCIENCES MANNUTHY

The College of Veterinary and Animal Sciences, Mannuthy, holds the unique distinction of being the first veterinary college in Kerala. It is a constituent college of the Kerala Veterinary and Animal Sciences University.

The college that initially began with five composite departments and 71 students has today grown to house 21 departments and over 950 students. The college offers a five-and-a-half-year professional Bachelor of Veterinary and Animal Science and Animal Husbandry degree programme as well as postgraduate and doctoral programmes in various branches of veterinary science.

FACULTY

In 1955, the college began on a modest note with faculty strength of just six teachers who were spread over the five composite departments of Anatomy and Surgery, Physiology and Pharmacology, Animal Husbandry, Medicine and Therapeutics and Pathology, Parasitology and Bacteriology. The faculty strength was expanded to 27 in 1958 and 35 in 1961 and today the college has a very diverse faculty strength of 121 teachers that includes 27 Professors, 10 Associate Professors and 84 Assistant Professors spread over 24 departments including the library.

RESEARCH

The College has a long tradition of cutting-edge research to its credit. Starting from 8-2-1964 when it was raised to the status of a Research Institute, the emphasis has been on high quality research that could positively impact human and animal health and welfare. The approach to research has been one that extends from the molecular level and encompasses the entire realm of various species of animals in tune with the research policy of the Kerala Veterinary and Animal Sciences University. Along with externally funded research, the College actively engages in the development and delivery of post graduate research programmes both at the masters and the doctoral level so as to equip and train future professionals for national and international positions in industry, animal health sector and the higher research institutes.

EXTENSION AND VETERINARY SERVICES

The college prides itself in providing an assortment of extension educational programmes for various categories of clientele in this sector. The college also works closely with various government and nongovernmental agencies and other groups across the community besides being associated with various state, national and international organisations for capacity building of various stakeholders in this sector.

Engagement with the community has been a mandate of the college right from its formation. All departments actively engage in programmes to disseminate useful research findings to the farming community and other stakeholders. The Veterinary

Hospitals at Mannuthy and in the heart of Thrissur town at Kokkalai, are equipped with modern diagnostic facilities to provide world class treatment and care for animals. Besides this, our dedicated teams of doctors also provide ambulatory care to animal owners in adjoining areas. In addition to the numerous exhibitions, seminars and workshops for various categories of farmers, the college also conducts the Annual Karshaka Dinam or Farmers' Day every year on Chingam 1, the beginning of the Malayalam year with a plethora of programmes and events. The college also participates in the Annual Flower Show at Thrissur and our exhibition stall for the public at the famed annual Thrissur Pooram festival is also a highlight.

AFFILIATIONS

At the time of formation in 1955, the college was named as the Government Veterinary College, Ollukara and it was affiliated to Travancore University. With the formation of the State of Kerala the name of the college was changed to Kerala Veterinary College in 1956 and it was placed under the newly formed Kerala University. In 1961, the college was renamed as the Kerala Veterinary College and Research Institute. In the year 1968-69, Calicut University was formed. Taking into consideration the geographical location of the college, it was re-affiliated to Calicut University. In 1972, the Government of Kerala established the Kerala Agricultural University and the college, with all its assets were transferred to the newly formed university. The college was simultaneously renamed as the College of Veterinary and Animal Sciences, Mannuthy. With the formation of the Kerala Veterinary and Animal Sciences in 2010, the college became a constituent college under the new university.

STUDENT ACTIVITIES

Non- Credit Compulsory Courses

a. Tracking Programmes have been developed to allow students to exercise more control over the specific direction of their profession and motivate them for self-teaming through virtual classroom, distant learning, internet etc. The areas identified include Feline Medicine, Cryobiology of Gametes, Neurosciences, Clinical/ Interventional Nutrition, Dermatology/integument Science, Alternate Veterinary Medicine, Ophthalmology, Anaesthesiology, Small Animal Critical Care, Non-Mammalian Medicine, Sports Animal Medicine and Drug designing. These will be Non-Credit courses but shall be mentioned in the Degree Transcript along with the grades obtained.

b. Study Circles

Each student of B.V.Sc. & A.H. degree course enrolls himself/herself for at least two Study Circle activities during the B.V.Sc. & A.H. degree course out of the proposed Study Circles such as Livestock and Livelihood Study Circle, Production Systems Study Circle, Ecosystems and Livestock Study Circle, Equine Study Circle, Canine Study Circle, Diagnostic Study Circle, Alternate Animal Use Study Circle, Fun/ Sport Animal Study Circle and Law and Veterinary Science Study Circle.

c. Entrepreneurial Training

Each student of B.V.Sc. & A.H. degree course undertakes one of the activities of Entrepreneurial Training as listed below. Goat Production, Sheep Production, Pig Production, Broiler and Egg Production, Pet Production, Dairy Production, Meat Production and Processing, Fish Production, Feed Production-Mineral Mixture, Milk Products, Food safety-residue Analysis, Clinical Investigatory laboratory, Quality Control-Evaluation (Microbial), Shoeing and Shoe Manufacture, Production of Diagnostic, Pharmaceutical Formulations

This training is aimed at developing entrepreneurial skill for self-employment. The university/college shall provide interest free loans out of a revolving fund (not less than Rs. 3.00 lakhs in a college) to students' groups (team of up to five students), technical support and infrastructure for these activities. Inputs, day-to-day work and financial accounting is undertaken by the students. The profits/loss, if any, is kept/borne by the students. However, in case of loss, the Dean of the college through the Entrepreneurship Committee consisting of four faculty members (at least one subject matter specialist) evaluates the reasons of such loss and provides compensation in case it is found that the loss has been inadvertent.

ACADEMIC PROGRAMME OFFERED IN DIFFERENT DEPARTMENTS

Department of Animal Breeding Genetics and Biostatistics

Ph. D in Animal Genetics and Breeding

Ph. D in Bioscience (Molecular Genetics)

MVSc. in Animal Genetics and Breeding

MVSc. in Animal Biotechnology (SAAPBT)

MSc in Animal Biotechnology (SAAPBT)

Department of Animal Nutrition

Ph. D in Animal Nutrition

MVSc in Animal Nutrition Diploma in Feed Technology

Department of Animal Reproduction, Gynecology and Obstetrics

Ph. D in Animal Reproduction, Gynecology and Obstetrics

MVSc in Animal Reproduction, Gynecology and Obstetrics

PG Diploma in Small Animal Theriogenology

Department of Clinical Medicine, Ethics and Jurisprudence

Ph. D in Veterinary Clinical Medicine, Ethics and Jurisprudence MVSc in Veterinary Clinical Medicine, Ethics and Jurisprudence

Department of Dairy Science

Ph. D in Dairy Science

M.V. Sc in Dairy Science

M.Sc Quality Control in Dairy Industry Diploma in Dairy Science

Department of Livestock Production and Management

Ph. D Livestock Production Management

MVSc Livestock Production Management

Ph. D Bioscience

MSc Animal Science

Department of Livestock products Technology

Ph. D in Livestock Products Technology

MVSc in Livestock products technology Stipendiary training programme:

Meat processing cum plant operation

Wholesome meat production and meat processing

Meat plant operation and maintenance

Department of Poultry Science

Ph. D Poultry Science

MVSc. Poultry Science

Diploma in Poultry Production

Department of Veterinary Anatomy and Histology

Ph. D in Veterinary Anatomy and Histology

MVSc in Veterinary Anatomy and Histology

Department of Veterinary and Animal Husbandry Extension

Ph. D. in Veterinary and Animal Husbandry Extension Education

M.V. Sc in Veterinary and Animal Husbandry Extension Education

Department of Veterinary Biochemistry

Ph. D in Veterinary Biochemistry

Ph. D in Biosciences (Molecular Biology)

Ph. D in Biosciences (Clinical Biochemistry) MVSc Veterinary Biochemistry

MSc Biochemistry and Molecular Biology

Department of Veterinary Epidemiology and Preventive Medicine

Ph.D. in Veterinary Epidemiology and Preventive Medicine

M.V. Sc in Veterinary Epidemiology and Preventive Medicine

PG Diploma in Therapeutic Management of Infectious Diseases of Pet Animals and Birds

Department of Veterinary Microbiology

Ph.D. Veterinary Microbiology

M.V.Sc. Veterinary Microbiology M.Sc. Applied Microbiology

Department of Veterinary Parasitology

Ph. D in Veterinary Parasitology

MVSc in Veterinary Parasitology

Diploma in Laboratory Techniques

Department of Veterinary Pathology

Ph. D in Veterinary Pathology

MVSc in in Veterinary Pathology

Diploma in Laboratory techniques

Department of Veterinary Pharmacology and Toxicology

Ph. D in Veterinary Pharmacology and Toxicology

MVSc in in Veterinary Pharmacology and Toxicology

PG Diploma in Ethnopharmacology

Certificate course in Veterinary Homeopathy

Department of Veterinary Physiology

Ph. D in Veterinary Physiology

MVSc in Veterinary Physiology

Department of Veterinary Public Health

Ph. D in Veterinary Public health

MVSc in Veterinary Public health

Post graduate diploma in Food safety and Quality Assurance

Diploma in laboratory techniques (as collaborating Department)

Department of Veterinary Surgery and Radiology

Ph. D in Veterinary Surgery and Radiology

MVSc in Veterinary Surgery and Radiology

Department of Statistics

M.Sc. Biostatistics

i. External Aided Projects (Ongoing):

S No	Name of the Project	Funding agency	Name of PI	Activities undertaken
1	Identification and development of novel antimicrobial peptides to tackle antimicrobial resistance (ongoing)	DST-SERB	Dr. Varuna P. Panicker, Assistant Professor	Genes identified and quantitative expression of these genes in different tissues carried out
2	Field Progeny Testing scheme	ICAR	Dr K. Anilkumar	During this period 4454 inseminations were done using Frieswal semen and 1631 pregnancies were confirmed. A total of 993 calvings were reported and 486 female progenies were born. In this period 126 progenies reached first lactation and 53 progenies completed first lactation. Average 305 day lactation yield for progenies was 3194 \pm 47.06 litres. The cows of dairy farmers in project area are inseminated with Frieswal semen free of cost leading to improvement in production of progenies and continuous monitoring of progenies in field by field staff of the scheme ensures scientific management of calves and heifers.
3	All India Coordinated Research Project on Malabari Goat Improvement	ICAR	Dr.R. Thirupathy Venkatachalapathy	Nucleus flock with 50 breedable goats and Two multiplier flock with 150 breedable goats were established 272 farmers registered in five field units, Tanur, Vadakara, Perambra, Thalassery and Taliparamba. Four bucks were supplied for breeding. Thirteen tons of goat feed, 1100kg of mineral/vitamin feed supplements were supplied to 373 farmers. One online training class was conducted to 197 farmers. One technology, FAMACHA for Malabrai goat was developed.
4	Addressing the production challenges of Native Goat Breeds	AHD	Dr. Marykutty Thomas	<ul style="list-style-type: none">Identified selection signatures related to various production and reproductive traits in

	of Kerala through Genomic Approach			<p>native goats of Kerala</p> <ul style="list-style-type: none"> Identified potential genetic markers related to prolificacy trait in native goats
5	Development of multi-trait selection criteria for crossbred cattle of Kerala	DST SERB	Dr. Jamuna Valsalan	Blood samples and data of major performance traits, pedigree were collected. Identified polymorphism of major genes affecting performance traits were identified by SSCP analysis. Polymorphisms were further confirmed by Sequence analysis. Genetic parameters of major performance traits were estimated
6	Genomic approach for genetic improvement and conservation of important aquaculture species, <i>Etroplus suratensis</i> and <i>Trachinotus blochii</i> under changing climate scenario	DST SERB TARE	Dr. Lali F. Anand	Teacher's Associateship for Research Excellence approved in November 2020 A collaborative project with Central Marine and Fisheries Research Institute, Kochi Fund not released
7	Outreach programme on zoonotic diseases	ICAR	Dr B Sunil	Screening of Campylobacter and Listeria spp. from meat and clinical samples
8	Outreach Programme on Ethnoveterinary Medicine	ICAR	Dr. Usha Narayana Pillai	<i>Invitro-Invivo</i> Anti-inflammatory activity of <i>Achalypha indica</i> leaf methanolic extract and essential oil extracted from leaves of <i>Artemisia japonica</i> and its combinations. Ointment preparation and its topical Anti-inflammatory studies of <i>Achalypha indica</i> leaf methanolic extract and essential oil extracted from leaves of <i>Artemisia japonica</i> and its combinations on rat models.

ii. External Aided Projects (Completed):

S No	Name of the Project	Funding agency	Name of PI	Activities undertaken
1	Isolation and genotypic characterisation of Infectious bronchitis isolates from Kerala, India	DST-SERB	Dr. Surya Sankar	The molecular characterisation of S1, N and M genes of infectious bronchitis virus isolates and whole genome sequencing of representative isolates from Northern, Central and Southern parts of Kerala were done
2	Isolation of <i>Mycoplasma capricolum</i> subsp	AHD	Dr. Surya Sankar	An antigen detection latex agglutination test was developed for

	<i>capripneumoniae</i> and development of a latex agglutination test for the field diagnosis of contagious caprine plueropneumonia in goats			the rapid field diagnosis of mycoplasmosis in goats
3	Anatomical causes of infertility in crossbred dairy cows: structural and molecular studies on reproductive system.	Animal Husbandry Department	Dr. K. M. Lucy	Collected samples of genitalia and blood from infertile cattle from different slaughter houses. Purchased chemicals for the project. Histological and molecular works related to the project conducted.
4	1. Genetic Diversity Analysis Among Cattle Genetic Groups of Kerala Using Microsatellite Markers	KSCSTE	Dr Radhika G.	Study was conducted on six cattle genetic groups namely, Vechur, Kasargode, Vadakara dwarf and low, medium, high milk yielding crossbred cows of Kerala. A total of twenty-five microsatellite primers chosen from a panel suggested by FAO DAD-IS, were custom synthesised after labelling the forward primers with fluorescent tags and all the primers were procured. Standardisation and amplification of eight microsatellite loci were done from the isolated DNA. Multiplex PCR was conducted for groups of four microsatellites each with different fluorescent tags FAM, PET and HEX. The PCR products obtained were checked in agarose gel, genotyped and analysed

iii. KVASU Research Projects (Ongoing):

S No	Name of the Project	Name of PI	Activities undertaken
1	Development of multiplex polymerase chain reaction for the detection of pathogens causing respiratory infections in goats	Dr. Ambily R	Fund not transferred
2	Establishment of germplasm repository of domestic animals of Kerala	Dr. Elizabeth Kurian	Maintenance of frozen semen of nucleus stock Genetic analysis of breeding

			stock
3	Conservation unit of Vechur and Kasargode	Dr. Elizabeth Kurian	Maintenance of breeding stock of Vechur and Kasargode animals Supply of chilled semen and breeding animals of pedigreed Vechur and Kasargode bulls to farmer field unit
4	Comprehensive Approach to Address the Production Challenges of Small Holder Rabbit Farming in Kerala	Dr. Marykutty Thomas	Maintenance of breeding stock of different breeds of rabbits Improvement and supply of breeding stock to farmers
5	Enhancing milk production potential of genetically superior cows through scientific intervention for producing better progenies	Dr. T.V. Aravindakshan	Genetically superior animals with potential to produce more milk, identified and given proper management and scientific intervention to bring out there best production performance. Regularly supplied feed, mineral mixtures and dewormers.
6	Strengthening of Centre for Advanced Studies in Animal Genetics & Breeding	Dr. T.V. Aravindakshan	
7	Field Progeny Testing (FPT) of Crossbred bulls	Dr. K. Anilkumar	(25 % State Share)
8	AICRP on Goat Improvement	Dr.R. Thirupathy Venkatachalapathy	(25% of State Share)
9	Evaluation of candidate genes on production and reproduction traits in livestock of Kerala	Dr. Lali F. Anand	Carried out studies on genetic variants of candidate genes for milk production in cattle and litter size in goats. Blood transcriptome analysis of Attapady and Malabari goats is also undergoing.
10	Mechanistic target of Rapamycin (m-TOR) signaling in canine superficial and mammary tumours	Dr. Sajitha I S Dr. Devi S S	1) Sample collection and standardization for the expression of 4EBP1 protein in canine mammary tumors 2) Histomorphological characterization of cancer associated stroma in malignant mammary tumors of dogs along with localization of stromal proteins associated with tumor

			progression and metastasis like MMP9, stromal derived factor, fibroblast activation factor
11	Hands on training on the preparation of milk based snack foods	Dr. K. Radha	Yet to receive the fund
12	Hatchery waste disposal and its effective utilization	Dr Harikrishnan S	Standardized the process of conversion of hatchery waste in to organic manure First batch Organic manure prepared sold to Eco farm
13	Strengthening of NABL accredited Feed Analysis Laboratory	Dr. Ally K.	Quality analysis of feed and fodder samples Participated in Proficiency Testing Purchased chemicals and glasswares for nutritional analysis
14	Revamping of Small Animal Breeding Station	Dr. Dildeep V.	Purchase of Lab Animal Feed, Milk, Fodder and medicines Sales of Laboratory animals viz rat, mice, rabbit, hamster and guinea pigs for research establishments within the state and neighboring states CPCESA inspection conducted on 31.12.2020
15	Screening and evaluation of medicinal plants for anticancer activity	Head, Dept. of Pharmacology	Plants were extracted, screened for cytotoxicity against MCF-7, MDA-MB 231 and Daltons ascites lymphoma cells using MTT assay, Hoesht, JC1 and AO/EB staining
16	Renovation of Anatomy Museum, CVAS, Mannuthy	Professor & Head of the Department	Formulated the renovation ideas. But fund not allotted.
17	Morphometric and histomorphological studies on the hoof of crossbred cattle and buffaloes	Dr. Sunilkumar N.S.	Collected the specimens, and details were collected from the specimens.
18	Anatomical studies on wild birds	Dr. Sumena K.B.	Collected the specimens, and details were collected from the specimens.
19	Strengthening of School of Zoonoses Public Health and Pathobiology	Dr K Vrinda Menon	Development of short videos on bat zoonoses, water purification,

			pet bird handling and management and collection of samples during PM
20	Establishment of Dermatology Unit continuing project	Dr Ambili V R	Amount not received
21	Blood Transfusion facility for farm and Pet anima	Dr Madhavan Unni N	
22	Assessment of antibacterial activities of lactoferrin conjugated silver nanoparticles	Uma R.	<ul style="list-style-type: none"> • Isolation of total RNA from milk somatic cells • Synthesis of cDNA • Amplification of lactoferrin N terminal region
23	Characterization of rooster seminal plasma proteins as biomarkers of fertility	Divya P.D.	<ul style="list-style-type: none"> • Setting up of lab, procurement of reagents • Physical evaluation of semen from different breeds of chicken
24	Strengthening of Elephant study centre CVAS Mannuthy for better welfare and conservation of captive elephants in Kerala through efficient health care and management	Dr.T.S.Rajeev	Elephant healthcare activities and procurement of emergency medicines.
25	State Plan Project 2020-21 on “Molecular Characterisation of genes associated with drug resistance in ticks in cattle goat and dogs of Kerala (RSP/20-21/V – 3)	Dr Bindu Lakshmanan	Molecular characterisation of genes associated with drug resistance in ticks in cattle goat and dogs of Kerala
26	State Plan Project 2020-21 on Detection and quantification of benzimidazole resistance polymorphisms in Haemonchus sp. of goats by real time PCR	Dr Asha Rajagopal	Realtime PCR detection of benzimidazole resistance polymorphisms in Haemonchus sp. of goats. The SNPs associated with drug resistance identified
27	Ante-mortem diagnosis of rabies in animals	Dr. Divya C	Sample collection and standardization of the procedures involved
28	Formulation of a low cost plant based medicated hydrogel with antibacterial, wound healing and anti inflammatory activities for the treatment of wounds in	Head, Dept. of Pharmacology	Antibacterial, wound healing activities tested

	animal		
29	<i>In vitro</i> anti-microbial activity of aqueous extract of aerial parts of <i>Oroxylum indicum</i> and <i>Piper longum</i>	Head, Dept. of Pharmacology	Preparation of extracts done. Antibacterial activity testing going on against various microbes
30	Screening of herbal formulations for mastitis	Head, Dept. of Pharmacology	Preparation of herbal extracts done, MIC calculated for individual extracts
31	Evaluation of Cinnamon bark oil and Thyme oil against antimicrobial resistance in <i>Escherichia coli</i> isolates from bovine mastitis	Head, Dept. of Pharmacology	The effect of essential oils were found out
32	Enhancing reproductive efficiency in ruminants	HOD, Dept. of ARGO	<p>The animals having high fertility and animals with infertility, presented in the Teaching veterinary clinical complex, and from field camps in Thrissur district were investigated. Plane of nutrition, management factors contributing were studied. Blood samples from animals having high fertility and infertility were isolated. Blood samples were checked for hormonal, nutritional and genetic factors responsible for the condition.</p> <p>The animals having infertility will be were diagnosed and nutritional supplements and suitable hormonal therapy were performed to facilitate fertility</p>
33	Strengthening of AI centre, Mannuthy	HOD, Dept. of ARGO	<p>Semen processing and related research activities were undertaken. UG and PG teaching were strengthened. Bio gas facility is being installed.</p>
34	Strengthening of School of Zoonoses Public Health and Pathobiology	Dr K Vrinda Menon	Development of short videos on bat zoonoses, water purification, pet bird handling and management and collection of

			samples during PM
35	Molecular Investigation of Coxiellosis among goats with reproductive disorders under SZPHPB	Dr C Sethulekshmi	Purchased Consumables and standardization of PCR protocol for detection of genus specific gene of <i>Coxiella burnetti</i>
36	Assessment of antibiotic resistance and foodborne pathogenic bacteria from beef and milk samples in central Kerala	Dr C Latha	Purchased Consumables and standardization of PCR protocol for detection of AMR genes
37	Strengthening of NABL quality control laboratory	Dr C Latha	Purchase of pH meter and consumables for food and water testing
38	Spatial Analysis of environmental risk factors of leptospirosis in Kerala- Dept. of VPH	Dr K Vrinda Menon	Collection of data on the prevalence of leptospirosis in humans across the state for the last five years for analysis of trend
39	Detection of drug resistant and biofilm forming foodborne pathogenic bacteria in broiler chicken and mitigation using plant extracts	Dr. Binsy Mathew	Subjected 150 retail chicken samples for the isolation and identification of E. coli, Salmonella and Campylobacter from Ernakulam, Thrissur and Palakkad districts of Kerala. Detection of virulent genes of the aforesaid pathogens and study of antimicrobial resistant genes
40	Occurrence and molecular characterization of campylobacter spp in sea foods and associated environment of Kerala and control of biofilm formation	Dr. Deepa Jolly	A total of 750 seafood and freshwater fish, crustaceans and 39 tandar samples and associated samples from coastal and freshwater areas of Kerala and 50 human stool samples were subjected to isolation and identification of <i>Campylobacter</i> . Direct PCR was conducted. Biofilm study of <i>Campylobacter</i> isolates on abiotic surfaces
41	Efficacy of campylophages and selected phytochemicals in the control of <i>Campylobacter</i> biofilms	Dr. Vivekanandan R	Isolation of <i>Campylobacter</i> (130 samples) from pig farms. Biosecurity measures assessed in these farms. Biofilm forming availability of <i>Campylobacter</i> isolates assessed. Standardisation of protocol of Bacteriophage isolation
42	Forecasting rainfall of Kerala using Artificial Neural Network	Dr. Gleeja V. L.	Data collection and analysis of rainfall data from Thrissur.
43	Evaluation of adulterants, pesticides and antibiotic residues in milk and assessment of	H.O.D, Dept. of Vet. Physiology	Purchase of chemical and consumables

	their effect on cell culture		
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iv. KVASU Research Projects (Completed):

S No	Name of the Project	Name of PI	Activities undertaken
1	Mechanistic target of Rapamycin (m-TOR) signalling in canine superficial and mammary tumours	Dr. Sajitha I. S.	Histological classification of canine mammary and superficial tumours were carried out Established the role of m-TOR signaling pathways in canine superficial and mammary tumours
2	Production and preservation of novel probiotic starters for dairy industry	Dr. R. Geetha	Purchase of Equipments and Consumables Implementation of project
3	Surveillance of infectious diseases, their management and seromonitoring of vaccination in university farm animals	Dr. Vijayakumar K.	Screening of disease, Vaccination of farm animals
4	Mechanistic target of Rapamycin (m-TOR) signaling in canine superficial and mammary tumours	Dr. Sajitha I S, Dr. Devi S S	Histological and molecular classification of tumors based on the expression of hormone receptors, DEPTOR, mTOR, p-mTOR, p70S6 kinase
5	Surveillance of Infectious Diseases, Their Management and Seromonitoring of Vaccination in Farm Animals	Dr. K Vijayakumar	Conducted intradermal tuberculin and jhonin test in various university farms Screening of cattle for sub clinical mastitis in university farms Blood smear and fecal sample from animals in various university farms were collected and screening was carried out to identify gastrointestinal parasites and hemoprotozoans

v. Ph D Research Projects (Ongoing and Completed): Nil

S No	Name of the Scholar	Title of thesis	Research activities undertaken
1	Dr. Sarika N	Comparative efficacy of different tests for ante-mortem diagnosis of bovine tuberculosis	Standardisation of molecular work and Gamma-Interferon assay started. Sample collection from farms for screening of TB and for isolation is going on

2	Dr. Reshma P. S	Genotyping, antimicrobial susceptibility profiling and characterisation of biofilms of clinical isolates of <i>Leptospira</i> from Kerala	Sample collection started
3	Dr Charlotte Coretta Rodricks (19-DVM-04)	Expression profiling and molecular characterization of <i>Bone morphogenetic protein 4</i> , <i>Kit Ligand</i> and <i>Homeobox A 10</i> genes in native goat breeds of Kerala	Synopsis preparation Literature collection Research work not started
4	Dr Safeer M Saifudeen (19-DVM-12)	Prediction of protein coding genes in rumen metagenomic reads of cattle with machine learning based approach	Synopsis preparation Literature collection Research work not started
5	Dr Vandana C M (19-DVM-17)	Transcriptomic and proteomic profiling of peripheral blood mononuclear cells of Vechur and crossbred cattle of Kerala challenged with <i>Theileria annulata</i>	Synopsis preparation Literature collection Research work not started
6	Dr. Shyju O. (18-DBM-03)	Antineoplastic effect of <i>Semecarpus anacardium</i> nut milk extract and <i>Tinospora cordifolia</i> stem extract in tumour induced mouse model	Synopsis preparation Literature collection Research work will start soon
7	Dr.Devi S.S.	Histomorphological, immunohistochemical and molecular studies on desmoplastic reactions of stroma in malignant canine mammary tumours	Histomorphological characterization of desmoplastic reactions in canine mammary tumours (CMTs) Detection of α -SMA, FAP, TGF- β , MMP-9 and SDF-1 in CMTs by immunohistochemistry Expression profiling of α -SMA, TGF- β and MMP-9 in CMTs
8	Dr.Sudheesh S.Nair	Streamlining surgical oncology of skin and soft tissue neoplasms in dogs with special reference to neoadjuvant and adjuvant chemotherapeutic protocols	ongoing
9	Dr.Laiju M.Philip	Autologous platelet rich plasma for treatment of sole lesions and expression profile of associated biomarkers in dairy cattle	ongoing

10	Dr.Gigin.T	Evaluation of cutaneous wound healing in captive Asian elephants (<i>Elephas maximus</i>)	ongoing
11	Dr.Gayathry.K	Ocular arterial hemodynamics in ocular normotensive and hypertensive rabbit models under medical and surgical treatments using colour Doppler imaging	ongoing
12	Dr.Ashok R Unni	Multimodal evaluation of healing of critical sized long bone defects in rats treated with biphasic hydroxyapatite and beta tricalcium phosphate bioceramic scaffolds	ongoing
13	Dr Deepak Mathew D KJ	Nutrient recycling potential of fly larvae for bio waste management	ongoing
14	Dr Manju Sasidharan	Evaluation of calf rearing practices to develop new strategies for producing healthy replacement heifers	ongoing
15	Dr Sahana M	Predictive potential of physio-biochemical parameters for periparturient production diseases in crossbred dairy cows	ongoing
16	Dr Sunitha Thomas	Responses of Malabari and Attapady Black goats to multiple stressors	ongoing
17	Dr. Divya P.D.	Analysis of differential expression of micro RNA in lipopolysaccharide challenged lymphocytes of Vechur and crossbred cattle of Kerala	Standardization of protocols for PBMC isolation and culture of PBMCs
18	A. Sirajudeen	Influence of graded levels of dietary aflatoxins on the hatchability of Kuttanad duck eggs	Thesis writing in progress
19	S.Sankaralingam	Transcriptome analysis of Kuttanad ducks	Major part of research work completed.
20	Dr Lekshmi Bhai K. (ongoing)	Fertility of cryopreserved Malabari buck semen on post-thaw supplementation of goat seminal plasma	Synopsis got approval from FRC. The research work has started in which selection of animals is being done currently.

21	Dr Amritha Aravind	Follicular dynamics and expression profile of B-cell lymphoma-2 gene in Malabari doelings supplemented with Moringa (<i>Moringa oleifera</i>) leaves	Major research activities completed, analysis and thesis writing to be completed
22	Dr Magnus Paul. K (ongoing)	Assessment of myometrial contractility, gene expression of hormone receptors in uterus and foeto-maternal velocity indices in canine uterine inertia	Association of the gene expressions of <i>oxytocin receptor (OXTR)</i> , <i>oestrogen receptor 1 and 2 (ESR 1 and 2)</i> and <i>progesterone receptor (PGR)</i> with uterine inertia in dogs, doppler studies and hormonal, haematological and serum biochemical changes in uterine inertia
23	Dr Niyas E (Ongoing)	Influence of season on follicular development and oocyte competence in crossbred dairy cattle	Synopsis got approval from FRC. The research work has started.
24	Dr Jasmine Rani K (18-DVM-05)	Improving efficiency of production in early lactating dairy cows through augmentation of rumen biomass production	Feeding trial completed
25	Dr Annie V Raj	Structural causes of infertility in crossbred dairy cows (Ongoing)	<ul style="list-style-type: none"> • Exploring the structural causes of infertility using histomorphological and ultrastructural studies • To elucidate the role of candidate gene(s) in the development of anomalies • To determine the incidence of anatomical causes of infertility prevailing under Kerala conditions.
26	Dr Alphine Joseph	Comparative histomorphology and ultrastructure of skeletal muscle of broiler and Kuttanad ducks.	<ul style="list-style-type: none"> • Investigate the histomorphology and ultrastructure of skeletal muscle in broiler and Kuttanad ducks • Determine the comparative proportion of fiber types in selected muscles of broiler and Kuttanad ducks using Histochemical methods

			<ul style="list-style-type: none"> • Compare physical, chemical and mechanical properties of the muscle in broiler and Kuttanad ducks
27	Dr Sudhakar Goud	Molecular characterization of <i>Theileria orientalis</i> and clinic therapeutic studies of the infection in dairy cattle.	Screening, confirmation and characterisation of <i>Theileria orientalis</i> in cattle
28	Aswathy P U	Toxicity, toxicokinetics and residue analysis of indoxacarb in chicken	Approval by acad council awaited
29	Dr Preethy John	Antineoplastic activity of biosynthesised baicalein and piperlongumine nanoparticles	Synthesised and characterised nanoparticles, Cell culture and animal studies completed
30	Dr. K. Syamala	Formulation of a combined targeted selective treatment strategy for sustainable control of gastrointestinal nematodosis in goats	<ul style="list-style-type: none"> • Completed Standardisation of the C-TST indicators like FAMACHA, BCS and DAG score separately in adult, lactating and pregnant does • Correlation of the results of VPRC, EPG and Hb of animals with photographs of palpebral conjunctiva to develop an eye colour chart suitable to tropical climate • Assessment of pre and post treatment anthelmintic resistance in vivo by FECRT and by molecular technique PCR –RFLP
31	Dr. Binsy Mathew	Detection of drug resistant and biofilm forming foodborne pathogenic bacteria in broiler chicken and mitigation using plant extracts	<ul style="list-style-type: none"> ▪ Subjected 150 retail chicken samples for the isolation and identification of E. coli, Salmonella and Campylobacter from Ernakulam, Thrissur and Palakkad districts of Kerala ▪ Detection of virulent genes of the aforesaid pathogens and study of antimicrobial

			resistant genes
32	Dr. Deepa Jolly	Occurrence and molecular characterization of campylobacter spp in sea foods and associate environment of Kerala and control of biofilm formation	<ul style="list-style-type: none"> ▪ A total of 750 seafood and freshwater fish, crustaceans and mollusc samples and associated samples from coastal and freshwater areas of Kerala and 50 human stool samples were subjected to isolation and identification of Campylobacter. ▪ Direct PCR was conducted. ▪ Biofilm study of Campylobacter isolates on abiotic surfaces
33	Dr Vivekanandan R	Efficacy of campylophages and selected phytochemicals in the control of Campylobacter biofilms	<ul style="list-style-type: none"> ▪ Isolation of Campylobacter (130 samples) from pig farms ▪ Biosecurity measures assessed in these farms ▪ Biofilm forming availability of campylobacter isolates assessed ▪ Standardisation of protocol of Bacteriophage isolation
34	Dr Arun George	Clinicobiochemical and molecular investigations of haemolytic anaemia in dogs	Research on infectious and non-infectious causes of haemolytic anaemia with emphasis on oxidative stress and erythrocyte membrane stability
35	Dr Ambili V R	Clinico- therapeutic and ultra- structural studies on canine atopic dermatitis with special reference to filaggrin gene polymorphism	Screening of dogs for canine atopic dermatitis Scoring of clinical signs associated with CAD Anti-inflammatory Anti-inflammatory Anti-inflammatory
36	Dr Sindhu K Rajan	Profiling of non- classical renin angiotensin aldosterone system in cardiac diseases in dogs	Ongoing
37	Dr. G. Vijayakumar	Antimicrobial use and prescribing behaviour of veterinarians in large animal practice in Kerala	Synopsis has been approved

38	Dr. Shreyansh Hosure	Institutionalized livestock service delivery system in Kerala	Data collection going on
39	Dr. L. Arun	Impact of Kerala flood 2018 on the milk production and socio-economic status of dairy farmers in Ernakulum and Thrissur districts	Data collection going on

vi. MVSc Research Projects (Ongoing and completed)

S No	Name of the Scholar	Title of thesis	Research activities undertaken
1	Dr. Rashi U	Characterisation of Newcastle disease virus isolates prevalent in Kerala	Isolation and identification of Newcastle disease virus by HA and confirmation by HI test. Pathotyping of viral isolates by MDT and ICPI of FPCS region of F gene and sequencing and phylogenetic analysis of virus
2	Dr. Divya D	Multi locus sequence typing for species/serovar identification of clinical isolates of <i>Leptospira</i>	By using MLST, serovar Canicola, Sejroe, Bataviae, Autumnalis, Pomona, Icterohaemorrhagiae and Australis could be obtained
3	Dr. Santhiya P	Development of an antigen detection Latex agglutination test for the diagnosis of mycoplasmosis in goats	By using modified Hayflick's medium, <i>Mycoplasma mycoides</i> susp. <i>capri</i> was isolated. Antigen detection latex agglutination test was developed by using hyperimmune serum raised against Mmc
4	Dr. Greeshma Raju	Development of diagnostic protocol to detect Riemerellosis in ducks	Work started

5	Dr. Akhila Joy	Isolation and characterisation of Infectious bursal disease virus from Kerala	Sample collection started
6	Dr. Sruthy Chandran B	Genotypic characterisation of infectious bronchitis virus isolates from Kerala	Sample collection started
7	Dr. Sowndhar A	Isolation and characterisation of <i>Avibacterium paragallinarum</i> from poultry in Kerala	Work not yet started
8	Dr C. A. Dharamshaw (18-MVM-03)	Molecular characterisation and expression profiling of <i>Vasorin</i> gene in native goats of Kerala	Tissue samples (ovary, uterus, fallopian tube) collected from 6 Female Malabari goats from slaughter house. RNA isolated from the tissue samples and cDNA was synthesized. Pooled amplicons of cds sent for sequencing from Attapady black and Malabari goats- no SNPs observed. Amplification for gene <i>ADAM 17</i> exons 2,19 and 11, sequencing and analysis. Interpretation of results and thesis writing going on
9	Dr. Akhila M. R. (18-MVM-01)	Characterisation of <i>Integrin beta-6</i> gene and analysis of its expression with reference to foot and mouth disease	Blood samples were collected from 150 animals and DNA isolated. RNA isolated from 20 blood samples and cDNA was synthesized. Pooled samples sent for sequencing and observed two SNPs in Exon 14. SSCP analysis identified genotypes. Interpretation of results and thesis writing going on
10	Dr. Kiyevi G. Chishi (18-MVM-04)	Genetic variability of Toll Like Receptor 4 and Beta Defensin 4 genes and their association with somatic cell score in crossbred cattle of Kerala	Blood sample of 200 crossbred cattle collected. Identified genetic polymorphism of Beta Defensin 4 gene and Toll Like Receptor 4. Association with somatic cell score in crossbred cattle. Interpretation of results and thesis writing going on

11	Dr. M. Priyadharshini (17-MVM-07)	Assessment of sire evaluation methods in crossbred cattle of Kerala	The milk yield and pedigree information of progenies of test bulls were collected from the history –cum pedigree sheet and milk records registers of ICAR-FPT scheme, Kerala. The records on first lactation milk yields of 898 crossbred cattle sired by 203 bulls spread over a period of 13 years (2000-2019) were collected. Standardization and Normalization of the data within mean \pm 3 standard deviation. The statistical analysis of data was carried with the help of Least Square method (Harvey, 1987). Interpretation of results and thesis writing going on
12	Aishwary Vibhuti (19-MVM-02)	Expression profiling of Ecto-NOX Disulfide-Thiol Exchanger 2 (ENOX2) gene in response to heat stress in goats	Synopsis preparation Literature collection Research work will start soon
13	Arya Gopal (19-MVM-12)	Evaluation of candidate genes associated with canine mammary tumour	Synopsis preparation Literature collection Research work will start soon
14	Katam Divya (19-MVM-22)	Expression profiling of candidate genes affecting post thaw sperm parameters in Vechur cattle of Kerala	Synopsis preparation Literature collection Research work will start soon
15	Potu Hemanth (19-MVM-40)	Association of <i>Butyrophilin</i> gene polymorphisms with milk yield and fat per cent in crossbred cattle of Kerala	Synopsis preparation Literature collection Research work will start soon
16	Saranya S K (19-MVM-55)	Analysis of <i>gonadotropin releasing hormone receptor</i> gene polymorphisms and their association with litter size in native goat breeds of Kerala	Synopsis preparation Literature collection Research work will start soon
17	Dr. Megha KG 18- MVM- 49	Evaluation of omentum-based extracellular matrix scaffolds for soft tissue repair	1. Evaluated the biochemical properties of glutaraldehyde cross-linked decellularised omental scaffold 2. Evaluated the cellular and tissue

			responses of these biomaterials 3. Compared the responses to that of commercially available decellularised bovine pericardium
18	Dr. S. Vijayaragavan 18-MVM-51	Pathological evaluation of mucosa-associated lymphoid tissues and bone marrow of circovirus-2 infected pigs	1. Studied the pathological changes of mucosa associated lymphoid tissues and bone marrow in PCV-2 infected piglets 2. Electron microscopic studies were also carried out to gain a better understanding of the disease
19	Dr. Christy Margrat Joy 18- MVM- 48	Immunohistochemical analysis of p70S6 kinase protein in mammary tumours of dogs	1.Histopathological classification, grading of canine mammary tumours done 2. Expression of p70S6K in these tumours and comparison to their grades was assessed
20	Dr. Shabeeba P.M. 18-MVM-50	Immunohistochemical analysis of p70S6 kinase protein in superficial tumours of dogs	1.Histopathological classification, grading of canine superficial tumours done 2. Expression of p70S6K in these tumours and comparison to their grades was assessed
21	Dr. Navya Elizabeth Sajeev 19-MVM-32	Immunohistochemical localisation of M2 macrophages in canine mammary tumours using CD163 marker	Sample collection and standardisation of techniques going on
22	Anvitha Hansoge	Comparative evaluation of modified perineal urethrostomy and tube cystostomy for the treatment of chronic obstructive urolithiasis in male goats	Thesis submitted
23	Manasa M.R	Clinical efficacy of propofol induced isoflurane anaesthesia in geriatric dogs premedicated with diazepam and butorphanol	Evaluated the anaesthesia protocols in geriatric dogs
24	Lekshmi S L	Radiographic evaluation of thorax to aid staging of superficial and mammary neoplasms in dogs	Work in progress

25	Salurnol S	Comparative efficacy of 4-aminoPyridine and polyethylene glycol in combination with methyl prednisolone sodium succinate for the treatment of spinal cord injury in dogs	Work in progress
26	Sharat Joshi	Management of fracture of long bones using string of pearls plating technique in dogs	Work in progress
27	Badda Lavanya	Ultrasonographic ocular biometry for the diagnosis of ophthalmic diseases in dogs	Work in progress
28	Praveen M K	Clinical efficacy of midazolam – ketamine- isoflurane anaesthesia butorphanol – xylazine premedicated bovine	Work in progress
29	Aleena Thomas	Sonologic features of mammary gland neoplasms and its correlation with surgical margins and malignancy in dogs	Synopsis of research work prepared and got approval from FRC. Preliminary preparation for execution of work and literature collection on progress
30	Aiswarya Babu	Comparison of multimodal anaesthesia protocol with Isoflurane and sevoflurane maintenance in geriatric canine patients	Synopsis of research work prepared and got approval from FRC. Preliminary preparation for execution of work and literature collection on progress
31	Renu Raj	Management of long bone fractures in cats by external skeletal fixator with intramedullary pin tie-in configuration using epoxy putty.	Synopsis of research work prepared and got approval from FRC. Preliminary preparation for execution of work and literature collection on progress
32	Shakir	Supracutaneous locking compression plating for the management of long bone fractures in dogs	Synopsis of research work prepared and got approval from FRC. Preliminary preparation for execution of work and literature collection on progress

33	Sargunan	Synopsis not submitted	
34	Denny James	Synopsis not submitted	
35	Dr Saravanan M.	Assessment of the impact of Kerala flood-2018 on the livestock farming systems of Pariyaram panchayath in Thrissur district of Kerala	
36	Dr Sachin B. Patil	Impact of Kerala floods 2018 on milk production and socio-economic status of dairy farmers in Ernakulam and Thrissur districts	
37	Dr Praveenkumar N. B.	Effectiveness of illuminated fly trap for the control of dipteran biting fly annoyance in dairy farms	
38	Dr Vishnu Dev R. S.	Impact of enrichment of grazing meadow with automated water trough on the welfare of crossbred cattle	
39	Dr Lininraj V. L.	Behavioural and physiological response of captive macaque to stressors	
40	Dr Rekha A	Effect of feeding Black soldier fly (<i>Hermetia illucens</i>) larvae meal as protein source in the performance of meat type Japanese quail-	
41	Mukul C. G.	Antineoplastic activities of lactoferrin from Malabari goat	<ul style="list-style-type: none"> • Isolation and characterization of goat lactoferrin from colostrum • Standardization of induction of experimental tumors in mice
42	S. Sreejisha	Assessment of the effect of β hydroxy butyrate on bovine neutrophil function <i>in vitro</i>	Thesis writing
43	Avinash Nilugonda	Evaluation of production performance of Gramasree hens by feeding black soldier fly (<i>Hermetia illucens</i>) larvae as a protein replacer	Evaluated the performance of Gramasree hens by feeding black soldier fly (<i>Hermetia illucens</i>) larvae as a protein replacer

44	Devavratha S	Evaluation of production performance of Athulya (IWN x IWP), native and IWN x native crossbred layers under backyard system	Evaluated production performance of Athulya (IWN x IWP), native and IWN x native crossbred layers under backyard system
45	Sreyass K S	Effect of reduced dietary crude protein supplemented with limiting amino acids on growth and carcass characteristics of Gramasree male chicks	Assessed the growth and carcass characteristics of Gramasree male chicks by supplementing limiting amino acids thereby reducing the crude protein of the diet
46	Nimmi P		Course work in progress
47	Ratna Supriya		Course work in progress
48	Samir Nagib Habib Hakim		Course work in progress
49	Shajini S		Course work in progress
50	Dr Nayana Devarajan (ongoing)	Clinico-therapeutic studies pyometra in dogs with open and closed-cervix	<ol style="list-style-type: none"> 1. Evaluated haemato-biochemical and ultrasonographic features in canine pyometra. 2. Performed antibiogram of vaginal isolates in canine pyometra. 3. Evaluated diagnostic and prognostic value of grades of toxic neutrophil and serum Lipopolysaccharide (LPS). 4. Compilation of data and preparation of thesis are going on.
51	Dr Arya T.S (ongoing)	Developmental competence of goat oocytes in different maturation media	<ol style="list-style-type: none"> 1. <i>In vitro</i> maturation of goat oocytes in different media 2. Selection of competent oocytes using brilliant cresyl blue stain 3. Standardisation of <i>in vitro</i>

			fertilization of goat oocytes 4. Compilation of data and preparation of thesis are going on.
52	Dr Anjitha K. (ongoing)	Comparative study on the cryotolerance of <i>in vitro</i> matured and vitrified bovine oocytes supplemented with L- carnitine and niacin	Research work on progress with objective 1. Comparison of cryotolerance of <i>in vitro</i> matured bovine oocytes supplemented with L- carnitine and niacin
53	Dr Raghavendra A. (ongoing)	Echobiometric and Doppler studies of the canine prostate and testes	Major research activities and analysis completed, thesis writing to be completed
54	Dr Kodange Omkar Tukaram (ongoing)	Immunohistochemical localisation of progesterone, oestrogen and Ki-67 receptors in genital tract tumours of female dogs	Research work to be started
55	Dr Ambily K. G. (completed)	Freezability of specific fractions of Large White Yorkshire boar semen supplemented with sodium dodecyl sulphate	<ul style="list-style-type: none"> Assessment of freezability of F1 portion of Sperm rich fraction of Large white Yorkshire boar semen Assessment of influence of SDS in mitigating sperm cryodamage
56	Dr Sophia Xavier (completed)	Maternal and neonatal outcome following elective caesarean section in dogs based on progesterone levels	Assess the maternal and neonatal outcome in dogs with high risk pregnancy subjected to elective caesarean section (CS) based on progesterone levels
57	Dr Neelakanta Nikshepa Nithish H. (ongoing)	Intra-uterine ozone treatment for subclinical endometritis in crossbred dairy cows	Assess the efficacy of intra-uterine ozone therapy with and without PGF2 α analogue in the treatment of subclinical endometritis in crossbred dairy cows and to evaluate its effect on subsequent fertility
58	Dr Nikhila E.S(ongoing)	Assessment of fertility and fecundity in female dogs by sonographic, hormonal and genomic studies	Synopsis preparation, review of literature and preparation of Data collection forms and tables.

59	Dr Deepak Joshi (ongoing)	Modulation of inter-oestrous interval in dogs using GnRH agonist and PGF _{2α} at different stages of dioestrus	Research work is completed and documentation process is progressing
60	Dr Ramu, S	Fertility studies in crossbred cows exhibiting prolonged oestrus, treated with letrozole at lutealphase	(proposed for MVSc research)
61	Dr Minu Xaviour (Ongoing)	Effect of pre-maturation with cyclic adenosine monophosphate modulators on the developmental competence of bovine oocytes	Major research activities completed, analysis and thesis writing to be completed
62	Dr Vinaykumar R.H. (Ongoing)	Development of a model for predicting whelping date in small breeds of dogs	Major research activities completed, analysis and thesis writing to be completed
63	Dr. Snehal Lokhande (17- MVM-003)	Impacts of higher levels of dietary energy on the performance of sow and litter	Thesis submitted
64	Dr. Nandana Chandrasekhar (18-MVM-05)	Nutritional Evaluation of feeding practices of captive Asian elephants (<i>Elephas maximus</i>) in Kerala	Research work completed. Thesis writing progressing
65	Dr. Neelima Jayaraj (18-MVM-06)	Effect of supplementation of rumen protected choline and methionine on early lactating dairy cows	Research work completed. Thesis writing progressing
66	Dr. Sreemol S Nair (18-MVM-07)	Metabolic and productive responses to dietary protein levels in transition cows	Research work completed. Thesis writing progressing
67	Dhanya Suresh (19- MVM-016)	Assessment of performance of pre-ruminant crossbred calves maintained on different feeding strategies	Synopsis approved by FRC
68	Nikhila Mohan (19- MVM-035)	Dietary supplementation of selected essential amino acids in Large White Yorkshire piglets	Synopsis approved by FRC

69	Nimmy Michael (19- MVM-037)	Effect of supplementation of exogenous fibrolytic enzymes in early lactating crossbred dairy cows	Synopsis approved by FRC
70	P. Satish Reddy (19- MVM-042)	Assessment of nano zinc Supplementation in Malabari kids fed on complete ration with different energy levels	Synopsis approved by FRC
71	Abhin Raj K.P. 18- MVM- 25	Structural and physico-chemical evaluation of raw and decellularized porcine tunica vaginalis as a novel acellular matrix	Morphology and Histology of porcine tunica vaginalis , its decellularization and analysis of physico-chemical properties of the decellularized matrix.
72	Dr. Lhingneivah DOUNGEL	Histomorphology and physicochemical evaluation of raw and decellularised tunica vaginalis of buffalo as a promising biomaterial in regenerative medicine (Ongoing)	Conduct gross anatomical, Histological and ultrastructural studies on tunica vaginalis of buffalo Standardization of procedure for maximum removal of cellular components of tunica vaginalis Investigate the Histomorphological, ultrastructural and physicochemical characteristics of the developed decellularised matrix
73	Rugma V	Identification of genes encoding extended spectrum beta lactamase production in <i>Escherichia coli</i> and <i>Klebsiella</i> spp. associated with bovine coliform mastitis	Identification and molecular characterisation of <i>Escherichia coli</i> (<i>E.coli</i>) and <i>Klebsiella</i> spp. isolates from mammary secretions of dairy cows with acute coliform mastitis by Polymerase Chain Reaction (PCR) 2. Antibigram of the isolates against amoxicillin, gentamicin, clindamycin, enrofloxacin, cefoperazone and azithromycin 3. Determination of antimicrobial susceptibility of the isolates against carbapenem group of antibiotics and identification of genes controlling the production of Extended Spectrum Beta Lactamases (ESBL)

74	Punya MS	Detection of elephant endotheilotropic herpes virus in Asian elephants(<i>Elephusmaximus</i>)	Identification of Herpes virus in Elephant
75	Sukantha Datta	Etiopathology of upper respiratory tract infection in domestic cat.	<p>Molecular detection of the most common four pathogens of upper respiratory tract infections (URTI) in cats, namely <i>Chlamydophila felis</i> (<i>C. felis</i>), <i>Mycoplasma felis</i> (<i>M. felis</i>), <i>Feline herpesvirus</i> (FHV) by Polymerase Chain Reaction (PCR)</p> <p>2. Assessment of the haematological variations in cats during these three infections</p> <p>3. Identification of risk factors associated with the above infections</p>
76	Meenu Manohar	Aetiopathology and therapeutic management of theileriosis in goats	<p>Identification and confirmation of theileriosis in goats</p> <p>Assessment of three different protocols for treatment of theileriosis in goats</p>
77	Krupa Rose	Antimicrobial resistance profiling of <i>Staphylococcus aureus</i> isolated from bovine mastitis	<p>Identification and molecular characterisation of <i>S. aureus</i> isolates from mammary secretions of dairy cows</p> <p>2. Antibioassay of the isolates against amoxicillin, gentamicin, clindamycin, enrofloxacin, cefoperazone and azithromycin</p> <p>3. Assessment of treatment trail</p>
78	Bhagya Nissar	Screening for Methicillin resistant <i>Staphylococcus aureus</i> associated with Caprine Mastitis	<p>Identification and molecular characterisation of <i>S. aureus</i> isolates from mammary secretions of Goat and identification of MRSA</p> <p>2. Antibioassay of the isolates against amoxicillin, gentamicin, clindamycin, enrofloxacin, cefoperazone and azithromycin</p>

79	Gagana H S	Virulence factors and antimicrobial susceptibility of <i>Malassezia pachydermatis</i> from dogs.	Isolation and identification of <i>Malassezia pachydermatis</i> from dogs. Antifungal susceptibility test
80	Anju S	Molecular detection and clinic therapeutic studies on <i>Babesia gibsoni</i> in dogs	Detection of <i>B. gibsoni</i> from dogs by polymerase chain reaction. Assessment of different therapeutic protocol
81	Juby Thankachan	Screening for parasitic infection among exotic and zoo birds.	Detection of haemo protozoans and enteric protozoan from the exotic and zoo birds by PCR Characterisation of the etiological agents
82	Athira K	Bacterial etiology of infertility in dog with special reference to brucellosis	Isolation and identification of the etiological agent responsible for canine mastitis Diagnosis of brucella organism in canine abortion
83	Anugraha Mercy Easaw	Molecular detection of virulence factors in <i>Staphylococcus aureus</i> associated with bovine mastitis	Identification and molecular characterisation of <i>S. aureus</i> isolates from mammary secretions of dairy cows 2. Antibigram of the isolates against amoxicillin, gentamicin, clindamycin, enrofloxacin, cefoperazone and azithromycin 3. Study of virulence factors of <i>S. aureus</i> associated with bovine mastitis
84	Tarra Malleswary	Antifungal resistance of dermatophytes isolated from dogs	Isolation and identification of Different dermatophytes from dogs Study of antifungal resistance of these isolates
85	Deshpande Prutha Sudhir	Seromonitoring of prophylactic anti rabies vaccination in pups	Seromonitoring of the prophylactic anti rabies vaccination in pups

86	Neeraja E	Aetiopathology and clinico-therapeutic studies on enteric protozoan infections in domestic cats	Identification of enteric protozoan of cat Assessment Haemato-biochemical alteration
87	Navya E	Aetio-pathology of canine diarrhea caused by enteropathogens	<ul style="list-style-type: none"> 1. Identification of infectious aetiology of diarrhoea in dogs 2. Assessment of haematological and biochemical variations in affected dogs 1. Retrospective evaluation of therapeutic regimens adopted, and recommendations for modification
88	Aathira K K	Anticancer activity of <i>Creteva nurvala</i> and <i>Garcinia gummigata</i> in Triple negative breast cancer cell line	Completed, thesis submitted
89	Haima J S	Wound healing activity and dermal pharmacokinetics of borneol incorporated κ -carrageenan hydrogel in diabetic wound model in rats.	Preparation, Characterization and incorporation of borneol hydrogel is completed. Studies on wound healing in normal animal is completed. Studies on wound healing in diabetic animal is going on.
90	Dhanusha G	Modulation of oestrogenic activity by alcoholic extracts of <i>Asparagus racemosus</i> and <i>Boerhavia diffusa</i> in MCF-7 Cell Line	Extraction, characterisation of extracts, cytotoxicity of extracts and cell culture studies completed
91	Akshay Rajkumar Dabholkar	Cytotoxic, carcinogenic and genotoxic effects of carbosulfan in cultured mammalian cells	Cell culture studies Ongoing
92	Adheena Xavier	Evaluation of protective effect of lemongrass oil and citral on fatty liver disease in rats	Standardisation on going
93	Arya Mohan	Comparative study of berberine and capsaicin as efflux pump inhibitors in quinolone resistant <i>Staphylococcus aureus</i> isolates from bovine mastitis	Standardisation on going
94	V. Keerthika	Antineoplastic activity of silver nanoparticles biosynthesised from	Standardisation on going

		seeds of <i>Sesamum indicum</i> (Sesame) in Dalton's lymphoma ascites	
95	R. Poonghuzhali	Evaluation of <i>in vitro</i> acaricidal activity and safety of <i>Cyclea peltata</i> (Padal)	Standardisation on going
96	Pranjali Kirde	Protective effect of aqueous fraction of alcoholic extract of <i>Tamarindus indica</i> seed coat on acetaminophen induced hepatotoxicity in rats	Animal studies ongoing
97	Karthika R (2017-MVM-40) Ongoing	Serological and molecular detection of <i>Toxoplasma gondii</i> associated with abortions in goats	1. Seroprevalence of <i>Toxoplasma gondii</i> in goats that had aborted by ELISA 2. Molecular confirmation of <i>T.gondii</i> in the aborted fetal tissue samples by PCR 3. Molecular detection of Neospora caninum in the aborted foetal tissues by PCR
98	Pooja G. Mankani 2018-MVM-) Ongoing	Occurrence and identification of Eimeria species in chicken, turkey and quail in different poultry production systems	1. Studied the occurrence of poultry coccidiosis in different management systems, age groups and seasons 2. Identified the prevalent <i>Eimeria</i> species morphologically and by PCR
99	Thamil Bharathi .L.N 2017-MVM- 67) Ongoing	Development of copro-polymerase chain reaction for detection of economically important gastrointestinal strongyles in goats	1.Overall prevalence of strongylosis in goats was estimated 2.Conventional microscopical faecal examination methods were compared with molecular detection methods 3.For simultaneous detection of strongyle infection in faecal samples of goats, a multiplex copro-PCR was performed
100	Megha P. S.	Production of designer chicken eggs fortified with vitamin D3 and Zinc	Completed
101	Debia Yamin	Association of temperature humidity index with physiological, biochemical and behavioural responses in native and crossbred goats	Ongoing - Research work completed
102	Afsal S	Cloacal carriage and antimicrobial	<ul style="list-style-type: none"> Collected 175 cloacal samples

		resistance profiling of extended spectrum beta-lactamase producing <i>Escherichia coli</i> and <i>Salmonella</i> Enteritidis in broiler chicken	<p>from Kottayam and Kollam district (Total sample size: 300)</p> <ul style="list-style-type: none"> Isolated <i>Salmonella</i> and <i>E. coli</i> Studied Antibicrobial resistant genes in the isolates
103	Athulya T R	Occurrence of <i>Campylobacter</i> spp. in duck, quail, backyard chicken and associated environmental samples	<ul style="list-style-type: none"> Collected cloacal swabs from duck (100% sample size), quail (50% sample size) and backyard chicken (40% sample size) Collected environmental samples- Water samples and soil samples (30% of total sample size collected) Isolated <i>Campylobacter</i> colonies in mCCDA agar Done molecular characterization of 10% of the colonies positive in mCCDA agar
104	Murugavelu M	Detection of pathogenic Leptospire in slaughtered cattle of Thrissur	<ul style="list-style-type: none"> Blood, urine and kidney were collected from Municipal slaughter house, Kuriachira, Thrissur and Meat Technology Unit , KVASU (total sample size- 75 each) and subjected to MAT and PCR secY , lipL32 gene standardised Prevalent serovars in cattle detected
105	Sruthi C	Isolation and molecular characterization of <i>Escherichia coli</i> pathotypes in drinking Water and identification of the possible sources of contamination	<ul style="list-style-type: none"> 100 water samples were subjected to analysis by MPN method (100% of sample size) for detection of coliform and <i>E. coli</i> Soil samples, infant faecal samples , poultry faecal samples, cattle and goat faecal sample were also analysed were subjected to isolation of various pathotypes

			of E coli
106	Anaz. S. R	Suitability of saline, adenine, glucose, mannitol additive in citrate, phosphate, dextrose, adenine for storing packed red blood cells of goats	Ongoing
107	Anjaly. M. V	Clinicopathological investigations on thrombocytopenic dogs with hemostatic disorders	Ongoing
108	Ashi. R. Krishna	Management of feline lower urinary tract disease	Ongoing
109	Gouree Krishna. U	Storage lesion and post transfusion studies of canine packed red blood cells using saline, adenine, glucose, mannitol additive in citrate, phosphate, dextrose, adenine solution	Ongoing
110	Rohini B G	Evaluation of renal resistive index in dogs with acute and chronic renal diseases	Synopsis approved
111	Parvathy J	Clinico-therapeutic studies on non-regenerative anaemia in dogs with special reference to Babesia gibsoni infection	Synopsis approved
112	Lakshmi Mohanan	Oxidative stress and antioxidant status in oriental theileriosis and its therapeutic management in crossbred cows	Synopsis approved
113	Anjaly Francis	Evaluation of point of care tests for the detection of subclinical ketosis in early postpartum cows	Synopsis approved
114	Kamalu S Kumar	Comparative evaluation of Fluranalar and DOoramectin for therapeutic management of canine demodicosis	Synopsis approved
115	Dr. Chithra S	Assessment of the livestock biodiversity management system under selected local self-governments of Kerala	Thesis writing is going on

116	Dr. Rashmi Ravindranath	Commercial dog breeding ventures of Thrissur and Ernakulam districts of Kerala – A multidimensional analysis of economic viability and determinants of profitability.	Pilot study is going on
117	Dr. Demian C. Johnson	Development and assessment of a mobile application on canine health care and management for enhanced client-veterinarian engagement'	Submitted Thesis
118	Dr. Muhammed Asif M	Keeping system of Wayanad dwarf cattle: a hermeneutic phenomenological analysis of the bio-cultural landscape'	Submitted Thesis
119	Reshmi Raveendran	Genetic analysis of host resistance to gastro-intestinal nematode infection among native goats breeds of Kerala.	Literature review
120	Swetha P.T	Isolation and characterisation of Extended Spectrum Beta Lactamase (ESBL) producing <i>K. pneumonia</i> and <i>Salmonella</i> spp. From environmental sample	A total of 420 samples – pond water (60), river water (60) and paddy field water (60) Along with soil samples- pond, river banks and paddy field (60 each)S collected Isolation and identification of were carried out from collected samples Positive samples were screened by PCR and using Kirby Bauer diffusion test was carried out to determine the antibiotic resistance profile.

vii. MSc Research Projects (Ongoing and Completed)

S No			
1	Amrutha M. S	Detection of biofilm forming strains of <i>Escherichia coli</i> and <i>Staphylococcus aureus</i> associated with canine pyometra	By using Congo red agar medium , Tube method and Tissue culture plate method, biofilm forming strains of <i>E. coli</i> and <i>S. aureus</i> were detected
2	Athira A	Comparison of different staining techniques for detecting bacterial infection in blood	By using fluorescent and light microscopy, <i>Anaplasma</i> and <i>Ehrlichia</i> species were detected
3	Karishma P. S	Isolation and antibiogram of <i>Corynebacterium</i>	Pus samples collected from goats, isolated <i>Corynebacterium</i>

		<i>pseudotuberculosis</i> from goats	<i>pseudotuberculosis</i> and antibiogram was conducted
4	Nisha B. V	Isolation and identification of Infectious bursal disease virus in embryonated chicken eggs	Sample collection started
5	Ajomol Joy	Work not decided yet	
6	Albin Mathew	Work not decided yet	
7	Alphy Sabu	Work not decided yet	
8	Amrutha K. U.	Work not decided yet	
9	Hemanth Ajayan	Work not decided yet	
10	Nasreen P. A.	Work not decided yet	
11	Ms. Savitha	Morphological and morphometric studies on the hoof of hog deer	Studies the morphology and morphometry of hoof in hog deer with specimens collected from State museum and zoo, Thrissur
12	Ms. Sivani KT	Isolation and characterization of indigenous starter cultures from natural sources	
13	Ms. Megha Muraleedharan	Evaluation of anti-bacterial potential of peptides in whey from fermented goat milk .	
14	Ms. Theertha Vijayan	Detection of antifungal agents in fermented dairy products and their impact on product quality	
15	Dhanya Prasad	Ethogram of Duck on the enrichment of ponds with Azolla	
16	Rubihayo Solomon	Anand Pattern Cooperative Society (APCOS) model and traditional dairy cooperatives in Kerala: A comparative analysis on structure, conduct and performance	
17	Ayana Babu	Green synthesis of silver nano particles using Nalpamaram and assessment of its antibacterial potential	Thesis writing
18	Akshath G Nath	Analysis of fatty acid composition of Vechur cow milk at different	Thesis writing

		stages of lactation	
19	Sruthi Unnikrishnan.	Comparative Analysis of antibacterial activity of vechur and crossbred cow milk conjugated silver nano particles	Thesis writing
20	Dhaniyel M.G.	Assessment of antibacterial potential of silver nano particle biosynthesized using Trikatu	Thesis writing
21	Vidhya K T.	Analysis of fatty acid composition of milk of crossbred cows at different stages of lactation	Thesis writing
22	Ardra T S	Species identification and evolutionary analysis of <i>Columba livia domestica</i> (Pigeon) and <i>Dromaius novaehollandiae</i> (emu) using mitochondrial 12S rRNA and 16s rRNA gene.	Thesis writing
23	Modi Syriac	Characterization of genes encoding 23k Da and 14- 3- 3 membrane proteins of <i>Schistosoma spindale</i>	Thesis writing
24	Kavia V.	Green Synthesis of silver nano particles using Dashmula Churna and assessment of its antibacterial potential	Thesis writing
25	Abhijith R. Nair.	Green Synthesis of silver nano particles using Triphala and assessment of its antibacterial potential	Thesis writing
26	Binusree Babu A	Detection of polymorphisms in chicken bone morphogenetic protein 15 (BMP-15) gene associated with egg production traits	Thesis writing
27	Malavika Menon K	Quantification of benzimidazole resistance polymorphisms in <i>Haemonchus contortus</i> in goats by real time PCR.	Thesis writing
28	Aravind 18-MSVM-16	Effect of flood on the livestock sector in Kadukutty panchayath of	Data collection and analysis

		Thrissur district	
29	Bisty P. Johnson 18-MSVM-17	Autoregressive Integrated Moving Average (ARIMA) model for forecasting production of milk, egg and meat	-do-
30	Delna Rose K. D. 18-MSVM-18	Forecasting rainfall in Thrissur district of Kerala using Artificial Neural Network	Data collection and analysis
31	Nandu Mohan 18-MSVM-19	Comparison of Autoregressive Integrated Moving Average (ARIMA) and Multi - Gene Genetic Programming Models for temperature prediction in Thrissur district of Kerala	Data collection and analysis
32	Vishnupriya Balakrishnan 18-MSVM-20	Developing model for lactation curve in Malabari goats	Data collection and analysis
33	Modi Syriac (MSc Applied Biochemistry and Molecular biology) 1. Major Advisor: Dr. Bindu Lakshmanan	Molecular characterisation of genes encoding 23kda and 14-3-3 membrane proteins of <i>Schistosoma spindale</i>	Amplification of cDNA of candidate genes and sequence analysis
34	Malavika Menon K. (MSc Applied Biochemistry and Molecular biology) Major Advisor: Dr. Asha Rajagopal	Assessment of benzimidazole resistance polymorphisms in <i>Haemonchus contortus</i> in goats by real time PCR	Standardised real time PCR for determining the frequency of benzimidazole resistance polymorphisms
35	Abhijith R. Nair	Green synthesis of silver nanoparticles using Triphala and assessment of its antibacterial potential	Ongoing- Research work completed
36	Kavia V.	Green synthesis of silver nanoparticles using Dashmula churna and evaluation of its antibacterial potential	Ongoing -Research work completed
37	Dhaniyel George	Assessment of Antibacterial potential of silver nanoparticles biosynthesized using Trikatu	Ongoing -Research work completed
38	Amrutha. E. A	Study of feather pattern and physical properties of feather in different fancy birds	Feather pattern of different varieties of pigeon were studied.

Total no. of Ph.D. scholars: 42

Total no. of M.V. Sc scholars: 137

Total no of M.Sc Scholars: 54

viii. Research Papers/ Articles /Books Published in approved format:

Books:-

1. Maya S., Sunilkumar N.S., Irhad A., Raji K., Mini M., Tresamol, P.V., Divya P.D., Ambily R., Justin Davis K. and Sheelu N Lekshmanan. 2020. *Proceedings of National online seminar on Environmental protection for improving animal and human health and national level online paper presentation competition from 24.04.2020 to 27.04.2020 and 08.05.2020 to 10.05.2020*. Published by Secretary, Indian Veterinary Association, CVAS, Mannuthy Unit. ISBN: 978-93-5407-090-7.
2. Ashok N., Lucy K.M., Maya S., Indu V.R., Sreeranjini A.R., Rajani C.V., Leena C., Patki H.S., Sunilkumar N.S., Sumena K.B., Surjith K.P., Irshad A., Uma R. and Sujith S. 2020. *Conceptual framework entwining translational anatomy and veterinary clinical sciences*. First Edn. Published by Director Academic Staff College, KVASU, Kerala, India. ISBN: 978-93-5416-306-7.
3. Maya S., Usha A.P., Irhad A., Sunilkumar N.S., Raji K., Uma R., Unnikrishnan M.P., Sujith S., Justin Davis K., Divya P.D. and Narayanan M.K. 2020. *Mrugaparipalanam Sasthrathinte vazhikal*. First Edition. Kerala Veterinary and Animal Sciences University, Pookode, Kerala.
4. Sreeranjini A.R. 2020. Panniyude sareeraghatanaa savisheshathakal. Chapter in Book with ISBN No. 978-93-5408-070-8. Published by Dr. S. Maya, Director, Academic Staff College & Dr. A.P. Usha, Director, Farms, Kerala Veterinary and Animal Sciences University (pp.160-166).
5. A.R. Sreeranjini, N. Ashok, K.M. Lucy, S. Maya, C. Leena, N.S. Sunilkumar and K.B. Sumena. 2020. Molecular factors regulating the development of pancreas. Chapter in *Conceptual framework entwining translational anatomy and veterinary clinical sciences*. First Edn. Published by Director Academic Staff College, KVASU, Kerala, India. ISBN: 978-93-5416-306-7.
6. Sunilkumar, N. S. , Ashok, N., Lucy K. M., Maya, S., Indu, V. R., Sreeranjini A.R., Leena, C. and Sumena K.B. 2020. Bovine digital cushion: an overview. Chapter in *Conceptual framework entwining translational anatomy and veterinary clinical sciences*. First Edn. Published by Director Academic Staff College, KVASU, Kerala, India. ISBN: 978-93-5416-306-7.
7. Sumena K.B., Ashok, N., Lucy K. M., Maya, S., Indu, V. R., Sreeranjini A.R., Leena, C. and Sunilkumar, N. S. 2020. Navel ill- Anatomical perspectives. Chapter in *Conceptual framework entwining translational anatomy and veterinary clinical sciences*. First Edn. Published by Director Academic Staff College, KVASU, Kerala, India. ISBN: 978-93-5416-306-7.
8. MCQs on Veterinary Clinical Sciences. 2020. Unny, M., Sulficar, S., Varghese, R. and Harshan, H. M. Jaya publishing house, Delhi, ISBN: 978-93-90212-89-7
9. Sreeranjini A.R. 2020. Panniyude sareeraghatanaa savisheshathakal. Chapter in Book with ISBN No. 978-93-5408-070-8. (pp.160-166). Published by Dr. S. Maya, Director, Academic Staff College & Dr. A.P. Usha, Director, Farms, Kerala Veterinary and Animal Sciences University.
10. A.R. Sreeranjini, N. Ashok, K.M. Lucy, S. Maya, C. Leena, N.S. Sunilkumar and K.B. Sumena. 2020. Molecular factors regulating the development of pancreas. (Chapter of Text Book with ISBN No. 978-93-5416-306-7). pp. 94-98. Published by Department of Veterinary Anatomy and

Histology, Directorate of Entrepreneurship and Academic Staff College, Kerala Veterinary and Animal Sciences University

11. Dr.K. Raji, Dr. V. Babitha, Dr.V.Dildeep. 2020. Urukallilae dhahanavyuhavum poshanavum, chila savishesathakal- Book chapter in Mrigaparipalanam- Sasthrathintae Vazhikal by Kerala Veterinary and Animal Sciences University, Pp 43-46
12. Sajith Purushothaman, Compendium of lectures national Workshop on Comprehensive Management of working dogs. (2020). Edition II, Page No 41- 43
13. Akiduveekkam – Ariyendathellam’ In book ‘Mrigaparipalanam- sastrathinte vazhikal’ by Kerala Veterinary and Animal Sciences University
14. Rabies-“Zero by Thirty” a dream to cherish In book: Epistemological approaches to animal disease control programmes by KVASU and IVA, CVAS, Mannuthy
15. Sreekutty, SS., Vrinda, K.M. Latha, C., Sunil, B and Ambily R 2020 Seroprevalence of Leptospirosis in cattle in Mannancherry panchayat of Alappuzha district. J Vet. Anim. Sci. 51: 115-118
16. Neethu, K.P., Vrinda, K.M., Latha, C., Jolly, D., and Sunil, B .2020. Occurrence of leptospirosis in dogs in central Kerala. JIVA . 18(3) : 57-61
17. Hebbal MA, Latha C, Vrinda Menon K, Deepa J . 2020. Occurrence of oxytetracycline residues in milk samples from Palakkad, Kerala, India, Veterinary World, 13(6): 1056-1064.
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21. Vrinda, K. M., Sunil, B. and Latha, C. 2021. Prevalence and antibiotic resistance profile of *Listeria* spp. Associated with seafoods from fish catchment areas in Kerala. Vet. World. (Acceptance received)
22. Vrinda, K.M. and Bindu, L. 2021 Biological and chemical hazards in meat and meat products In: Safety and quality assurance in food supply chain: emerging technologies and challenges. Eds. Sudheer, K. P and Bindu, L . NIPA, New Delhi. P314
23. DR Prasad A Chapter BOOK ISBN 978-93-5408-070-8
24. DR Justin Davis Chapter BOOK ISBN 978-93-5408-070-8
25. DR Deepak Mathew Chapter BOOK ISBN 978-93-5408-070-8
26. DR Suraj PT Chapter BOOK ISBN 978-93-5408-070-8

Articles:

1. A.R. Sreeranjini, A. R. Nisha, S. Maya, Preethy John, Arya Mohan and V. Keerthika. 2020. Antibacterial effect of methanolic extract of *Oroxylum indicum* leaves against bacterial isolates from bovine mastitis. Int. J Livestock Res. 10 (11): 116-121. doi: <http://dx.doi.org/10.5455/ijlr.20200803012521>
2. A.R. Sreeranjini, N. Ashok, K. M. Lucy, S. Maya, V. R. Indu and J.J. Chungath 2020. Microanatomical Studies on the Relationship Between Exocrine and Endocrine Components of

- Pancreas in Crossbred Goats During Prenatal and Postnatal Development. *Indian J. Vet. Anat.* 32 (2): 06-08
3. A.R. Sreeranjini, N. Ashok, S. Maya, K. M. Lucy, V. R. Indu, N.S. Sunilkumar and K.B. Sumena. 2020. Gross anatomical studies on the pelvic limb bones of white cockatoo (*Cacatua alba*). *J. Vet. Anim. Sci.* 51(1): 86-90.
 4. Amritha, A. and Arya, T.S. 2020. Oocyte and embryo quality- A key to successful animal reproduction technologies (ART). Proceedings of National online seminar on 'Environmental protection for improving animal and human health' held on 24-27 April, 2020, CVAS, Mannuthy organized by IVA, Kerala, KVASU and IVA, Mannuthy. ISBN No. 978-93-5407-090-7. 289-293.
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 6. Anjana A, Raji K, Bhuvana Plakkot and Aravindhakshan TV (2020). Isolation of Theca Cells from Goat Ovarian Follicles and Expression of CYP19 Gene in the Isolated Cells. *EC Clinical and Experimental Anatomy.* 3; 10-19
 7. Anoop,S., Laiju M.Philip., Soumya Ramankutty., Sudheesh S Nair andf John Martin K.D (2000). Ocular manifestations of endocrine Disorders in Small animals. *J.Ind.Vet, Asso.* 18(2): 7-19.
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 9. Arathi Salim, Biju Chacko, Shyama K., Sunandha C., Senthil Murugan S, Surej B., Ranjith D., Sreeja S. J. and Neenu Ouseph (2020). Preparation of Raw Banana peet Silage. 12th Kerala Science Congress 14-15 November 2020
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 11. Arya Mohan., Nisha, A.R., Keerthika,V. and Preethy John. 2020. Antimicrobial peptides from bacterial sources - a review. *Int. J. Sci. Dev. Res.*5: 11-14 Sudharsan, C., Murugan, S.S., Chacko, B. and Juliet, S., 2020.Influence of Dietary Substitution of Palm Oil by Rapeseed Oil at Different Levels on Growth Performance and Economics of Broilers. *Indian Journal of Animal Research*, 1, p.6.
 12. Asha Rajagopal,, Lucy Sabu, Radhika R., Devada K., Aravindakshan T.V. 2020. High prevalence of the E198A polymorphism in isotype-1 β -tubulin gene of *Haemonchus contortus* populations in organized goat farms in Kerala, South India. *Small Rumin. Res.* 188: 106-110
 13. Aswathy, A., Uma,R., Jayavardhanan, K.K ., Radhika, G., Eldho,L and Jacob,M.R.2020. *J. Entomol. Zool. Stud.* 2020; 8(6): 1086-1089.
 14. Azhaguraja Manoharan, S Sankaralingam, P Anitha, Binoj Chacko and TV Aravindakshan (2020). Genotypic confirmation of non-broody behaviour of white leghorn by 24bp indel(s) polymorphism at the promoter region of prolactin gene. *International Journal of chemical Studies* 8(2): 2491-2493
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Abstract in Seminar / Workshop

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2. Article on Environmental protection to improve Poultry production in the proceedings of Online national seminar on Environmental protection for improving Animal and human health organized by IVA, Kerala chapter & KVASU. P.41
3. Ashna Sulaiman, Dhanush Krishna B., Sajitha I. S., V. N. Vasudevan, and Mammen J. Abraham. Evaluation of in vivo host response of differently decellularised omental scaffolds. XXXVII Annual conference of Indian Association of Veterinary Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re-emerging diseases of livestock and poultry: One health approach” 26th to 29th December 2020.
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 26. M. N. Priya., Lakshmanan, B., P. M. Priya., Rajagopal, A., H. Shameem. And K. Devada. Evaluation of an IgG based Indirect Plate ELISA for the Diagnosis of Intestinal Schistosomosis in cattle. International conference on New generation vaccines and Animal disease control strategies: roadmap for enhancement of Animal and Human Health organised by Department of Veterinary Microbiology, Veterinary college and Research Institute, Orathanadu,TANUVAS, Tamilnadu and Department of Veterinary Microbiology, KVASU from 02-12-2020 to 04-12-2020
 27. Muneeb A Faiq; Anoop Sainulabdeen; Carlos Parra; Xinlei Wang; Choong H Lee; Jiangyang Zhang; Crystal Liu. (2020). In vivo contrast enhanced MRI of cerebrospinal fluid dynamics in mouse optic nerve In. ARVO Annual Meeting, Baltimore, USA.
 28. Nandana Chandrasekhar, Ajith, K.S., Ally,K , Deepa,A., RajeevT.S. 2020. Identification of the existing feeding practices of captive Asian elephants reared in temples of Kerala In. sight into wildlife conflicts, rescue and rehabilitation: challenges and opportunities for rehabilitation
 29. Niyas, E., Anzeena, H. P., Harshan, H. M., Abhilash, R. S., Jayakumar, C. and Thomas, R. 2020. Management of foetal mummification in a crossbred dairy cow – a case study. National online seminar on “Environmental protection for improving animal and human health” 24th to 27th April, 2020 organized by IVA, Mannuthy. p 353
 30. Parvathy G. Udayan - Research paper entitled “Screening of Ducks for asymptomatic infection of Riemerellosis in Kerala”, Virtual International Conference on New generation vaccines and animal disease control strategies: Roadmap for enhancement of Animal and human health, 2-4th December, 2020.
 31. Preethy, J., Nisha, A.R. and Sujith, S. Characterisation and cytotoxicity evaluation of biosynthesised silver nanoparticles using Baicalein on Daltons lymphoma ascites cells. 20th Annual e conference and national seminar
 32. Priya, P., Ajith, K.S., Ally, K., Shyama, K., and Venkatachalapathy, T.R. 2020. Evaluation of complete feed containing different roughage sources on milk yield of lactating Malabari goats. In. International e conference on expanding horizons in physio-biochemical and molecular approaches for improving livestock health and production. Veterinary college and Research Institute, Orathanadu
 33. Rahmaan S.B., Sajitha I.S., Dhanush Krishna B., Surya Sankar and Mammen J.Abraham. Histopathological and immunohistochemical studies of infectious bursal disease in chicks. XXXVII Annual conference of Indian Association of Veterinary Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re- emerging diseases of livestock and poultry: One health approach“ 26th to 29th December 2020.
 34. Raimon Mathew, I.S. Sajitha, B. Dhanush Krishna, S.S. Nair, B.J. Kariyil and M.J. Abraham. Immunohistochemical study on the expression of mechanistic target of Rapamycin (mTOR) and Dishevelled, EGL10 and pleckstrin domain containing mTOR interacting protein (DEPTOR) in canine mammary tumours. XXXVII Annual conference of Indian Association of Veterinary

- Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re- emerging diseases of livestock and poultry: One health approach“ 26th to 29th December 2020.
35. Rajan. B. K., Harshan, H. M. and Venugopal, G., 2020. Veterinary image enhancement using DWTDCCT and singular value decomposition. *International Conference on Communication and Signal Processing, July 28 - 30, 2020, India*
 36. S. S. Shiji, V. Babitha, K. Raji. 2020. Comparison of expression pattern of CYP19 gene in different categories of ovarian antral follicles in Malabari and Attappady black breeds of goats. Abstract in IVA compendium of National Online Seminar on ‘Environmental Protection for improving animal & human health’ National Online paper presentation competition; 24-27 April, 8-10 May 2020
 37. S.S. Devi, J.G. Ajith, R. Mathew and I.S. Sajitha. Osseous metaplasia associated with lymphoid leucosis in layer poultry– XXXVII Annual conference of Indian Association of Veterinary Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re- emerging diseases of livestock and poultry: One health approach“ 26th to 29th December 2020
 38. S.Vijayaragavan, Devi S.S., Sajitha I.S., Dhanush Krishna B., Santhiya P., Surya Sankar., M. Mini., Christy margrat joy., Shabeeba P.M. and Megha K.G. Occurrence of mycoplasmal pneumonia among goats of central Kerala. XXXVII Annual conference of Indian Association of Veterinary Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re- emerging diseases of livestock and poultry: One health approach“ 26th to 29th December 2020.
 39. Sairam R., Dhanush Krishna B., Sajitha I.S., Priya P.M. and Mammen J. Abraham. Molecular diagnosis and pathology of porcine reproductive and respiratory syndrome virus and porcine parvo virus infections. XXXVII Annual conference of Indian Association of Veterinary Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re- emerging diseases of livestock and poultry: One health approach“ 26th to 29th December 2020.
 40. Sajith Purushothaman (2020). Feding guidelines for working dogs at National workshop on Comprehensive Management of working dogs. Second edition held at Kerala Police Academy from 27.07.2020 to 29.07.2020
 41. Sethulekshmi C and Latha c. 2020. Detection of antibodies in human serum samples against EHEC using ELISA. "Zoonoses and Human Health: Challenges and Solutions" in the Conference ‘New Generation Vaccines and Animal Disease Control Strategies – Roadmap for enhancement of animal and human health’ jointly organized by the Department of Veterinary Microbiology, Veterinary College and Research Institute, Orathanadu, Thanjavur and Department of Veterinary Microbiology, College of Veterinary and Animal Sciences, Pookode, Kerala- 02-04 December, 2020
 42. Shabeeba P.M., Sajitha I. S., Devi S. S., Divya C., Christy Margrat Joy., Sudheesh S. Nair and Shakir S.N. Immunohistochemical study on the expression of phosphorylated p70S6K in canine hepatoid gland tumours. XXXVII Annual conference of Indian Association of Veterinary Pathologists & International symposium on “Role of Veterinary Pathology in controlling emerging and re- emerging diseases of livestock and poultry: One health approach“ 26th to 29th December 2020.

43. Siniya K. - Research paper entitled "Influence of Iron depletion on the whole cell and outer membrane proteins of *Riemerella anatipestifer* isolates in Kerala", Virtual International Conference on New generation vaccines and animal disease control strategies: Roadmap for enhancement of Animal and human health, 2-4th December, 2020.
44. Sophia, X., Rinu, T., Anzeena, H, Hiron, M.H., Jayakumar, C., Abhilash, R.S., Shibu, S., Magnus, P.K., Amritha, A. and Lekshmibhai, K. 2020. Review of obstetrical cases presented during COVID lockdown at University Hospitals, Mannuthy and Kokkalai. Proceedings of National online seminar on 'Environmental protection for improving animal and human health' held on 24-27 April, 2020, CVAS, Mannuthy organized by IVA, Kerala, KVASU and IVA, Mannuthy. ISBN No. 978-93-5407-090-7. 380
45. Sudheesh S.Nair., Soumya Ramankutty., S.Anoop and K.D.John Martin."Peotomy, urethrostomy and cystotomy for surgical management of chronic urolithiasis and penile necrosis in a mongrel dog" In National online seminar on environmental protection for improving animal and human health and national level online paper presentation competition from 24th to 27th April 2020.
46. Suja R.S., Joshua A.J., Senthil K.A., Nair A.M.C., Vijayabalaji V. and Amit A. 2020. Effect of *Tamarindus indica* seed coat on reversal of type 2 diabetes induced hyperlipidemia and oxidative stress in albino rats in XXth Annual Conference of Indian Society of Veterinary Pharmacology and Toxicology in 2020 held from 4.10.2020 to 5.10.2020 at Mathura (e-conference).
47. Thomas, R., Jayakumar, C., Harshan, H. M., Niyas, E. and Anzeena, H. P. 2020. Conservative, Therapeutic and surgical management of three categories of vaginal hyperplasia in dogs. National online seminar on "Environmental protection for improving animal and human health" 24th to 27th April, 2020 organized by IVA, Mannuthy. p 376
48. Vrinda, K.M., Sunil, B. and Latha, C. 2020. Effect of flower aqueous extract of *Corouppita guanensis* flower on *Listeria monocytogenes* biofilms . "Zoonoses and Human Health: Challenges and Solutions" in the Conference 'New Generation Vaccines and Animal Disease Control Strategies – Roadmap for enhancement of animal and human health' jointly organized by the Department of Veterinary Microbiology, Veterinary College and Research Institute, Orathanadu, Thanjavur and Department of Veterinary Microbiology, College of Veterinary and Animal Sciences, Pookode, Kerala- 02-04 December, 2020
49. Yoav Glidai; Anoop Sainulabdeen; Mengfei Wu; Matthew A. Smith; Ian A. Sigal; Hiroshi Ishikawa.(2020). In vivo 3D Lamina Cribrosa microstructure characterisation of Healthy non-human primates in Association for Research in Vision and Ophthalmology (ARVO) Imaging in the eye Conference, Baltimore, USA.
50. K. Syamala.,K.Devada.,Bindu Lakshmanan., K. Raji and V. Thirupathy. Detection of benzimidazole resistance in *Haemonchus contortus* using PCR-RFLP. National seminar on current trends in life sciences Amity Institute of Biotechnology, Gwalior,29-1-2021,
51. K.Syamala.,K.Devada., Bindu Lakshmanan., K.Raji and V. Thirupathy. 2021. Influence Of Rainfall And Season On Epidemiology Of Gastro-Intestinal Parasites In Goat Flocks Of Kerala.International Conference On Agriculture,Climate Change And Life Sciences-2021 Organised By IMRF
52. Asha Rajagopal, Lucy sabu, Radhika R. and Devada K. Evaluation of egg hatch assay in the detection of benzimidazole resistance in International conference on agriculture, climate change & life sciences 2021 conducted on March 05 - 06, 2021 organized by IMRF Institute of Higher Education, India.
53. Priya, M.N., Bindu Lakshmanan., Asha Rajagopal, Shameem, H. Priya P. M. and Devada, K. Sensitivity of ESA IgG ELISA for serodiagnosis of intestinal schistosomiasis. International

conference on agriculture, climate change & life sciences 2021 conducted on March 05 - 06, 2021 , organized by IMRF Institute of Higher Education, India.

54. Dhanusha, G., Aathira, K.K., Haima, J.S., Sujith S., Nisha A.R., Bibu John Kariyil and Raji, K. 2021. Modulation of steroid hormone synthesis by methanolic extracts of *Boerhavia diffusa*. Paper presented in the 33rd Kerala Science Congress page 32.
55. Juby, T., Shyma, V.H., Anaz, S.R., Anugraha, M.E., Tresamol, P.V. Vijayakumar, K. Successful Management of trypanosomosis in a buffalo farm. National Online seminar on environmental protection for improving animal and Human health. 24-27 April 2020
56. Amel Dev, P. and Tresamol, P.V. Occurrence of feline infectious anaemia among domestic cats in Thrissur District. National Online seminar on environmental protection for improving animal and Human health. 24-27 April 2020

viii. Seminar / Workshop / Training Programme Attended:

Sl No.	Name of Faculty	Programme	Date and Venue
1	Dr. Siju Joseph	One week faculty development programme on “Instrumental methods of analysis”	7-13 th October, 2020, online
2	Dr. Siju Joseph	One week faculty development programme on “Statistical analysis using SPSS”	5-11 th August, 2020, online
3	Dr. Binu K. Mani	Webinar on “Microbial disease occurrence or emergence pattern under changing climatic conditions in livestock and poultry-current solutions and future perspectives”	3-4 th August, 2020
4	Dr. Binu K. Mani	Virtual International Conference on New generation vaccines and animal disease control strategies: Roadmap for enhancement of Animal and human health	2-4 th December, 2020
5	Dr. Binu K. Mani	Web based training on current concepts in Biostatistics and Phytopharmacology	20/11/2020 to 03/12/2020
6	Dr. Binu K. Mani	One week faculty development programme on “Statistical analysis using SPSS”	5-11 th August, 2020
7	Dr. Surya Sankar	International webinar organized by Indian Veterinary Association, Kerala as part of World Zoonosis Day	6-8 th July, 2020
8	Dr. Surya Sankar	International Webinar organized by Indian Veterinary Association, Kerala as part of World Rabies day	28-29 September, 2020
9	Dr. Surya Sankar	Webinar on “Microbial disease occurrence or emergence pattern under changing climatic conditions in livestock and poultry-current solutions and future perspectives”	3-4 th August, 2020
10	Dr. Surya	Three day Basic Online Research Method Workshop organized by REST society for	28-30 April, 2020

	Sankar	Research International, Tamil Nadu	
11	Dr. Ambily R	Virtual International Conference on New generation vaccines and animal disease control strategies: Roadmap for enhancement of Animal and human health	2-4 th December, 2020
12	Dr. Ambily R	Web based training on current concepts in Biostatistics and Phytopharmacology	20/11/2020 to 03/12/2020
13	Dr. Ambily R	One week faculty development programme on “Statistical analysis using SPSS”	5-11 th August, 2020
14	Dr. Ambily R	International webinar organized by Indian Veterinary Association, Kerala as part of World Zoonosis Day	6-8 th July, 2020
15	Dr. Ambily R	International Webinar organized by Indian Veterinary Association, Kerala as part of World Rabies day	28-29 September, 2020
16	Dr. Sreeja R. Nair	International Webinar organized by Indian Veterinary Association, Kerala as part of World Rabies day	28-29 September, 2020
17	Dr.R.Thirupathy Venkatachalapathy	National webinar on “Doubling the farmers income through livestock sector Prospects and potentials	01/10/2020, TANUVAS, Chennai
18	Dr. Lali F. Anand	MOOC course Functional genomics Topper with gold medal score 90%	14-09-2020 to 13-10-2020 (4 weeks) IIT Kanpur
19	Dr. Elizabeth Kurian, Dr. Naicy Thomas, Dr. Lali F. Anand, Dr. Marykutty Thomas,	National level online research paper presentation competition organized by Lakhimpur College of Veterinary Science, AAU, Joyhing, North Lakhimpur, Assam in collaboration with College of Veterinary Science, AAU, Khanapara, Guwahati, Assam	August 19 -24, 2020 (6 days)
20	Dr. Elizabeth Kurian Dr. Naicy Thomas	Science Leadership workshop, organized by Central University of Panjab	June 22 to June 28 2020
21	Dr. Marykutty Thomas	Training programme on Analysis of experimental data using SAS organized by ICAR-NAARM	Hyderabad from 9 to 17 th November/2020

22	Dr. T. V. Aravindakshan Dr. Marykutty Thomas	Training programme on current concepts in Biomethodology and Phytopharmacology	20/11/2020 to 3/12/2020 KVASU 14 days
23	Dr. Jamuna Valsalan	Five days National Webinar on "Application of R software for data analysis in Agricultural and Life Sciences" organized by CAU Tripura	October 23-27, 2020
24	Dr. Jamuna Valsalan	MOOC course NPTEL "Introduction to Biostatistics"	Sep- Dec, 2020 8 weeks IIT Bombay
25	Dr. Elizabeth Kurian Dr. Naicy Thomas	Faculty Development Programme on Statistical Analysis using SPSS	August 05 to 11 2020
26	Dr. Sajitha I.S. Dr. Dhanush Krishna B Dr. Devi S S Dr Divya C	XXXVII Annual Conference Of Indian Association Of Veterinary Pathologists And International Symposium On "Role On Veterinary Pathology In Controlling Emerging & Re-Emerging Diseases Of Livestock & Poultry: One Health Approach"	IAMP 26 th - 29 th December, 2020
27	Dr Dr. Sajitha I.S. Dr. Devi S S Dr Divya C Dr. Dhanush Krishna B	Online training- 11 days- Advance Diagnostic approaches- A preparation to combat new challenges of Veterinary Science	Desmukh Veterinary Science University, Jabalpur 19-31 October 2020
28	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	International Webinar on "Conceptual Framework Entwining Translational Anatomy with Veterinary Clinical Sciences"	KVASU- Department of Veterinary anatomy & Histology, Directorate of Entrepreneurship and Academic Staff College 19-20 August 2020
29	Dr Dr. Sajitha I.S.	Webinar on "Aacharyadevo Bhava"	NAAC 08/09/2020
30	Dr. Sajitha I.S.	International online seminar- Diagnostic Veterinary Pathology	MVC, Chennai

	Dr. Devi S S Dr Divya C Dr. Dhanush Krishna B		12/09/2020
31	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	National webinar on inflammation, cancer and nutraceuticals: How are they linked	St. Marys College, Thrissur 03/06/2020
32	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C Dr. Dhanush Krishna B	National webinar on -Advancements in Veterinary Diagnostics- A journey in Veterinary Pathology	Rajasthan University of Veterinary Sciences, Bikaner 14/10/2020
33	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	National webinar on Implications of COVID-19 on Animal Health and Food Security	Nanaji Desmukh Veterinary Science University, Jabalpur 28-29 May 2020
34	Dr. Sajitha I.S	National webinar- Challenges and Opportunities before youth in Agriculture	Central Agricultural University, Imphal 04/09/2020
35	Dr. Sajitha I.S. Dr Dhanush Krishna B Dr. Devi S S Dr Divya C	MOOC-Designing e-learning content	ICAR-NAARM 1-31 July 2020
36	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	Webinar on the topic "SAMPLE SIZE DETERMINATION"	Department of Statistics, College of Veterinary and Animal Sciences, Mannuthy 20 th October 2020
37	Dr. Sajitha I.S.	International Webinar Diagnosis and Treatment of Pet bird diseases	Bihar Veterinary College, Bihar 16/09/2020

38	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C Dr. Dhanush Krishna B	International Webinar Recent developments in pathobiology and diagnosis of animal and poultry diseases	TANUVAS 15-16/10/2020
39	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	National Webinar on “Applications of Electron Microscopy in Life Science Research	College of Veterinary and Animal Sciences, Parbhani 17th September 2020
40	Dr. Sajitha I.S. Dr. Devi S S	Two Day National Open Workshop on "Getting Aligned to the Publishing Process"- Author Workshop	Elsevier 25-26/09/2020
41	Dr. Sajitha I.S.	MOOC Fundamentals of Agricultural Extension	BHU, Varnaasi, IIT, Kanpur Commonwealth of Learning, Canada 30/06/2020
42	Dr. Sajitha I.S.	TANUVAS-Global Veterinary Clinical Pathology Webinar-2020	TANUVAS 16th December, 2020
43	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	International Webinar Veterolegal Post mortem examination	VCRI, Orthanadu
44	Dr. Sajitha I.S.	International Webinar An update on canine vector borne parasitic diseases	TANUVAS, Chennai 24/09/2020
45	Dr. Sajitha I.S.	International Webinar on ‘Human- Animal- Environment Interface: Recent Approaches for Containing the Global Zoonotic Burden	IVA, CVAS, Mannuthy 6th to 8th July, 2020
46	Dr. Sajitha I.S. Dr. Dhanush Krishna B	Online course Basics of small animal laproscopy	Mumbai Veterinary College 24-27, May,2020

	Dr. Devi S S Dr Divya C		
47	Dr. Sajitha I.S. Dr Divya C Dr Dhanush Krishna B	MOOC Pshychology of Learning	ICAR- NAARM 1-15, May, 2020
48	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	Knowledge management in the networked digital environment	KVASU TANUVAS 27/08/2020
49	Dr. Sajitha I.S. Dr. Dhanush Krishna B Dr. Devi S S Dr Divya C	SAARC Rabies Webinar	FAO, OIE, WHO 18-20 May, 2020
50	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	World Rabies Day -2020- International Webinar on “Epistemological Approaches to Animal Disease Control Programmes with Special Reference to Rabies”	Department of VEPM, KVASU & IVA, Mannuthy 28 th & 29 th September 2020
51	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C	Artificial Intelligence & Application in Veterinary Medicine	IVA, CVAS, Mannuthy 1 st May 2020
52	Dr. Sajitha I.S.	Online training Vuja de- The Veterinarian	CVAS, Mannuthy IVA, Mannuthy Unit 22/04/2020
53	Dr. Sajitha I.S. Dr. Devi S S Dr. Dhanush Krishna B	Online training Basic Canine Dentistry	CVAS, Mannuthy IVA, Mannuthy Unit 03/05/2020
54	Dr. Sajitha I.S.	Webinar on NAAC grading/ NIRF ranking by International Educational Standard ISO 21001: 2008	ISDE Academy

	Dr. Divya C		9 th September 2020
55	Dr. Sajitha I.S.	Webinar- Skill development and Entrepreneurship	Nanaji Desmukh Veterinary Science University, Jabalpur 30/05/2020
56	Dr Devi S S Dr Dhanush Krishna B	MOOC on “Teaching from home with IT tools”	23/04/2020 to 01/05/2020 Sardarkrushinagar Dantiwada Agriculture University, Gujarat
57	Dr Devi S S	Seminar on Quality Assurance in Online Teaching – Learning & Evaluation	19/05/2020 Vellore Institute of Technology, Vellore, India
58	Dr Devi S S	International Webinar on Role of Poultry Sector in Boosting the Post COVID Indian Economy	28-07-2020 to 30-07-2020. College of Avian Sciences and Management, Kerala Veterinary and Animal Sciences University, Thiruvazhamkunnu
59	Dr Devi S S	International webinar on Strengthening the immune system through agricultural innovations	29/07/2020 Sri Karen Narendra Agriculture University, Jobner
60	Dr Devi S S	International webinar on “Causes of Elephant calf mortality	12/08/2020 Nagpur Veterinary College
61	Dr Devi S S	International Conference on Insights into wildlife conflicts, rescue and rehabilitation: Challenges and opportunities for Conservation	18/12/2020 – 20/12/2020 Wildlife Research & Training Centre, Gorewada Rescue centre, Nagpur
62	Dr. Sajitha I.S. Dr. Devi S S Dr Divya C Dr Dhanush Krishna B	Advances in Mammary Tumor Diagnosis and Treatment	15/12/2020 to 17/12/2020 December, 2020. Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141004
63	Dr Devi S S	Approach of a pathologist in diagnosing wildlife diseases from a carcass using conventional as well as modern diagnostic	10/10/2020 Lakhimpur College of

		tools	Veterinary Science, Assam Agricultural University
64	Dr Divya C Dr Dhanush Krishna B	International e-Conference on “Paradigm shift in Animal Disease Diagnostics: Veracious path in Disease prevention and Control”	07.10.2020 to 09.10.2020 Veterinary College and Research Institute, Tirunelveli
65	Dr S Harikumar	Recent technologies of agribusiness management and agri entrepreneurship	21 days (08.10.2020-28.10.2020)
66	Dr S Harikumar	Certificate course on Animal Physiology	12 weeks (September-December 2020)
67	Dr Biju S	Advances in fodder production, utilization and conservation for improving livestock health, productivity and environment sustainability	21 days (20.08.2020-09.09.2020)
68	Dr Justin Davis	Advances in fodder production, utilization and conservation for improving livestock health, productivity and environment sustainability	21 days (20.08.2020-09.09.2020)
69	Dr Justin Davis	Certificate course on Animal Physiology	12 weeks (September-December 2020)
70	Dr Prasad A	Recent technologies of agribusiness management and agri entrepreneurship	21 days (08.10.2020-28.10.2020)
71	Dr.S.Anoop, Dr.Soumya Ramankutty, Dr.Laiju M.Philip	Webinar on “Small Animal Anaesthesia”	22 nd August 2020
72	Dr.S.Anoop	Webinar on “Conceptual Frame work Entwining Translational Antomy with Veterinary Clinical Sciences” jointly organised by Det of Anatomy and Histology, DE and ASC, KVASU.	19-20 th August 2020.
73	Dr.Laiju M.Philip	Two days international webinar on canine sports medicine and rehabilitation	(23.7.2020. to 24.7.2020)
74	Dr.Laiju M.Philip	MOOC on psychology of learning organized by ICAR MAARM from	1.5.2020 to 15.5.2020
75	Dr.Laiju M.Philip	Online training on basics of laparoscopy.	24.5.2020 to 27.5.2020.
76	Dr.Laiju M.Philip	MOOC on Teaching from home organized by SDAU, Gujarath.	23.4.2020. to 1.5.2020
77	Dr.Laiju M.Philip	Online certificate course in cataract surgery conducted by University of Michigan	
78	Dr.Sudheesh S.Nair	TANUVAS - Global Veterinary Oncology Webinar Series – 2020 on “Canine Lymphoma - An Update”	3-4th December, 2020.

79	Dr.Sudheesh S.Nair	International Online Training on 'Advances in Equine Health Management'	25 - 31 Oct., 2020.
80	Dr.Sudheesh S.Nair	International e - conference on, "An Update on Diagnosis and Treatment of Various Surgical Ailments for Farm and Pet Animals"	21-22 October 2020
81	Dr.Sudheesh S.Nair	Environmental Protection for improving animal and human health	03 May 2020
82	Dr.Sudheesh S.Nair	Webinar on "Causes of Elephant Calf Mortality"	12 Aug 2020
83	Dr.Soumya Ramankutty and Dr.Sudheesh S. Nair	TANUVAS Global Buiatric Medicine webinar series.	28-11-2020
84	Dr.Soumya Ramankutty	Seven day international online Training on "Advances in Equine Health Management"	25-31 st October 2020
85	Dr.S.Anoop	Attended National online seminar on Environmental protection for improving animal and human health and national level online paper presentation competition	24th to 27th April 2020.
86	Dr.S.Anoop	International webinar on Human –Animal – Environmental interface-Recent approaches for containing the global Zoonotic burden.	6th to 8th July 2020
87	Dr.KD.John Martin, Dr.M.K.Narayanan, Dr.S.Anoop, Dr.Sudheesh S.Nair, and Dr.Soumya Ramankutty	National workshop on Comprehensive management of working dogs	27-29th July
88	Dr. S. Maya Dr. Sreeranjini. A.R. Dr.Leena Chandrasekhar Dr. Sunilkumar N.S.	'Conceptual Framework entwining Translational Anatomy with Veterinary Clinical Sciences', by Department of Veterinary Anatomy and Histology, Directorate of Entrepreneurship, Academic Staff College, KVASU	17th and 18th August 2020

	Dr.Sumena K.B.		
89	Dr N S Sunilkumar	National online seminar on Environmental protection for improving animal and human health and national level online paper presentation competition Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
90	Dr N S Sunilkumar	How cats differ? A lecture with special reference to common GI conditions. Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
91	Dr N S Sunilkumar	Community Surveillance of Zoonotic diseases: One Health, Veterinarians and EID. Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
92	Dr N S Sunilkumar	Environment and Audit -A lecture with special reference to AG's audit in Institutions. Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
93	Dr N S Sunilkumar	VuJa de "the Veterinarian. Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
94	Dr N S Sunilkumar	Artificial Intelligence and its application in Veterinary Medicine. Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
95	Dr N S Sunilkumar	Basic Canine Dentistry. Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
96	Dr N S Sunilkumar	International Webinar on 'Human- Animal- Environment Interface: Recent Approaches for Containing the Global Zoonotic Burden.' Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
97	Dr N S Sunilkumar	International workshop on "Thriving with Change". Organized by Indian Veterinary Association, CVAS, Mannuthy Unit.	
98	Dr N S Sunilkumar	International Webinar on "Epistemological Approaches to Animal Disease Control Programmes with Special Reference to Rabies"	
99	Dr. Sumena K.B.	Virtual sensitization programme on Knowledge Management in networked digital environment by NAHEP	on 27.08.2020 (Online)

100	Dr. Sumena K.B.	Academic Staff College - Inaugural Interactive Lecture on 'Way to Success' by Shri. Harikishore, IAS	on 18.09.2020, 2 p.m. (Online)
101	Dr. Sumena K.B.	World Zoonoses Day- 2020 - International Webinar on 'Human- Animal- Environment Inter face: Recent Approaches for Containing the Global Zoonotic Burden' by Indian Veterinary Association CVAS Mannuthy Unit, Meat Technology Unit organised by Kerala Veterinary and Animal Sciences University, Association of Meat Scientists and Technologists India	from 06.07.2020 to 08.07.2020, (Online)
102	Dr. Sumena K.B.	National web conference on Advances in Teaching and research in Veterinary Anatomy in India., Conducted by NTR College , Gannavaram	October 27th to 29th 2020 (Online)
103	Dr. Sumena K.B.	Webinar on the topic ' Sample size determination' , Conducted by Department of Statistics, College of Veterinary and Animal Sciences, Mannuthy	October 20th 2020. (Online)
104	Dr. Sumena K.B.	International e-conference on ' Expanding horizons in Physio-Biochemical and Molecular Approaches for improving Livestock Health and Production. Conducted by Department of Physiology and Biochemistry, College of Veterinary and Research Institute, Thanjavur, Tamil Nadu.	October 19th to 20th 2020. (Online)
105	Dr. Sumena K.B.	Webinar on 'Significance of Trademarks in Startups and Business Enterprises'. Conducted by Intellectual Property Rights Information Centre, Kerala	October 21st 2020. (Online)
106	Dr. Sumena K.B.	Webinar on 'Patentability of Computer related innovations'. Conducted by Intellectual Property Rights Information Centre, Kerala	November 11th 2020. (Online)
107	Dr. Sumena K.B.	Webinar on 'Patenting Systems in India'. Conducted by Intellectual Property Rights Information Centre, Kerala	December 2nd 2020. (Online)
108	Dr R Geetha	e National Webinar on "PANDEMICS AND FOOD SECURITY IN	19th and 20th of June 2020 College of Food and Dairy Technology.Koduveli,

		THE NEW WORLD ORDER”	Chennai.
109	Dr R Geetha	E training cum Orientation programme on “Physio- biochemical & biotechnological approach for optimization of health & reproduction in animals”	1 st to 21 st December 2020, College of veterinary Science and Animal Husbandry, Mhow, Madhya Pradesh.
110	Dr. K. Radha	Faculty Development programme on Statistical analysis on SPSS	5-8-2020 to 11-8-2020 Manonmanium Sundaranar University, Tirunerveli
111	Dr. K. Radha	Six Days Online Short Term Training Programme on “Changing Paradigms on Food Security and Food Sufficiency”	14.12.2020 to 19.12.2020 College of Food and Dairy Technology, Koduveli, Chennai
112	Dr.Uma R	14 days Web based Training Programme on “Current concepts in Biomethodology and Phytopharmacology”	KVASU, DoE, ASC and Dept of Veterinary Pharmacology and Toxicology, CVAS, Mannuthy from 20.11.2020 to 03.12.2020
113	Dr. Divya P.D.	14 days Web based Training Programme on “Current concepts in Biomethodology and Phytopharmacology”	KVASU, DoE, ASC and Dept of Veterinary Pharmacology and Toxicology, CVAS, Mannuthy from 20.11.2020 to 03.12.2020
114	Dr. Varuna P. Panicker	14 days Web based Training Programme on “Current concepts in Biomethodology and Phytopharmacology”	KVASU, DoE, ASC and Dept of Veterinary Pharmacology and Toxicology, CVAS, Mannuthy from 20.11.2020 to 03.12.2020
115	Dr. Chinnu M.V.	14 days Web based Training Programme on “Current concepts in Biomethodology and Phytopharmacology”	KVASU, DoE, ASC and Dept of Veterinary Pharmacology and Toxicology, CVAS, Mannuthy from 20.11.2020 to 03.12.2020
116	Dr. P.Anitha	International Webinar on “CURRENT STATUS AND FUTURE SCOPE (POST-COVID) OF POULTRY INDUSTRY WITH SPECIAL REFERENCE TO RATITES	Department of Poultry Science, Madras Veterinary College, Chennai – 600 on 16th October 2020

		(OSTRICH)”	
117	Dr. P.Anitha	Online national seminar on Environmental protection for improving Animal and human health organized by IVA,Kerala chapter &KVASU	24-27 April 2020
118	Dr. Lekshmi Bhai K.	Online short term training course on ‘ Frozen semen technology in domestic animals’	7 -16 July, 2020, College of Veterinary and Animal Husbandry, Sardarkrushinagar, Gujarat.
119	Dr. Lekshmi Bhai K.	National workshop on ‘Comprehensive management of working dogs- second edition’	27-29 July, 2020 Kerala Police Academy, Thrissur
120	Dr. Amritha Aravind	Training on ‘ Basics of Small animal laparoscopy’	24 27 May, 2020, Laparoscopic Training Centre(RKVY), Mumbai Veterinary College, Parel, Maharashtra
121	Dr. Amritha Aravind	Online short term training course on ‘ Frozen semen technology in domestic animals’	7 -16 July, 2020, College of Veterinary and Animal Husbandry, Sardarkrushinagar, Gujarat.
122	Dr. Amritha Aravind	National workshop on ‘Comprehensive management of working dogs- second edition’	27-29 July, 2020 Kerala Police Academy, Thrissur
123	Dr. Amritha Aravind	International Wldlife webinar on ‘Emerging viral threats from wildlife and role of vets in preventing future pandemics’	20 Aug, 2020, MAFSU, Forest Dev. Corp. of Maharashtra Ltd, Nagpur
124	Dr. Amritha Aravind	International e-workshop on ‘Reproductive diagnostic techniques for bovine infertility’	28-29 Sept, 2020, VCRI, Orathanadu, Thanjavur, TN.
125	Dr. Amritha Aravind	International Online training on ‘ Advances in Equine Health Management’	25-31 Oct,2020, CVAS, MAFSU, Parbhani, Maharashtra
126	Dr.Unnikrishn an M.P.	National workshop on ‘Comprehensive management of working dogs- second edition’	27-29 July, 2020 Kerala Police Academy, Thrissur
127	Dr.Unnikrishn an M.P.	Online short term training course on ‘ Frozen semen technology in domestic animals’	7 -16 July, 2020, College of Veterinary and Animal Husbandry,

			Sardarkrushinagar, Gujarat.
128	Dr.Unnikrishnan M.P	International webinar on Recent challenges and opportunities in swine production	Organised by Postgraduate research institute in animals sciences, Kattuppakkam, TANUVAS 3 rd Dec 2020
129	Dr.Unnikrishnan M.P	Online training session on “ Community surveillance of zoonotic diseases”	organized by IVA, CVAS, Mannuthy Unit on 12/04/2020
130	Dr.Unnikrishnan M.P	National webinar on molecular and serological diagnosis of COVID - 19	Organised by the Indian society for the study of Animal Reproduction on 06/10/2020
131	Dr.Unnikrishnan M.P	International webinar on Epistemological approaches to animal disease control programmes with special reference to rabies	Organised by IVA, Mannuthy and Dept. of Veterinary epidemiology and preventive medicine, CVAS, Mannuthy 28-29 Sept 2020
132	Dr.R.S.Abhilash	National Seminar on “Environmental Protection for Improving Animal and Human Health”	24 th April to 27 th April, 2020 conducted by Indian Veterinary Association, Kerala in association with Kerala Veterinary and Animal Sciences University
133	Dr.R.S.Abhilash	Basic Online Research Method Workshop	28 th April, 2020, Rest Society for research International, Krishnagiri
134	Dr.R.S.Abhilash	National Webinar on “Use of Elsevier Tools in Research Workflow”	5 th May, 2020, Department of Commerce, University of Madras, Chennai and Elsevier
135	Dr.R.S.Abhilash	Successfully completed online course on “Basics of Small Animal Laparoscopy”	24 th to 27 th May, 2020, Department of Veterinary Surgery and Radiology, Mumbai Veterinary College, Parel, Mumbai
136	Dr.R.S.Abhilash	Online Training Session on “ Basic Canine Dentistry”	3 rd May 2020 conducted by Indian Veterinary Association and College of Veterinary and Animal

			Sciences , Mannuthy
137	Dr.R.S.Abhilash	International Webinar on “Hunan – Animal – Environment Interface: Recent Approaches for containing the global zoonotic burden”	6 th to 8 th July, 2020 conducted by Meat Technology Unit, Mannuthy, Kerala Veterinary and Animal Sciences University, Indian Veterinary Association and Association of meat Scientist and Technologists
138	Dr.R.S.Abhilash	Online Short-Term Training Course on “Frozen semen Technology in Domestic Animals”	7 th to 16 th July, 2020, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal husbandry Sardarkruhinagar Dantiwada Agricultural University, Sardarkruhinagar, Gujarat, India
139	Dr.R.S.Abhilash	International Webinar on “Hunan – Animal – Environment Interface: Recent Approaches for containing the global zoonotic burden”	6 th to 8 th July, 2020 conducted by Meat Technology Unit, Mannuthy, Kerala Veterinary and Animal Sciences University, Indian Veterinary Association and Association of meat Scientist and Technologists
140	Dr.R.S.Abhilash	Online Short-Term Training Course on “Frozen semen Technology in Domestic Animals”	7 th to 16 th July, 2020, Department of Veterinary Gynaecology and Obstetrics, College of Veterinary Science and Animal husbandry Sardarkruhinagar Dantiwada Agricultural University, Sardarkruhinagar, Gujarat, India
141	Dr.R.S.Abhilash	International e Workshop on “Reproductive Diagnostic Techniques for Bovine Infertility”	28 th to 29 th September 2020 organised by Department of Veterinary Gynaecology and Obstetrics, VCRI, Orathanadu, Thanjavur

142	Dr. Dildeep.V	Faculty development programme on “Statistical analysis using SPSS’	5-8-2020 to 11-08-2020 Manonmaniam sundaranar university, Tirunelveli
143	Dr. Dildeep. V	“ Steering dairy sector to face challenges”	May 2020, Webinar conducted by IDA, Kerala Chapter
144	Dr. Dildeep. V	“ Vuja de-the veterinarian”	22-04-2020, Webinar conducted by IVA, CVAS, Mannuthy
145	Dr. Dipu M.T	Faculty development programme on “Statistical Analysis using SPSS”	August 05-11, 2020 Online training organized by Centre for Special and Movement Education, Manonmaniam Sundaranar University
146	Dr. Dipu M.T	Faculty Development Programme on “Instrumental Methods of Analysis”	October 07 to 13, 2020 Online training organized by Guru Angad Dev Teaching Learning Centre, MHRD, Bishop Moore college, Mavelikara
147	Dr. Sajith Purushothaman	Faculty development programme on “Statistical Analysis using SPSS”	August 05-11, 2020 Online training organized by Centre for Special and Movement Education, Manonmaniam Sundaranar University
148	Dr. Ajith K.S	Hands on training and workshop on “Livestock methane emission: Assessment, Impact and Amelioration strategies	2/11/2020 to 12/11/2020, Online training NIANP, Bangalore
149	Dr. Surej Joseph Bunglavan	Knowledge Management in the Networked Digital Environment”	27th August, 2020, One day Online Webinar NAHEP, ICAR, New Delhi
150	Dr. Surej Joseph Bunglavan	“Advances in diagnosis and control of diseases in animals: Investigatory interpretations”	19 th to 25 th Jun online training, MAFSU, Nagpur, CVAS, Parbhani
151	Dr. Surej Joseph Bunglavan	“ABC of Scientific writing”	22 nd July- 5 th August 2020, Online training ICAR- National Rice Research Institute Cuttack
152	Dr. Surej Joseph Bunglavan	"Climate smart livestock and poultry production through nutritional interventions"	23 rd – 24 th November 2020, International Webinar IAN, Directorate of Centre for Animal Production Studies, TANUVAS
153	Dr. Surej Joseph Bunglavan	“Environmental Protection for improving animal and human health”	24 th -27 th April 2020, Online national Webinar , IVA CVAS Mannuthy

154	Dr. Jasmine Rani K	Training on “Basic canine dentistry”	IVA, Kerala on 03-05-2020.
155	Dr. Jasmine Rani K	Training on ‘Vuja de’ the veterinarian	IVA, Kerala on 22-04-2020
156	Dr. Jasmine Rani K	Training on “Environment and Audit”	19-04-2020 IVA, Mannuthy
157	Dr. Jasmine Rani K	Training on Community surveillance of zoonotic diseases, one health, veterinarians and EID”	12-04-2020 IVA, Mannuthy
158	Dr. Jasmine Rani K	Conceptual framework entwining translational anatomy with veterinary clinical sciences	International webinar 19-20 August 2020
159	Dr. Jasmine Rani K	Biowaste management	online webinar held at University of Agricultural Sciences, Dharwad 27-07-2020
160	Dr. Jasmine Rani K	Role of poultry sector in boosting the post covid Indian economy	International webinar CASM, Thiruvazhamkunnu, Kerala on 28-07-2020 to 30-07-2020.
161	Dr. Jasmine Rani K	Patent protection for innovation Driven Educational Institutions	Webinar 29-08-2020
162	Dr. Jasmine Rani K	Microbiome, immunity and vaccine	webinar 30-08-2020
163	Dr. Jasmine Rani K	Environmental protection for improving animal and human health	online seminar IVA, Kerala from 24 th April to 27 th April 2020
164	Dr. Jasmine Rani K	Faculty development programme on “Towards a digital era of teaching and learning”	organized by UGC- HRDC, University of Kerala from 12-08-2020 to 18-08-2020.
165	Dr. Jasmine Rani K	Advance Diagnostic Approaches: A preparation to combat new challenges of veterinary science	Online training 19-31, October, 2020
166	Dr Sajith Purushothaman	One day International Online conference on “Expanding Strategies of teaching Learning with Digital Proficiency”	28 th May,2020
167	Dr Sajith Purushothaman	Faculty Development programme on Quality Science education in India in the 21 st Century	03-09 November,2020
168	Dr. Sreeranjini A.R.	Attended One-week faculty development programme on “Statistical analysis using SPSS” by Manomaniam Sundaranar University,	05-08-2020 to 11-08-2020

		Thirunelveli	(Online)
169	Dr. Sreeranjini A.R.	Attended E-course on “Animal Species identification in veterolegal cases for field veterinarians” by Directorate of Human Resource Development, Rajasthan University of Veterinary and Animal Sciences	09-08-2020 to 11-08-2020 (Online)
170	Dr. Sreeranjini A.R.	Attended Professional workshop on “Prior-art searching with Google patents”	05-09-2020 (Online)
171	Dr. Sreeranjini A.R.	Participated and presented the invited paper on “Prospects of anatomical research with special reference to development of biomaterials” in the web conference on “Advances in teaching and research in Veterinary Anatomy in India” organized by Department of Veterinary Anatomy, N.T.R. College of Veterinary Science, Gannavarm	27th and 29th October-2020 (Online)
172	Dr. Sumena K.B.	Attended 7 days training by MANAGE, Hyderabad ‘Innovation ideas for Entrepreneurship in Livestock Sector’	from 14-09-2020 to 21.09.2020 (Online)
173	Dr. Sumena K.B.	11 days training on Advance Diagnostic Approaches: A preparation to combact new challenges of Veterinary Science., Conducted by College of Veterinary Science and Animal Husbandry, MHOW	October 19th to 23rd 2020 (Online)
174	Dr. Sumena K.B.	E- training cum Orientation programme on Physio- Biochemical and Biotechnological Approaches for optimization of Health and Reproduction in animals. Conducted by Dept. of Veterinary Physioogy and Biochemistry, College of Veterinary Science and Animal Husbandry, MHOW	December 1st to 21st 2020 (Online)
175	K Vijayakumar Justin Davis K Shyma VH	In International webinar on ‘Human – Animal- Environmental Interface: Recent approaches for containing the global zoonotic	06.07.2020 to 08.07.2020 organised by IVA, CVAS, Mannuthy, Kerala, Meat technology Unit, KVASU, Association of Meat Scientists and Technologists in India.
176	Dr. Suja Rani S	Web-based training on Current concepts in Biomethodology and Phytopharmacology	20.11.2020 to 03.12.2020, CVAS, Mannuthy
177	Dr. Suja Rani	National webinar on Nano-Drug Delivery	24.10.2020 :Online

	S	system: Applications in Veterinary Medicine	
178	Dr. Suja Rani S	Annual e-conference of Indian Society of Veterinary Pharmacology and Toxicology 2020	4.10.2020 to 5.10.2020 :Online
179	Dr. Suja Rani S	International Webinar on “Antibiotic Resistance: A Menace in Management of Mastitis	10/09/2020 :Online
180	Dr. Suja Rani S	Faculty Development Programme on Current Trends and Perspectives in the Paradigm of Pre-clinical Research	24th – 29th of August 2020 :Online
181	Dr. Suja Rani S	Online training on “Laboratory Animal Breeding and Management	18th to 24th July 2020 :Online
182	Dr. Suja Rani S	NPTEL Online Certification course on ‘Biomedical Nanotechnology’	Sep-Oct 2020 (4 weeks) : Online
183	Dr Suresh N Nair	Pharmacological potential of A1 and A2 milk: Myths and facts	11-07-2020 (online)
184	Dr Suresh N Nair	Basic biostatistics and Web based tools for experimental design	25-07.2020 (online)
185	Dr Suresh N Nair	Natural products of plant origin in animal health	08-08.2020 (online)
186	Dr Suresh N Nair	Current trends and perspectives in the paradigm of pre clinical research	24-08.2020 – 29-08-2020 (online)
187	Dr Suresh N Nair	Receptor dynamics in cell signalling	4-5 Oct 2020 (online)
188	Dr. Nisha A R	Web-based training on Current concepts in Biomethodology and Phytopharmacology	20.11.2020 to 03.12.2020, CVAS, Mannuthy
189	Dr. Preethy John	Web-based training on Current concepts in Biomethodology and Phytopharmacology	20.11.2020 to 03.12.2020, CVAS, Mannuthy
190	Dr. Preethy John	Cell culture techniques	January 2020 to June 2020
191	Dr. Sujith S	Web-based training on Current concepts in Biomethodology and Phytopharmacology	20.11.2020 to 03.12.2020, CVAS, Mannuthy
192	Dr. Sujith S	Cell culture techniques	January 2020 to June 2020
193	1. Dr.K.Devada 2. Dr.Bindu Lakshmanan	Online training session on “community surveillance of zoonotic Disease: One Health, Veterinarians and Eid” organized by IVA and CVAS, Mannuthy	12 th , April, 2020

194	1. Dr.K.Devada 2. Dr.R.Radhika	Online training on Environment and Audit - organized by IVA and CVAS, Mannuthy	19-04-2020
195	1. Dr. K. Devada 2. Dr.Asha Rajagopal 3. Dr.K.Syamala	Online training on “Vuja de”-The Veterinarian- organized by IVA ,CVAS, Mannuthy	22-04-2020
196	1.Dr.K.Devada	SDAU MOOC on Teaching from home with IT tools Organised by SKDAU, Gujarat	23 rd April, 2020 to 1 st May, 2020
197	Dr. Priya M.N.	MOOC-Cell culture technologies, IIT Kanpur - 8 weeks	April 2020
198	Dr. Asha Rajagopal	Eight-week online course on ‘Fundamentals of Agricultural Extension’ organised by Indian Institute of Technology Kanpur and Commonwealth of Learning, Canada,	April 2020
199	1. Dr.K.Devada 2. Dr..R.Radhika	Online training on Artificial Intelligence- an application in Veterinary Medicine -organized by IVA ,CVAS, Mannuthy	1 st May 2020
200	Dr. Asha Rajagopal Dr. Syamala K.	Online training on ‘Basic Canine Dentistry’ organized by Indian Veterinary Association and College of Veterinary & Animal Sciences, Mannuthy	3 rd May 2020
201	1. Dr. K. Devada	Free webcast-Online teaching-Learning and online assessment -demo -INPODS- Ed -Tech	13 th May , 2020
202	1. Dr. Asha Rajagopal	SAARC Rabies Webinar on “Updates and progress in the SAARC region towards elimination of dog-mediated human rabies by 2030” organised jointly by FAO Regional Office for Asia and the Pacific, OIE Regional Representation for Asia and the Pacific and WHO Regional Office for South-East Asia	18 th to 20th May 2020

203	Dr.K.Devada	Virtual seminar on Quality assurance in Online teaching , learning and evaluation VIT, Vellore	19 th May, 2020
204	1. Bindu Lakshmanan 2. Dr.K.Syama la	National Online Seminar on “Environmental protection for improving animal and human health.,Organised by Indian Veterinary Association	24 th -27 th May, 2020 CVAS, Mannuthy.
205	1.Dr. Asha Rajagopal	MOOC on ‘Designing E-Learning content’ by ICAR, NAARM	1st -31st July, 2020
206	1. Dr.K.Devada 2. Dr.Bindu Lakshmanan 3. Dr.M.N.Priya	International webinar on “Human-Animal-Environment interface: Recent Approaches for Containing the Global Zoonotic Burden”. Organised by Indian Veterinary Association at, KVASU and AMST	6 th -8 th July, 2020 CVAS, Mannuthy
207	Dr. M.N. Priya	Webinar on bio waste management, UAS, Dharwad	20 th July 2020
208	Dr. M.N. Priya	Webinar on Advances in aquatic animal health management, Department of aquatic animal health management, Ponneri	27 th July 2020
209	1.Dr.Bindu Lakshmanan	National Workshop on "Comprehensive Management of Working Dogs"-2nd Edition at Police Academy Thrissur along with KVASU.	27.7.20- 29.07.20
210	1. Dr.K.Devada 2. Dr.Bindu Lakshmanan 3. Dr.Asha Rajagopal 4. Dr.M.N.Priya 5. Dr.R.Radhi ka	National Webinar “ Current scenario and future strategies for management of parasites in animals”- Organised by College of Veterinary Science and Animal Husbandry, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, GUJARAT	28 th -29 th July, 2020
211	1.Dr.Bindu Lakshmanan	One week Faculty Development Programme “ Statistical Analysis using SPSS” Conducted by Manomaniyam Sundaranar University, Tamilnadu (Under MHRD, Govt of India),	5.8.20 to 11.8.2020

212	Dr. Priya M.N.	Online training on smart dairy farming: Boosting productivity through innovations, ICAR, NAHEP, CAAST, Gujarat	18 th -22 nd August 2020
213	1. Dr.Asha Rajagopal 2. Dr.M.N.Priya	International webinar on conceptual framework entwining transitional anatomy with veterinary clinical sciences, Department of Veterinary Anatomy and histology, Directorate of Entrepreneurship and Academic Staff College	19 th -20 th August 2020
214	1. Dr.K.Devada 2.Dr.Bindu Lakshmanan 3. Dr.Asha Rajagopal 4. Dr.M.N.Priya 5. Dr.K.Syama la	Three day National Webinar on “Strategies for sustainable control of parasites of livestock, poultry and wildlife and their public health significance” -Organised by LLRUVAS, Hisar.	21 st – 23 rd , August 2020
215	1.Dr.Bindu Lakshmanan	Malaysian Society of Parasitology and Tropical Medicine Mid year Webinar on “Covid-19 on world wide dashboard: Pandemic that unites science together.	26 th August, 2020
216	1. Dr. .K.Devada 2.Dr.Bindu Lakshmanan	Virtual sensitisation on “Knowledge management in the networked digital environment” -Organised by TANUVAS Library, Chennai and KVASU	27 th August, 2020
217	1.Dr. .K.Devada	Webinar on Enhance NAAC Grading/NIRF ranking by International Educational standard ISO 21001: 2018-Organised by PS Quality certifications and ISDE academy	9 th September, 2020
218	Dr. Asha Rajagopal Dr. Priya M.N.	International Webinar on ‘Diagnostic Veterinary Pathology’ organized by the Department of Veterinary Pathology, Madras Veterinary College, Chennai	12.9.2020
219	Dr. Asha Rajagopal, Dr. Priya M.N.	International Webinar on ‘Diagnosis of Pet Bird Diseases’ organized by Society for promotion of farm and companion animals, Bihar Animal Sciences University, Bihar	16.09.2020

220	1.Dr. .K.Devada 2Dr.Bindu Lakshmanan 3.Dr.Asha Rajagopal 4. Dr.M.N.Priya	Three days international webinar “Novel Approaches and Emerging Issues in Parasitic Diseases of Veterinary and Medical Importance” -organized by Veterinary College, Hebbal, Bangalore .	16 th to 18 th September, 2020
221	Dr. Asha Rajagopal	National Webinar on “Applications of Electron Microscopy in Life Science Research” organized by College of Veterinary and Animal Sciences, Parbhani	17th September 2020.
222	Dr. Radhika. R. Dr. Syamala K.	National Webinar on “Parasites, production and Environment”, College of Veterinary Science & AH, Durg, Chattisgarh.	17th September 2020.
223	1. Dr. K. Devada	Inaugural lecture on “Way to Success” Organised by Academic Staff College, KVASU	18-09-2020
224	1.Dr.Bindu Lakshmanan	Webinar on “Promotion under CAS-UGC guidelines” organized by Internal quality assurance cell, Carmel college, Mala, Kerala	19.09.2020
225	Dr. Asha Rajagopal, Dr. Priya M.N.	International Webinar on "Zoonotic Diseases and Novel Approaches in Worm control" organized by Division of Veterinary Parasitology, Faculty of Veterinary Sciences & Animal Husbandry, R.S. Pura, SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL SCIENCES & TECHNOLOGY, JAMMU	24.09.2020
226	1. Dr. .K.Devada 2.Dr.Bindu Lakshmanan 3.Dr.Asha Rajagopal 4. Dr.M.N.Priya	International Webinar on “An update on Canine Vector Borne Parasitic Diseases” conducted by Madras Veterinary College, TANUVAS, Chennai	24.09.2020.

227	Dr. Asha Rajagopal	2-Day National Open Workshop on Getting Aligned to the Publishing Process by Elsevier	25th and 28 th September 2020
228	Dr. Asha Rajagopal	International webinar on "Epistemological approaches to Animal Disease Control Programmes with special reference to Rabies" organized by Department of Veterinary Epidemiology and Preventive Medicine, Kerala Veterinary and Animal Sciences University in association with Indian Veterinary Association CVAS Mannuthy Unit	28 th and 29 th September 2020
229	Dr. Bindu Lakshmanan	Training on "Use of Technology for NAAC Accreditation Process" organized by InPODS Ed-Tech	30.09.2020
230	Dr.K.Devada	Blending LMS in teaching -Organised by PS quality certifications and ISDE academy	14-10-2020
231	Dr. Priya M. N. Dr. Asha Rajagopal	National webinar on Advancements in Veterinary Diagnostics- A Journey in Veterinary Pathology, Rajasthan University of Veterinary and Animal Sciences, Bikaner & IAVP	14-10-2020
232	1.Dr.K.Devada	FDP on Outcome based education -Organised by INPODS Edn -Tech	15-10-2020
233	1.Dr.K.Devada 2.Dr. Bindu Lakshmanan 3.Dr. Asha Rajagopal, 4. Dr. Priya M.N.	International Webinar on "Recent developments in pathobiology and diagnosis of animal and Poultry diseases " conducted by Department of Veterinary Pathology, and Veterinary Parasitology, VCRI, Tirunelveli	15.10.2020- 16.10.2020
234	1. Dr.Bindu Lakshmanan	Webinar on "Fighting fire with fire: Understanding the neurobiology of stress in an animal model". Progress and Prospects in Biology-2020 series, University of Calcutta.	18.10.2020
235	Dr.Bindu Lakshmanan Dr. Asha Rajagopal,	Webinar "Sample Size determination", by Department of Statistics, CVAS,Mannuthy	20.10.2020

	Dr. Priya M.N.		
236	1. Dr.Bindu Lakshmanan, 2. Dr.Asha Rajagopal 3.Dr.M.N.Priya 4. Dr.R. Radhika	Online training (11 days) on “Advance diagnostic Approaches: A preparation to combat new challenges of Veterinary Science. Organised by Nanaji Desmukh Veterinary University, Jabalpur.	19 th -31 st October,2020
237	Dr. Syamala K.	International online training on Recent advances in health management of ruminants, COVAS, Parbhani	3 rd - 9 th November, 2020
238	1. Dr.Asha Rajagopal 2.Dr .M.N.Priya	International webinar on Newer strategies to mitigate Parasitic and Bacterial Diseases in Livestock and Poultry for better Production and Trade, TANUVAS, Regional Research and Educational Centre, Pudukkottai, Tamilnadu	11-11-2020
239	Dr. Radhika R. Dr. Syamala K.	Kerala Veterinary Science Congress	14-15 Nov. 2020
240	2. Dr.R. Radhika 3. Dr.Asha Rajagopal 3.Dr.M.N.Priya 4.Dr. Syamala K.	Current concepts in biotechnology and phytopharmacology web based training	20.11.2020- 3.12.2020
241	Dr. Syamala K.	Climate smart livestock and poultry production through nutritional intervention	23 rd -24 th November 2020
242	Dr.Bindu Lakshmanan	Webinar Patentable subject matter in life sciences under Indian context” , University of Calcutta	7 th November,2020
243	Dr.Bindu Lakshmanan	Webinar “Exploring the unknown: a taxonomists perspective”- University of Calcutta	8 th November, 2020
244	Dr.M.N.Priya	International conference on New generation vaccines and Animal disease control strategies: roadmap for enhancement of Animal and Human Health, Department of Veterinary Microbiology, Veterinary college and Research	02-12-2020 to 04-12-2020

		Institute, Orathanadu, TANUVAS, Tamilnadu and Department of Veterinary Microbiology, KVASU	
245	1. Dr.K.Devada 2. Dr.K.Syamala	International e-conference on “Insights into diagnosis and control of parasitic diseases for enhanced livestock production -Organised by VCRI, ,Orathanadu, TANUVAS	7 th to 8 th December, 2020
246	1.Dr.Asha Rajagopal	International e-conference on “Insights into the diagnosis and control of parasitic diseases for enhanced livestock production” organized by the Veterinary College and Research Institute, Orathanadu, Thanjavur	7.12.2020 to 8.12.2020
247	1. Dr. K. Devada 2. Dr.Bindu Lakshmanan 3. Dr.K.Syamala	National Online conference on “Sustainable contribution of ATHMANIRBHAR women Veterinarians in enrichment of Production potential in livestock through application of modern technologies -Organised by IAWV- 2020 at CVAS, Parbhani, MFASU	9 th -10 th Dec,2020
248	Dr. R. Radhika	15 th ICA-Asia Pacific CCR conference	17 th December to 18 th December
249	Dr.K.Syamala	International conference on wildlife- insight into wildlife conflict, rescue and rehabilitation - challenges and opportunities for conservation	18 th December to 20 th December
250	Dr. Gleeja V. L.	Training programme on Analysis of Experimental Data using SAS	Online -Organized by ICAR-NAARM, Hyderabad during 09-17 November, 2020
251	Dr. Gleeja V. L.	Webinar on managing Academic research and publishing in Top-tier journals	Online-Organised by St. Thomas College, Thrissur on 5 th June 2020
252	Dr. Gleeja V. L.	National Webinar on Statistics and Data Analytics: the emergence of a new paradigm	Online-Organised by The Kerala Statistical Association on 17 th October 2020
253	Dr. Gleeja V. L.	National workshop on AI for “ COVID-19 outbreak prediction forecasting, Data Analysis and Data visualization	Online-Organized by Eduxlabs on 2 nd and 3 rd May 2020
254	Dr. Gleeja V. L.	Training session on Artificial Intelligence and Application in Veterinary Medicine	Online-organised by IVA, CVAS, Mannuthy
255	Dr. K. Karthiayini	MOOC on Psychology of learning	conducted by ICAR, NAARM, from 1 st to

			15 th May 2020
256	Dr. K. Raji	A Basic Online , Hands on image analysis course by CCAMP	11-13 May 2020 Online
257	Dr. K. Raji	Basic Flow cytometry by CCAMP	1-3 July 2020 Online
258	Dr. K. Raji	Advance Flow cytometry: Multicolor panel design in the era of APDs by CCAMP	13-14 July 2020 Online
259	Dr. K. Raji	Current concepts in Biomethodology and Phytopharmacology organised by Pharmacology department CVAS, Mannuthy	Nov 20 th to Dec 3 rd 2020 Online
260	Dr. K. Raji	Faculty development programme on “Skills for Next Generation Teachers organized by Vimala College, Ministry of Education, Gov. of India and Guru Anand Dev Teaching and Learning Centre	1 st Dec to 7 th Dec 2020 Online
261	Dr. K. Raji	International eTraining cum Orientation Programme on Physio-Biochemical and Biotechnological approaches for optimization of Health and Reproduction in animals organized by College of Veterinary and Animal Husbandry, Mhow (M.P.)	1 st Dec to 21 st Dec 2020 Online
262	Dr. Aziz Zarina	MOOC on Psychology of learning	1 st to 15 th May 2020 ICAR, NAARM
263	Dr. Aziz Zarina	11 days online training Programme on Advance diagnostic approaches: A preparation to combat new challenges of veterinary science	19 th to 31 st October 2020. College of Veterinary Science and Animal Husbandry, Mhow
264	Dr. Aziz Zarina	Web based training on Current concepts in Biomethodology and Phytopharmacology	20-11-2020 to 3-12-2020. KVASU
265	Dr. Aziz Zarina	Faculty Development programme on skills for next generation	1 st to 7 th December Vimala College Thrissur
266	Dr. Aziz Zarina	International e-training cum Orientation Programme on Physio-biochemical and Biotechnological Approaches for optimization of Health and reproduction in Animals	1 st to 20 th December 2020 , College of Veterinary Science and Animal Husbandry, Mhow
267	Dr. Aziz Zarina	MOOC on Animal Physiology	Sept to Dec 2020 (12 weeks course), Conducted by IIT, Karagpur through Swayam Portal

268	Dr Babitha V	International e-training cum orientation programme on 'Physio-biochemical and biotechnological approaches for optimization of health and reproduction in animals' organized by Dept. of Veterinary Physiology & Biochemistry, CVSAH, Mhow, Nanaji Deshmukh Veterinary Science University, Jabalpur, MP	December 1-21, 2020
269	Dr Babitha V	Web-based training on 'Current concepts in biotechnology and phytopharmacology' conducted by KVASU, Directorate of Entrepreneurship and ACS	20.11.2020 to 03.12.2020
270	Dr Babitha V	One week online faculty Development Programme on 'Skill for next generation teachers' organized jointly by PMMMNMTT of Ministry of Education, JNU, and Vimala College, Thrissur	01.12.2020 to 07.12.2020
271	Dr Babitha V	Online training session on 'Vu ja De the Veterenarian' organized by IVA, and CVAS Mannuthy	22.04.2020
272	Dr Babitha V	Online training session on 'Artificial Inteligence and Application in Veterinary Medicine' organized by IVA, and CVAS Mannuthy	01.05.2020
273	Dr. B Sunil	Talk on -NAAS- Brain storming session on one health	Sept 12-2020
274	Dr. B Sunil	Talk on International webinar on one health & AMR- Amritha Institute of Medical Science, Kochi	Sept 19 th
275	Dr. B Sunil	Talk on CPPR Kochi International webinar on disaster management	Oct- 15 th
276	Dr Sethulekshmi C	Talk on Covid -19 Do's and Don't's in Veterinary Practice –IVA Kerala Chapter	2 nd Aug 2020
277	Dr Sethulekshmi C	World Zoonoses Day -2020- International Webinar on 'Human-Animal-Environment Interface: Recent Approaches for Containing the Global Zoonotic Burden'-	06.07.2020 to 08.07.2020
278	Dr Sethulekshmi C Dr K Vrinda Menon	International Webinar on One-Health Perspectives of Antimicrobial Resistance & E-Poster competition organized jointly by Karnataka Veterinary, Animal & Fisheries Sciences University, Bidar and Indian Association of Veterinary Public Health Specialists	on 4 th September, 2020.

279	Dr Sethulekshmi C	International webinar on " Epistemological approaches to animal disease control programmes with special reference to rabies" organised by KVASU	28 th and 29 th Sept 2020
280	Dr Sethulekshmi C Dr K Vrinda Menon	4 days national webinar on Environmental protection for improving animal and human health	24 th to 27 th April 2020
281	Dr Sethulekshmi C Dr K Vrinda Menon	On line training session on vuja de- the veterinarian- CVAS, Mannuthy	22 nd April 2020
282	Dr Sethulekshmi C Dr K Vrinda Menon	One week online short term faculty development programme- towards digital era of teaching and learning	Aug 12-18 2020
283	Dr Sethulekshmi C Dr K Vrinda Menon	11 days online training programme- Advance diagnostic approaches: a preparation to combat new challenges of veterinary science	Oct 19-31 2020
284	Dr. Deepa Jolly Dr K Vrinda Menon	World Zoonoses Day -2020- International Webinar on 'Human-Animal-Environment Interface: Recent Approaches for Containing the Global Zoonotic Burden' -	06.07.2020 to 08.07.2020
285	Dr. Deepa Jolly Dr K Vrinda Menon	International Webinar on One-Health Perspectives of Antimicrobial Resistance & E-Poster competition organized jointly by Karnataka Veterinary, Animal & Fisheries Sciences University, Bidar and Indian Association of Veterinary Public Health Specialists	4 th September, 2020.
286	Dr. Deepa Jolly	International webinar on " Epistemological approaches to animal disease control programmes with special reference to rabies"	28 th and 29 th Sept 2020

		organised by KVASU	
287	Dr. Deepa Jolly	Kerala Veterinary Science Congress 2020 organised by IVA	14-15 Nov, 2020
288	Dr. Deepa Jolly	International Conference ‘New Generation Vaccines and Animal Disease Control Strategies – Roadmap for enhancement of animal and human health’ jointly organized by the Dept of Vety Microbiology, VCRI, Orathanadu, Thanjavur and Dept of Vety Microbiology, CVAS, Pookode, Kerala-	02-04 December, 2020
289	Dr Binsy Mathew	Kerala Veterinary Science Congress 2020 organised by IVA	14-15 Nov, 2020
290	Dr Binsy Mathew	Virtual international conference on livestock products and food safety : realities and imperatives for global health	Nov 24-25 2020
291	Dr K Vrinda Menon	E-nternational Conference on Role of fermented foods in pandemic era’ organized by SASNET-FF and Lund University, Sweden	25 th June, 2020
292	Dr K Vrinda Menon	Talk on - Zoonoses and Occupational health in Veterinary profession- IVA Kannur	July, 5 th , 2020
293	Dr Udayasree V J	Advanced diagnostic approaches- A preparation to combat new challenges of Vet Scieinces	19 Oct – 31 October
294	Dr Ambily R	Advanced diagnostic approaches- A preparation to combat new challenges of Vet Scieinces	19 Oct – 31 October
295	Dr Udayasree V J	Orientation Training Programme conducted by ASC , KVASU	NOV25-DEC15 Online
296	Dr Ambily V R	International online training -Jabalpur	1-21 st Dec
297	Dr Sindhu K Rajan	International online training -Jabalpur	1-21 st Dec
298	Dr. S. Maya (conducted)	Course Co-director of the Induction training programme for the newly recruited Assistant Professors	from 03.03.2021 to 05.03.2021 at ASC, KVASU, Mannuthy
299	Dr. S. Maya (conducted)	Course Director of the Obligatory Three months training for Assistant Directors of AHD	from 27-02-2021 to 26.05.2021 At different stations of KVASU
300	Dr. S. Maya Dr. Sreeranjini. A.R.	One day International webinar on “Electron Microscopy and Ultrastructure of Cells” Jointly organized by the Department of Veterinary Anatomy, KVASU and Academic Staff	on 01.01.2021 Zoom Meeting https://zoom.us/j/98952135

	Dr.Leena Chandrasekhar Dr. Sunilkumar N.S. Dr. Sumena K.B. (conducted and attended)	College, Directorate of Entrepreneurship, KVASU	00
301	Dr. S. Maya Dr. Sreeranjini. A.R. Dr. Sunilkumar N.S. (conducted and attended)	One day international webinar on Influenza Virus (Avian Influenza). Jointly organized by the Indian Veterinary Association, CVAS, Mannuthy Unit and KVASU	31.01.2021 Zoom meeting
302	Dr. Sreeranjini. A.R. Dr. Sunilkumar N.S. (Conducted and attended)	AHead- online live crash course for the aspirants towards the post of Veterinary Surgeon, Grade-II in Animal Husbandry Department jointly organized by KVASU and the Indian Veterinary Association, CVAS, Mannuthy Unit	From 20-01-2021 to 20-03-2021 through Zoom online platform
303	Dr. Sunilkumar N.S	Training on Analytical Research Technique for post graduate students	25.02.2021-27.02.2021 Central Instrumentation Centre, CVAS, Mannuthy
304	Dr Udayasree V J	Training Program on “ Promoting Startups in Livestock and Fisheries Sector”, MANAGE, Hyderabad	17-02-2021 to 19-02-2021 online
305	Dr Udayasree Vj	Induction Training Programme	03-03-2021 to 05-03-2021, Academic Staff College, Mannuthy
306	Dr Sangeetha S Gireesh	Induction Training Programme	03-03-2021 to 05-03-2021, Academic Staff College, Mannuthy
307	Dr Javed Jameel	Induction Training Programme	03-03-2021 to 05-03-2021, Academic Staff College,

			Mannuthy
308	Dr. Subin K Mohan- Attended	National Webinar on Gender in Livestock Sector	12.1.2021 LIKES & RAJUVAS
309	Dr. Subin K Mohan- Attended	Online Fitness and Self-defence Programme for Students and Faculty of Veterinary and Agricultural Universities	28.01.2021- 29.01.2021 TANUVAS
310	Dr. Subin K Mohan- Attended	International Webinar entitled "Alternative Therapies to Mitigate Microbial Resistance"	23.02.2021-24.02. 2021 ICAR-IVRI, Izatnagar
311	Dr. Subin K Mohan – Attended	Prof. G. H. Arthur Commemorative Oration- Global Veterinary Reproduction Webinar 2021 on “Reproductive Ultrasound and Manipulative Delivery Pervaginum In Dogs”	11-03-2021 Directorate of Clinics, TANUVAS
312	Dr. Subin K Mohan- Attended	International Summit on “Agri Innovations In 21 st Century And The Ways Ahead”	College of Agriculture & IDP-NAHEP. G. B. Pant University of Agriculture & Technology Pantnagar
313	Dr. Anu George- Attended	International webinar on avian influenza	31.01.2021 IVA, CVAS, Mannuthy
314	Dr. Anu George- Attended	Webinar “agriculture research through knowledge discovery”	23.02.2021 EBSCO Information Services
315	Dr. Anu George- Attended	Information Handling Skills for Teaching, Learning and Research - Phase II	01.03.2021-21.03.2021 PJTSAU, Hyderabad
316	Dr. Reeja George- Attended	Constructive Teaching and Learning with Technology Part I	November 2020- February 2021 Tata Institute of Social Sciences Mumbai
317	Dr.T.S.Rajeev- Conducted	Experiential learning and extension activities in adopted villages as part of State Plan Project - Augmenting livestock production through convergence of various technology delivery systems	18.03.2021 Kozhukkully
318	Dr.T.S.Rajeev- Conducted		19.03.2021 Varandarappally
319	Dr.T.S.Rajeev- Conducted		20.03.2021 Parappukkara

320	Dr.R.S.Jiji- Attended	Webinar organized for IPR Cell coordinators	18.01.2021 IPRICK, KSCSTE
321	Dr.R.S.Jiji- Attended	IP Management and Technology Transfer in Agriculture and Allied Sector	24.02.2021– 25.02.2021 IPRICK, KSCSTE
322	Dr.R.S.Jiji- Attended	IP Management in Software Industry and Cyber Security	09.03.2021–10.03. 2021 IPRICK, KSCSTE
323	Dr K. Devada	One day international seminar on “Electron microscopy and ultra structure of cell”	01-01-2021 CVAS, Mannuthy Online
324	Dr K.Syamala	National seminar on current trends in life sciences	29-1-2021, Amity mity Institute of Biotechnology, Amity University Madhya Pradesh, Gwalior. Online
325	Dr Bindu Lakshmanan	11 day online training on “Advances in diagnosis and management of ailments in pet animals” ,	College of Veterinary Science and AH, Mhow from 25.01.2021 to 04.02.2021 Online
326	Dr K.Syamala Dr Priya M.N Dr Asha Rajagopal Dr R. Radhika	Online training on Recent Advances in Veterinary Parasitology: a paradigm shift	1-2-21 to 15-2 21 CVAS,Jabalpur Online
327	Dr K. Syamala Dr Priya M.N Dr Asha Rajagopal Dr Karthika R	International conference on agriculture,climate change and life sciences-2021	5-3-21-6-3-21 Online
328	Dr. Sajitha I S Dr. Dhanush Krishna B Dr. Devi S S Dr. Divya C	“Advances in Clinico-pathological Diagnosis of Farm Animals Diseases: A Radical Approach in Doubling Farmers’ Income” organized by Department of Veterinary Pathology, College of Veterinary Science & A.H., Rewa (M.P.), India.	05th - 25th February, 2021 (online)
329	Dr. Sajitha I S Dr. Dhanush Krishna B Dr. Devi S S Dr. Divya C	International webinar on Electron Microscopy and Ultrastructure of cells organized by Department of Veterinary Anatomy & Histology, ASC and Directorate of Entrepreneurship, KVASU	1st January 2021 (online)
330	Dr. Sajitha I S Dr. Dhanush	National webinar on “Cytological diagnosis in canine disease management practice” organized by Department of Veterinary	18/03/2021 (online)

	Krishna B Dr. Devi S S Dr. Divya C	Pathology, CVSc & AH, OUAT.	
331	Dr. Amritha Aravind	TANUVAS- Global Large Animal Sciences Webinar Series II-2021 on “Critical Care and Management of Diseases in Foals”	07.01.2021, organized by Department of Clinics, VC & RI, Namakkal, Directorate of Clinics, TANUVAS, Chennai
332	Dr. Amritha Aravind	TANUVAS- Global Large Animal Sciences Webinar Series II-2021 on “Medical Management of Diseases of Small Ruminants”	08.01.2021, organized by Department of Clinics, VC & RI, Namakkal, Directorate of Clinics, TANUVAS, Chennai
333	Dr. Amritha Aravind	TANUVAS- Global Large Animal Sciences Webinar Series II-2021 on “Production Diseases in Cattle”	08.01.2021, organized by Department of Clinics, VC & RI, Namakkal, Directorate of Clinics, TANUVAS, Chennai
334	Dr. Amritha Aravind	Training Programme on “Advances in Reproductive Health Management in Canine”	08.02.2021 to 12.02.202, organized by DBT-GADVASU Canine Research Centre and Network Project at Division of Animal Reproduction, ICAR- IVRI, Izatnagar.
335	Dr.C.Jayakumar, Dr. Amritha Aravind, Dr. Hiron M. Harshan Dr.Magnus Paul K	Prof. G.H. Arthur Commemorative Oration, Global Veterinary Reproduction Webinar 2021- “Reproductive Ultrasound and Manipulative Delivery Pervaginum in Dogs”	11.03.2021, Organized by Directorate of Clinics, TANUVAS, Chennai
336	Dr. Hiron M. Harshan	21 days online training-cum-orientation programme on “Advances in Clinico-pathological Diagnosis of Farm Animals Diseases: A Radical Approach in Doubling	Department of Veterinary Pathology, College of Veterinary Science & A.H., Rewa (M.P.),

		Farmers' Income"	India from 05th - 25th February, 2021.
337	Dr Magnus Paul K	NANAJI DESHMUKH VETERINARY SCIENCE UNIVERSITY, 11 day online training JABALPUR (M.P.) Advances in diagnosis and management of ailments in pet animals	Department of Veterinary Surgery and Radiology, College of Veterinary Science and A.H., Mhow (M.P.), from 25-01-2021 to 04-02-2021.
338	Dr C Latha	Webinar on emerging zoonoses a catastrophic storm of microbial threats for MD students of Dept. of Community Medicine , Amritha Institute of medical sciences	29-01-21
339	Dr. C Latha	International conference by Planning Board	1-3 Feb 2021
340	Dr. C Latha	Invited Lecture on training programme on Emerging food borne pathogens-Bombay Veterinary College	05-02-21
341	Dr. C Latha	Obligatory 3 months training programme for Assistant Directors AHD	01-12-20 to 28-02-21
342	Dr K Vrinda Menon	One day Online training on "Critical control points for mycotoxins in the food chain"	22-02-2021 to 23-02-2021 Triology Analytical laboratory Pvt. Ltd. National reference laboratory for mycotoxins Hyderabad and FSSAI, New Delhi
343	Dr K Vrinda Menon	Talk conducted on Food testing and Laboratory infrastructure In training programme on Implementation of PM FME scheme conducted by KAU	16-03-2021
344	Dr K Vrinda Menon	Invited speaker at AheaD –two months online training programme for young BVSc graduates of KVASU	28-02-21
345	Dr Sethulekshmi C	Invited speaker at AheaD –two months online training programme for young BVSc graduates of KVASU	01-03-21
346	Dr. Deepa Jolly	21 days Online training on "Application of Novel Methods in Prevention and Control of Zoonotic Diseases and Ensuring Food Safety"	18.02.2021 to 10.03.2021 Department of Veterinary Public Health and Epidemiology, College of

			Veterinary Science and Animal Husbandry, Nanaji Deshmukh Veterinary Science University, Jabalpur (M.P)
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ix. Patents :

Granted for SYNTHETIC PEPTIDES HAVING BROAD SPECTRUM ANTIMICROBIAL ACTIVITY
(Patent no: 348183)

x. Outstanding achievements, technologies developed, awards and other distinctions obtained by Institutions, scientists and staff

1. Dr. Surya Sankar, Second prize for E-poster in the International webinar organized by Indian Veterinary Association, Kerala as part of World Zoonosis day, 6-8th July, 2020
2. Dr. Surya Sankar, First prize for E-poster in the International webinar organized by Indian Veterinary Association, Kerala as part of World Rabies Day, 28-29th September, 2020
3. Dr. Ambily R. Best poster presentation award in the National online conference of IAWV, 2020, 9-10th December, 2020
4. Dr. Lali F. Anand Teacher's Associateship for Research Excellence 2020 November DST SERB TARE (Research grant and fellowship)
5. Dr. Lali F. Anand Topper with gold medal score 90%, MOOC course Functional genomics IIT Kanpur 14-09-2020 to 13-10-2020 (4 weeks)
6. Second best presentation - Jamuna Valsalan, Tina Sadan and T.V. Aravindakshan. 2020. Association of B4GALT1 gene polymorphism with milk production traits in crossbred cattle of Kerala. XIIth Kerala Veterinary Science Congress
7. Dr. Dhanush Krishna B, Assistant Professor, Department of Veterinary Pathology- ICVP appreciation certificate 2020- best presentation- topic- "Histopathological and Immunohistochemical Features of Trichoblastoma in A Dog-a case report
8. Dr. Sajitha I.S.- Certificate of Appreciation- Member of Scientific Advisory Board- International Journal of Livestock Research-2019-20
9. Dr. Dhanush Krishna B.- Certificate of Appreciation- Member of Scientific Advisory Board- International Journal of Livestock Research-2019-20
10. Dr Prasad A- Best Officer of Animal Husbandry Sector in Kerala for the year 2020, instituted by Samagra Ksheera Karshaka Samgham
11. Dr Biju S-Best paper presentation (Second prize), Kerala Veterinary Science Congress
12. Dr. Sudheesh S. Nair bagged Best paper award- Second Prize for the paper entitled "Peotomy, urethrostomy and cystotomy for surgical management of chronic urolithiasis and penile necrosis in a mongrel dog" In National online seminar on environmental protection for improving animal and human health and national level online paper presentation competition from 24th to 27th April 2020.
13. Dr. S. Maya won Best District President Award of IVA Awards 2020.

14. Sreeranjini. A.R won best article award with first prize. In: International webinar on “Human-Animal-Environment Interface: Recent Approaches for containing the zoonotic burden” held from 6th to 8th July 2020 by Meat Technology Unit, Mannuthy, Indian Veterinary Association, CVAS, Mannuthy, Kerala Veterinary and Animal Sciences University and Association of Meat Scientists and Technologists for the article entitled “Incidence of Rabies in Kerala- an overview” authored by Sreeranjini. A.R., Jayasree, K.S., Ashok, N., Maya, S. and Ranjini, A.R.
15. Dr K. Vijayakumar-Best Teacher award by Indian veterinary Association, Kerala
16. Best poster award – Dr Shyma VH
17. Appreciation award –Dr Justin Davis K-From IVA, Kerala
18. Appreciation award – Dr Justin Davis K from Vice Chancellor, KVASU
19. Dr. Aziz Zarina- Topper and gold medal for MOOC on Animal Physiology, Sept to Dec 2020 (12 weeks course), Conducted by IIT, Karagpur through Swayam Portal, Funded by Ministry of HRD, Govt of India
20. Dr. Bindu Lakshmanan; Best Paper Award (First Prize) on Parasitic Zoonosis in the International webinar on “Human-Animal-Environment interface: Recent Approaches for Containing the Global Zoonotic Burden” 6th -8th July, 2020. Organised by Indian Veterinary Association at CVAS, Mannuthy, KVASU and AMST
21. Dr. Priya M.N Oral presentation (Second Prize) in an International conference on New generation vaccines and Animal disease control strategies: roadmap for enhancement of Animal and Human Health, organised by Department of Veterinary Microbiology, Veterinary college and Research Institute, Orathanadu,TANUVAS, Tamilnadu and Department of Veterinary Microbiology, KVASU from 02-12-2020 to 04-12-2020
22. Dr K Vrinda Menon : SECOND PRIZE for Best Poster presentation in Technical Session IV - "Zoonoses and Human Health: Challenges and Solutions" in the Conference ‘New Generation Vaccines and Animal Disease Control Strategies – Roadmap for enhancement of animal and human health’ jointly organized by the Department of Veterinary Microbiology, Veterinary College and Research Institute, Orathanadu, Thanjavur and Department of Veterinary Microbiology, College of Veterinary and Animal Sciences, Pookode, Kerala- 02-04 December, 2020
23. Dr. C. Sethulekshmi : Second best article: in International Webinar on ‘Human-Animal-Environment Interface: Recent Approaches for Containing the Global Zoonotic Burden’-
24. Dr. Deepa Jolly : Third prize for poster on ‘Avian Influenza- A perpetual challenge.. World Zoonoses Day -2020- International Webinar on ‘Human-Animal-Environment Interface: Recent Approaches for Containing the Global Zoonotic Burden’- on 7-8 of July, 2020
25. Dr Deepa Jolly : 3rd prize for Best Poster presentation in Technical Session IV - "Zoonoses and Human Health: Challenges and Solutions" in the Conference ‘New Generation Vaccines and Animal Disease Control Strategies – Roadmap for enhancement of animal and human health’ jointly organized by the Department of Veterinary Microbiology, Veterinary College and Research Institute, Orathanadu, Thanjavur and Department of Veterinary Microbiology, College of Veterinary and Animal Sciences, Pookode, Kerala- 02-04 December, 2020
26. Dr Binsy Mathew Best oral presentation- Kerala Veterinary Science congress 2020.
27. Dr Binsy Mathew Best e- poster presentation – Virtual international conference on livestock products and food safety : realities and imperatives for global health – Nov 24-25 2020
28. WRD 2020- Third prize for best research paper in the international webinar by IVA- Dept. of Clinical Medicine

29. Dr Udayasree V J -Third presentation award for the e-poster in e- conference organized by GADVASU, Ludhiana

xi. Awards by students

1. Parvathy G Udayan, second prize for oral presentation entitled Screening of Ducks for asymptomatic infection of Riemerellosis in Kerala in the Virtual International Conference on New Generation vaccines and animal disease control strategies : Roadmap for enhancement of animal and human health.
2. Dr. Akhila Joy, third prize for review article writing competition organized in association with “World Egg Day Celebration, 2020”
3. Dr. Resmi T. R, third prize for the best research in the International webinar on Epidemiological approaches to animal disease control programmes with special reference to rabies
4. Dr. Sairam R.-Dr Ram Raksha-Kiran Shukla Award for Second Best M.V.Sc Thesis, 2019- Online International Veterinary Pathology Congress – 2020 at XXXVII Annual Conference of Indian Association of Veterinary Pathologists held during 26 to 29 December, 2020. Thesis title: “Molecular Diagnosis and Pathology of Porcine Reproductive and Respiratory Syndrome Virus and Porcine Parvo Virus Infections”
5. Dr Vishnudev R S (MVSc scholar)-Best article award (Second prize) in the International webinar on Human animal environment interface-Recent approaches for containing the global zoonotic burden, 06.07.2020-08.07.2020
6. Dr Vishnudev R S (MVSc scholar)- Third prize in the National level online quiz coimpetriton on World Food Safety Day 2020
7. Dr Sunitha Thomas (PhD scholar)- First prize in poster presentation, Climate resilient agroforestry systems to augment livestock productivity ensuring environmental biodiversity organized by IAN, PGRIAS, Kattupakkam, Tamil Nadu
8. Dr Rekha A. (MVSc scholar)-Third prize in research article writing competition, World Egg Day celebrations-2020
9. Dr.K.Gyathry, PhD Scholar recived Best Poster Presentation award- Saecond Prize for the paper entitled “Bovine Ocular Squamous cell Carcinioma” in National e-confernced on Clinical Antomy of Boveine and Canones, Organised by Dept of Anatomy , Vet college and research Instrititue, Orathanadu, Tamilnadu
10. Dr. Annie V. Raj, PhD Scholar won third prize in the national Online Quiz competition on the occasion of world zoonoses day 2020 and international webinar organised by Meat Technology Unit, Mannuthy Kerala Veterinary and Animal Sciences University, Indian Veterinary Association, CVAS, Mannuthy, and Association of Meat Scientists and Technologists on 09.07.2020
11. Dr. Alphine Joseph, won Second prize for the Best paper Award in theNational level online paper presentation competition jointly organized by Kerala Veterinary and Animal Sciences University, Indian Veterinary Association Kerala and IVA CVAS Manuthy Unit
12. Dr.Sona P. Sadanandan, Former MVSc Scholar, won Second Best Paper Presentation in National level online paper presentation Indian Veterinary Association, Kerala-CVAS, Mannuthy.
13. Dr Arya T.S., MVSc. Scholar was awarded first prize in paper presentation and best paper in Animal Health and Environmental Health session for the paper ‘Assessment of developmental

- competence of caprine oocytes using Brilliant Cresyl Blue' in the 12th Kerala Veterinary Science Congress conducted at Thiruvananthapuram during 14-15 Nov, 2020.
14. Dr Ambily K. G. got best Article Award (3rd prize) in the category of Bacterial Zoonoses at the International Webinar on "Human – animal – environment interface: recent approaches for containing the global Zoonotic burden" organized by MTU, KVASU and IVA, CVAS, Mannuthy from 6th to 8th July, 2020
 15. Dr. Alphine Joseph, won Second prize for the Best paper Award in the National level online paper presentation competition jointly organized by Kerala Veterinary and Animal Sciences University, Indian Veterinary Association Kerala and IVA CVAS Mannuthy Unit
 16. Dr.Sona P. Sadanandan, Former MVSc Scholar, won Second Best Paper Presentation in National level online paper presentation Indian Veterinary Association, Kerala-CVAS, Mannuthy.
 17. Dr. Abhin Raj, K.P., Won best article award with third prize. In: International webinar on "Human-Animal-Environment Interface: Recent Approaches for containing the zoonotic burden" held from 6th to 8th July 2020 by Meat Technology Unit, Mannuthy, Indian Veterinary Association, CVAS, Mannuthy, Kerala Veterinary and Animal Sciences University and Association of Meat Scientists and Technologists for the article entitled "Clinical and clinicopathological features of Kysannur Forest Disease (KFD) in monkeys and humans" authored by Abhin Raj, K.P., Sreeranjini. A.R., Maya, S., Sunilkumar, N.S. and Vasudevan, V. N.
 18. Dr. Alphine Joseph, won third prize in Best poster presentation Award for the paper entitled "Histology of the third eyelid gland in a Neapolitan Mastiff" Authored by Alphine Joseph, Maya, S., Narayanan, M.K., Sreeranjini, A.R., Leena Chandrasekhar, Sunilkumar, N.S. and Sumena K.B. in the session 'Canines' as a part of National e-conference on "Clinical Anatomy of Bovines and Canines for effective Veterinary Practice" held on 3rd and 4th Nov. 2020 organized by Department of Veterinary Anatomy, Veterinary College and Research Institute, Orathanadu, Thanjavur, Tamilnadu.
 19. Dr. Annie V. Raj, PhD Scholar won third prize in the national Online Quiz competition on the occasion of world zoonoses day 2020 and international webinar organised by Meat Technology Unit, Mannuthy Kerala Veterinary and Animal Sciences University, Indian Veterinary Association, CVAS, Mannuthy, and Association of Meat Scientists and Technologists on 09.07.2020.
 20. Second prize- Sulficar S., Vijayakumar K., Sudhakar Goud K., Krupa R. J., Usha N. P. and Saseendranath M. R. (2020). Molecular diagnosis of Lumpy skin disease in a crossbred cow- First confirmed report from Kerala. In proc 38th annual convention of Indian Society of Veterinary Medicine & National symposium on 'Advancement in Veterinary Medicine in Mitigating Challenges to animal health'. 05.02.2020 – 07.02.2020. Veterinary College, Hebbal, Bengaluru.pp.62.
 21. Second prize- Krupa R. J., Navya E., Anugraha M. E., Sudhakar Goud K., Shyma V.H. and Vijayakumar K. (2020). Therapeutic management of Babesiosis and Theileriosis in a Cow and Calf. In Proc 38th annual convention of Indian Society of Veterinary Medicine & National symposium on 'Advancement in Veterinary Medicine in Mitigating Challenges to animal health'. 05.02.2020 – 07.02.2020. Veterinary College, Hebbal, Bengaluru.pp.82
 22. First prize- Meenu M., Justin Davis K., Gagana H. S. and Vijayakumar K. (2020). Management of Theileriosis in Goats with combination of Buparvaquone and Long acting Oxytetracycline. In Proc 38th annual convention of Indian Society of Veterinary Medicine & National symposium on

- ‘Advancement in Veterinary Medicine in Mitigating Challenges to animal health’. 05.02.2020 – 07.02.2020. Veterinary College, Hebbal, Bengaluru.pp.95.
23. Third prize- Shyma V. H., Anugraha M. E., Neeraja S., Sulficar S. and K., Vijayakumar. (2020). A case report of Lymphoma in a Crossbred Calf. In Proc 38th annual convention of Indian Society of Veterinary Medicine & National symposium on ‘Advancement in Veterinary Medicine in Mitigating Challenges to animal health’. 05.02.2020 – 07.02.2020. Veterinary College, Hebbal, Bengaluru.pp.149.
 24. Third prize- Krupa Rose Jose and K. Vijayakumar. (2020). Bat transmitted diseases: A conundrum to be resolved. In Proc. International webinar on ‘Human – Animal- Environmental Interface: Recent approaches for containing the global zoonotic burden’ on 06.07.2020 to 08.07.2020 organised by IVA, CVAS, Mannuthy, Kerala, Meat technology Unit, KVASU, Association of Meat Scientists and Technologists in India. pp.169-175.
 25. Third prize- Athira K., Shyma. V. H. and K. Vijayakumar (2020). Brucellosis: A neglected Zoonotic disease. In Proc. International webinar on ‘Human – Animal- Environmental Interface: Recent approaches for containing the global zoonotic burden’ on 06.07.2020 to 08.07.2020 organised by IVA, CVAS, Mannuthy, Kerala, Meat technology Unit, KVASU, Association of Meat Scientists and Technologists in India.pp:46-55.
 26. Third prize- Juby Thankachan., P. V. Tresamol., Shyma V. H. and K. Vijayakumar. (2020). One Health Perspective on Toxoplasmosis: A neglected zoonotic disease. In Proc. International webinar on ‘Human – Animal- Environmental Interface: Recent approaches for containing the global zoonotic burden’ on 06.07.2020 to 08.07.2020 organised by IVA, CVAS, Mannuthy, Kerala, Meat technology Unit, KVASU, Association of Meat Scientists and Technologists in India. pp. 291-296.
 27. Second prize- Krupa Rose Jose and K. Vijayakumar. 2020. Knowledge, attitude and practice of people towards rabies and associated risk factors. In proc. International webinar on ‘Epistemological approaches to animal disease control programmes with special reference to rabies’ on 28 – 29 September, 2020 organized by IVA, CVAS, Mannuthy and Department of Veterinary Epidemiology and Preventive Medicine.
 28. Third prize- K. Sudhakar Goud, C. Pavankumar, Chaitanya Kishore and K. Vijayakumar. Diagnosis and Management of Sheep pox. In proc.International webinar on ‘Epistemological approaches to animal disease control programmes with special reference to rabies’ on 28 – 29 September, 2020 organized by IVA, CVAS, Mannuthy and Department of Veterinary Epidemiology and Preventive Medicine.
 29. Third prize- Deshpande Prutha Sudhir, Shyma V. H. and K. Vijayakumar. Crimean-Congo Haemorrhagic Fever.In International webinar on ‘Epistemological approaches to animal disease control programmes with special reference to rabies’ on 28 – 29 September, 2020 organized by IVA, CVAS, Mannuthy and Department of Veterinary Epidemiology and Preventive Medicine.
 30. Third prize- Juby Thankachan., Tresamol P.V. and K. Vijayakumar. Toxoplasmosis. In International webinar on ‘Human – Animal- Environmental Interface: Recent approaches for containing the global zoonotic burden’ on 06.07.2020 to 08.07.2020 organised by IVA, CVAS, Mannuthy, Kerala, Meat technology Unit, KVASU, Association of Meat Scientists and Technologists in India.
 31. Dr.Shiji S Saju (17-MVM-59) participated in national level online paper presentation competition organized by Indian Veterinary Association, Kerala and Kerala Veterinary and Animal Sciences

University, CVAS Mannuthy from 8/5/2020 to 10/5/2020 and bagged the second best paper award for the paper entitled "Comparison of expression pattern of *CYP19* in different categories of ovarian antral follicles in Malabari and Attappady Black breeds of goat" in the 'Basic Veterinary Science Faculty and others' category.

32. Dr.Shiji S Saju (17-MVM-59) presented an e-poster and bagged the second prize for poster presentation in International e- conference on "Expanding Horizons In Physio-Biochemical And Molecular Approaches For Improving Livestock Health And Production" organized by the Department of Veterinary Physiology and Biochemistry, Veterinary College and Research Institute, Orathanadu, Thanjavur Dist, Tamil Nadu, India on 19 & 20th October, 2020.
33. Dr. Sriji A. P (19-MVM-61)- Best article award in connection with webinar on Human-animal Environment Interface: Recent approaches for containing the global zoonotic burden, IVA, CVAS, Mannuthy
34. Dr Sweta P. I (18-MVM-62)- Best article in connection with webinar on Human-animal Environment Interface: Recent approaches for containing the global zoonotic burden, IVA, CVAS, Mannuthy
35. Dr Vivekandan R (18-DVM-13)- Best article award in connection with webinar on Human-animal Environment Interface: Recent approaches for containing the global zoonotic burden, IVA, CVAS, Mannuthy
36. Dr Sruti C (18- MVM-61)- Best oral presentation in international webinar on one health perspective of antimicrobial resistance , IAVPHS and Karnataka Veterinary Animal and Fisheries Sciences, University, Bidar
37. Dr Sruti C (18- MVM-61)- Best poster presentation Zoonoses and Human Health: Challenges and Solutions" in the Conference 'New Generation Vaccines and Animal Disease Control Strategies – Roadmap for enhancement of animal and human health' Veterinary College and Research Institute, Orathanadu, Thanjavur
38. I.R Sankar (20-mvm-56) secured best poster award in the national e conference conducted by IDP-NAHEP, GADVASU, Ludhiyana
- 39.

xii.Consultancy Services:

Sl. No.	Department	Services provided	Date/ no. of sample	Income generated
1	Veterinary Parasitology	1. Faecal sample examination, 2. Blood smear examination 3. Skin scrapings examination 4. Specimen identification (urine) 5. Sale of slides, specimen 6. Advice to farmers 7. Training to para medical staff	194 259 1 1 2	Rs.10,695/-
2	Animal Nutrition	Feed Analysis	319	1.88 Lakhs
		Consultancy services to Entrepreneurs on Feed Production Unit establishment	August 2020	

		Consultancy services to Entrepreneurs on Complete feed block unit establishment	September 2020	
3	Poultry Science	Farmers counselling	50	Nil
4	Department of Dairy Science	Analysis of milk for quality evaluation	25	Rs. 790
		Sale of starter cultures	11	Rs. 550
5	Surgery and Radiology	Surgical services to pets and farm animals		Revolving fund project is operational in the Department
		Radiology services		
		Attending to various surgical cases presented to Surgery unit in both University Veterinary Hospital, Mannuthy and Kokkalai.		
6	Livestock Production Management	Farm management and entrepreneurship	15 persons	Nil
		Establishment of ASWASA (Thermal Stress Alleviation Controller)in dairy farms	6	3000
7	Department of Veterinary Pathology	Post-mortem examination of large and small animals	152	Rs. 20600/-
		Post-mortem examination of birds	532	Rs. 5320/-
		Post-mortem examination of wild animals	2	Rs. 2000/-
		Post-mortem examination of fishes	8	Rs. 400/-
		Rabies diagnosis	91	Rs. 22750/-
		Cytologic evaluation	11	Rs. 220/-
		PM of animals	1/1/2021 to 22/3/2021- 57	6950
		PM of birds	1/1/2021 to 22/3/2021- 187	1870
		Rabies diagnosis	1/1/2021 to 22/3/2021- 41	10250
		Cytology	1/1/2021 to 22/3/2021-4	80
		Histopathology-1	1/1/2021 to 22/3/2021	150
		Wild life post-mortem consultancy	1/1/2021 to 22/3/2021- 4	3250
8	Animal Genetics	Vechur Conservation unit :		Rs. 8,50,920/-

	and Breeding and Centre for Advanced Studies in Animal Genetics and Breeding	(Sale of breeding animals, semen, milk, culled animals, dung, urine)		
		Rabbit Breeding station: (Sale of breeding stock and culled animals)		Rs. 1,62,270/-
9	VPH	Evaluation of quality of water , milk and milk products, meat and meat products, livestock and poultry feeds for the public	249	Rs 72,200/-
		Evaluation of quality of water , milk and milk products, meat and meat products, livestock and poultry feeds for the public	249	Rs 72,200/-
10	Clinical Medicine	Animal health investigation	23/7/2020	
		Consultancy services to University Farms, Pet owners and farmers		

xiii. Any other Relevant Activities:

ACADEMIC CELL -1

- Scheduled the online registration of 2019, 2018, 2017, 2016 ,2015 repeat batches of undergraduate and 2019, 2018 post graduate batches
- Conducted online credit and defense seminars of PG/PhD students
- Compiled the report of online classes of CVAS,Mannuthy
- Prepared the document of ICAR accreditation application of KVASU -2020
- Issue of Bonafide certificates to the students
- Coordinated the PG/PhD entrance examination of KVASU on 11th and 12th of November, 2020 following Covid-19 protocols
- Co ordinated the fifth year Annual Board Examinations online (2015 admn) conducted in an online mode during 7th Dec – 28th Dec, 2020
- Data entry in Academic Management System of NAHEP-ICAR
- Mark entry in KVASU-Exam Cell portal for undergraduate students
- IUMS mark entry for 2015 admn BVSc & AH , MVSc and PhD students
- Co ordinated the admission of 2020 BVSc &AH , MVSc and PhD students. Conducted orientation of 2020 BVSc & AH students

Department of Livestock Production Management

1. Dr Justin Davis has handled five classes on kennel management and grooming of dogs at Police Academy, Thrissur.
2. Dr Prasad A also handled soft skill development classes at Police Academy, Thrissur on 2/11/20 and 30/12/20
3. The Ecofarm attached to the department of LPM, CVAS, Mannuthy has developed a model small holder integrated farming system for propagation in the field and also has developed inputs for organic farming.

Department of Pharmacology

1. Conducted a 5 day hands on training on Laboratory animals as Experimental models from March 15 to 19, 2021 in the Department of Veterinary Pharmacology and Toxicology, College of Veterinary and Animal Sciences, Mannuthy

Department of Dairy Science

1. Deputed the students of M.Sc. Quality control in Dairy industry programme (2019 batch) for one month In Plant training at Trivandrum Dairy.
2. Deputed the students of Diploma in Dairy science (2019 batch) for Farm training in Various farms Under AHD, & KVASU.
3. Dr R Geetha is a member of College level Send-off committee (CV &AS, Mannuthy).
4. Dr. C.T. Sathian is Professor in charge of Academic cell -2
5. Dr. C.T. Sathian is Chairman, (PC group - Cattle & Buffaloes)

Department of ARGO

1. Dr.Abhilash.R.S. Handled session for PSc coaching conducted by IVA Mannuthy Unit on 10th March
2. Dr.Abhilash.R.S. Handled session for PSc coaching conducted by ROOF Pookod on 18th March
3. Dr.Magnus Paul K. Handled session for PSc coaching conducted by IVA Mannuthy Unit on 9th March

Department of Animal Nutrition

- During the period under report, a total of income of Rs 7.19 crores was obtained from sales of compounded feed and mineral mixture

Department of Veterinary Parasitology

1. Conducting Diploma Course in Laboratory Techniques
2. DR Bindu Lakshmanan : Acted as faculty for Skill development Training on “Molecular Biology & Bioinformatics tools for Advanced Life Science Research” 03.02.21 to 17.02.21 at School of

- Applied Animal Production and Biotechnology, CVAS, Mannuthy(Handled two sessions-1. ELISA and 2.Molecular biology techniques for disease diagnosis)
3. Dr K. Syamala- Control of gastrointestinal parasitism in goats with limited chemotherapy-Online farmer's class from L.M.T.C,Aluva
 4. Dr Bindu Lakshmanan, Dr K.Syamala,Dr Priya M.N, Dr Asha Rajagopal, -Handled sessions on parasitology in the online crash course of IVA for Vet graduates -AHEAD
 5. Dr K. Syamala was the external examiner UG,at VCRI,Thirunelveli

Additional Duties Undertaken

1.Dr. K. Devada-

1. Implementing officer , NABARD-RIDF Project on Construction of RADL
2. Chairperson -POP--Pet birds
3. Chairperson -PC group-Avian diseases
4. Member Secretary, IBSC ,CVAS, Mannuthy
5. Member Secretary, IQAC, KVASU
6. Chairperson, Biosafety assessment committee, KVASU
7. Core group, Canine Research committee,KVASU

2.Dr Bindu Lakshmanan:

1. Officer i/c UG Academics, CVAS, Mannuthy
2. Assistant Nodal Officer, Green Protocol, CVAS, MannuthY
3. Convenor- Package of practices Recommendation-Zoonoses Group
4. Associate Editor,JIVA
5. Editorial Board Member,JVAS
6. ICAR Accreditation Committee-KVASU-2020-Co-ordinator CVAS, Mannuthy

3.Dr. Asha Rajagopal

1. Course Director, Diploma in Laboratory Techniques
2. Treasurer, PTA, CVAS, Mannuthy
3. Member, PC group (Animal Diseases I)
4. Member, Canine Research Committee, KVASU

4. Dr. Priya M. N.

1. Officer i/c of Newsletter, CVAS, Mannuthy, KVASU
2. Officer i/c College Auditorium, CVAS, Mannuthy

Department of Preventive Medicine

- Conducted online webinar on “Epistemological Approaches to Animal Disease Control Programmes with Special reference to Rabies” on 28th and 29th September 2020
- Conducted one week free anti-rabies vaccination programme
- Conducted essay competition and painting competition to school and college students as a part of awareness programme during world rabies day commemoration.

Department of Preventive Medicine

1. Dr. C Latha Radio talk on bird flu on 05-01-21
2. Dr. C Latha – Dooradarshan programme on Bird flu- 08-01-21
3. Organised inauguration of TVCC and VKDFT by Minister of Animal Husbandry.

Department of Veterinary and Animal Husbandry Extension

1. Contributed towards Question Bank for BVSc & AH students published by the Directorate of Entrepreneurship, Kerala Veterinary and Animal Sciences University.
2. Submitted documents for the application of Chancellor's Award 2020
3. Participated in various Committees in connection with the Inauguration of various buildings and schemes of the University held on 20.02.2021
4. Additional Charges of faculty
 - Dr. Jiji R.S, Coordinator, IPR cell, KVASU
 - Dr. Rajeev, T.S. Director of Students Welfare, Coordinator, NSS, and Public Relations Officer, KVASU
 - Dr. Reerja George P. Language Editor, Journal of Veterinary and Animal Sciences
 - Dr. Anu George, Principal Investigator, TISC Mannuthy
 - Dr. Subin K Mohan, Assistant Warden, Men's Hostel, Mannuthy

Department of Veterinary Anatomy

1. Dr. S. Maya participated and presented the invited paper on “Prospects of anatomical research with special reference to development of biomaterials” Chaired a session in the web conference on “Advances in teaching and research in Veterinary Anatomy in India” organized by Department of Veterinary Anatomy, N.T.R. College of Veterinary Science, Gannavarm on 27th and 29th October-2020
2. Dr. S. Maya was in a member in the interview board for selection of Assistant Professors in TANUVAS on December 15th 2020.
3. Three faculties were in the co-ordination committee for the orientation programme “New Vistas for disaster resilient academic ecosystem management”, November 25 to December 15, 2020, Academic Staff College, DOE, KVASU.
4. Three faculties were in the co-ordination committee for the refresher programme ‘Current concepts in biomethodology and phytopharmacology’ from, November 20 to December 3, 2020, Academic Staff College and Dept. of Veterinary Pharmacology and Toxicology. CVAS, Mannuthy
5. Dr. Sreeranjini A.R. has been nominated as one of the director board members of Kerala Agricultural and Kerala Veterinary University Cooperative society since February-2020
6. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised NSS special camp in division 18 of Thrissur corporation 10th to 16th February 2020
7. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised orientation to NSS volunteers regarding the aims and activities of Student initiative in palliative care on 25th February 2020
8. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 NSS Paper-Pen Scheme was inaugurated at CVAS, Mannuthy on 25th February 2020
9. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised World environment day celebrations-2020 on 6th June 2020

10. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised celebration of International day against drug abuse and Illicit trafficking on 26th June 2020
11. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 organised distribution of “Break the Chain- Passenger Information Diaries” and pens to 100 Autorickshaw drivers in the premises of CVAS, Mannuthy in July 2020.
12. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised celebration of NSS Day on 24th September 2020.
13. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised celebration of Gandhi Jayanthi on 2nd October 2020
14. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 has organised celebration of World Hospice and Palliative Care Day and World Mental Health Day on 10th October, 2020
15. Dr. Sreeranjini A.R., NSS Programme officer, unit-1 along with NSS of KVASU and VHSE organized awareness classes for VHSE students on seven days all over Kerala from 16th October 2020
16. Dr. S. Maya took class on Embryology and Aesthesiology in the "AHead" - Online crash course organized for the aspirants of Veterinary Surgeon post in the Animal Husbandry Department, Govt. of Kerala, Organized by the IVA unit, Mannuthy on 31.01.2021
17. Dr. S. Maya conducted a class for the Assistant Directors from AHD as a part of their Obligatory Three months training on 28.01.2021
18. Dr. Sreeranjini A.R, Associate Professor and Dr. Justin Davis, Assistant professor, NSS programme officers of CVAS, Mannuthy organized an awareness class on poultry rearing under “Jeevanam Jeevadhanam Project” along with the Department of Extension, CVAS, Mannuthy, and VHSE State NSS cell on 15th January 2021 through Zoom platform. State NSS cell of VHSE under the leadership of Sri. Ranjith P., VHSE NSS state programme coordinator had selected 7000 beneficiaries, from VHSE schools all over Kerala under “Jeevanam Jeevadhanam Project” and the selected students as well as their parents were given an online awareness class on “Rearing of Poultry”. Dr. Binoj Chacko, Assistant Professor & Head, University Poultry & Duck Farm, KVASU, Mannuthy, Thrissur handled the session. Director of General Education, Kerala, Sri. K. Jeevan Babu, IAS, Managing Director of Kerala Poultry Development Corporation Dr. Vinod John, Regional Director of NSS for Kerala and Lakshadweep Sri. G.P. Sajith Babu, VHSE NSS state programme coordinator Sri. Ranjith P., Deputy Director, VHSE Smt. Mini, Dean, CVAS, Mannuthy, Dr. C. Latha, and NSS Coordinator, KVASU, Dr. T.S. Rajeev addressed the gathering.
19. Dr. Sreeranjini A.R, Associate Professor and Dr. Justin Davis, Assistant professor, NSS programme officers of CVAS, Mannuthy organized celebration of 72nd Republic Day of India on 26th January 2021 through Google meet platform. Dr. (Maj.) Sudheesh S. Nair, Assistant Professor, Dept. of Veterinary Surgery and Radiology led a talk for students on the topic “Intrinsic motivation to students”. Speech competitions were also held for students on the topic “Role of agriculture in Indian economy”. Dean, CVAS, Mannuthy Dr. C. Latha delivered the Republic Day message to students and declared the winners of speech contest.
20. Dr. Sreeranjini A.R, Associate Professor and Dr. Justin Davis, Assistant professor, NSS programme officers of CVAS, Mannuthy organized celebration of National Science Day on 27th February 2021. Dr. E. Sreekumaran, Associate Professor of Physiology and Director of Forensic Science led a talk to students on “Scientific temper and Human behaviour” through Google meet platform. Dr.

T.S. Rajeev, NSS coordinator, KVASU delivered the presidential address and Dean, CVAS, Mannuthy Dr. C. Latha inaugurated the programme.

21. Dr. Sreeranjini A.R. took class on Splanchnology in the "AHeaD" - Online crash course organized for the aspirants of Veterinary Surgeon post in the Animal Husbandry Department, Govt. of Kerala, Organized by the IVA unit, Mannuthy on 10.03.2021
22. Dr. Sunilkumar took class on Neurology in the "AHeaD" - Online crash course organized for the aspirants of Veterinary Surgeon post in the Animal Husbandry Department, Govt. of Kerala, Organized by the IVA unit, Mannuthy on 25.01.2021
23. Dr. Sumena K.B. took class on Osteology in the "AHeaD" - Online crash course organized for the aspirants of Veterinary Surgeon post in the Animal Husbandry Department, Govt. of Kerala, Organized by the IVA unit, Mannuthy on 22.01.2021 at 6.00-7.00pm
24. Dr. Sumena K.B. conducted an online expert interaction session on Transportation of Livestock with emphasis for rules and guidelines for the students of GVHSS, Iringole, Ernakulam on 13.03.2021

Additional duties handled by the faculties of department

- Dr. S Maya :

1. Director, Academic Staff College
2. Professor I/C PG Academics, CVAS, Mannuthy
3. Nodal officer, AISHE

- Dr. A R Sreeranjini :

Programme Officer NSS unit, CVAS, Mannuthy

Director Board Member, KAU Employees cooperative Society.

Editorial Board Member of Journal of Indian Veterinary Association.

- Dr. N S Sunilkumar :

1. Vice patron, ARIS Cell & the Students' Computer Club
2. Associate Editor, Journal of Veterinary and Animal Sciences

- Dr. K B Sumena :

Course Director, Distance Learning Centre, DoE, KVASU (Till 04-05-2020)

**COLLEGE OF VETERINARY AND ANIMAL SCIENCES,
POOKODE KERALA VETERINARY AND ANIMAL SCIENCES
UNIVERSITY LAKKIDI PO, WAYANAD**



1. Name of Station: College of Veterinary and Animal Sciences, Pookode
2. Name of Station Head: Dr. Koshy John
3. Faculty Position :Dean
4. Details of Teaching Staff as on 11/03/2020

Sl No	Faculty	Sanctioned	In position
1	Professor	40	3
2	Associate	65	13
3	Assistant Professor	71	66
4.	Non-Teaching	51	33

**PROGRAMMES TO IMPROVE EFFICIENCY OF FACULTY SEMINAR / CONFERENCE /
WORKSHOP / OTHER ACTIVITIES ETC**

Sl. No.	Programme	Name of faculty
1	Online Refresher Course on Language Skills, Directorate of Human resource Management, CCSHAU, Hisar, 27 May 2020 to 16 June 2020	Dr Rajani C V
2	Massive Open Online Course (MOOC) Designing E-Learning Content, ICAR-NAARM 1-31 July 2020	Dr Rajani C V
3	Massive Open Online Course (MOOC) on “Psychology of Learning” ICAR-NAARM 1-15 May 2020	Dr Rajani C V
4	National E-conference on Clinical Anatomy of bovines and canines for effective veterinary practice organized held on 3rd and 4th November, 2020, Veterinary College and Research Institute, Orthanadu, TANUVAS	Dr Indu V Raj Dr Rajani C V Dr Harshad Sudhir Patki Dr Surjith K P
5	“Animals Species Identification In Vetro-Legal Cases For Field Veterinarians” 09 – 11 August 2020 by Rajasthan University Of Veterinary And Animal Sciences, Bikaner	Dr Rajani C V Dr Surjith K.P. Dr Harshad Sudhir Patki
6	International webinar on “Conceptual Framework Entwining Translational Anatomy and Veterinary Clinical Sciences” 19 th and 20 th August, 2020, Dept. of Veterinary Anatomy, Directorate of Entrepreneurship, KVASU & Academic Staff College, KVASU	Dr Indu V Raj Dr Rajani C V Dr Harshad Sudhir Patki Dr Surjith K P
7	Global Veterinary Oncology Webinar Series – 2020 on “Canine Lymphoma - An Update” organized by the Project Monitoring Unit, DBT-TANUVAS CRC&N, Directorate of Clinics, Tamil Nadu Veterinary and Animal Sciences University, Madras Veterinary College Campus, Chennai, Tamil Nadu, India on 4th December,	Dr Surjith K P

	2020.	
8	TANUVAS – Global Bariatric Medicine Webinar Series – 2020 on “Diagnosis and Management of Diseases in Cattle” organized by Veterinary Clinical Complex, Veterinary College and Research Institute, Tirunelveli, Directorate of Clinics, Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu, India on 28-11-2020.	Dr Surjith K P
9	National Web Conference on ‘Advances in Teaching and Research in Veterinary Anatomy in India’ organized by Department of Veterinary Anatomy N.T.R. College of Veterinary Science, Gannavaram during 27th to 29th October 2020.	Dr. Indu V Raj Dr Rajani C V Dr Surjith K.P. Dr Harshad Sudhir Patki
10	International webinar on "Recent developments in pathobiology and diagnosis of animal and poultry diseases –A new prospective approach" organized by Department of Veterinary Pathology and Department of Veterinary Parasitology Veterinary College and Research Institute, Tirunelveli Tamil Nadu through Virtual Mode from 15.10.2020 to 16.10.2020	Dr Surjith K.P.
11	International conference on Paradigm shift in animal disease diagnostics; Veracious path in disease prevention and control - 7th to 9th October 2020 at VCRI, Tirunelveli, Tamil Nadu through Virtual Mode.	Dr Surjith K.P.
12	International E-workshop on "Reproductive Diagnostic Techniques For Bovine Infertility" from 28 to 29 September 2020, TANUVAS	Dr Surjith K.P.
13	E-certificate of the Virtual Sensitization Programme on “Knowledge Management in the Networked Digital Environment” jointly organized by the Tamil Nadu Veterinary and Animal Sciences University Library, Chennai & Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala on 27th August, 2020.	Dr Surjith K.P. Dr Harshad Sudhir Patki
14	Certificate of Participation and Completion of Seven days National Online Training on "Basic Techniques in Laboratory Animal Care and Management" during Dt. 02/09/2020 to 08/09/2020 Organized by College of Veterinary and Animal Sciences, Parbhani (MS).	Dr Surjith K.P. Dr Harshad Sudhir Patki
15	"National Webinar on "Covid Pandemia-Herbal Solutions For Health Care Of Livestock And Poultry" held on 13 – 14, August, 2020 TANUVAS	Dr Surjith K.P.
16	TANUVAS - Global Veterinary Clinical Sciences Webinar-2020 held on 21st August, 2020 organized by DBT-TANUVAS Canine Research Centre and Networks, Madras Veterinary College Campus, Chennai-07	Dr Surjith K.P.
17	National webinar on conceptualization of modern anatomy- theory and practice by NAHEP DUVASU Mathura on 4,5 October 2020	Dr Surjith K.P. Dr Harshad Sudhir Patki
18	A short term course on e learning with learning management system for 10.days by AKPCTA in June	Dr Surjith K.P.

	2020	
19	Kerala Veterinary Science Congress 2020 “Evolving strategies for combating diseases of livestock and poultry in the current global scenario”. November 14 th and 15 th 2020	Dr Rajani C V Dr Surjith K.P. Dr Harshad Sudhir Patki
20	Virtual Vocational training on “Advance diagnostic techniques in livestock and pets “ hosted by CVS Junagadh during 4-8 January 2021	Dr Surjith K.P.
21	Interactive online talk on “Comparative approaches in regenerative medicine “on the eve of national science day program on 28 Feb 2021 by IVA Kerala Pookode Unit	Dr Indu V Raj Dr Rajani C V Dr Harshad Sudhir Patki Dr Surjith K P
22	Emerging respiratory diseases including covid 19- Methods of detection, prevention, response and control by WHO as	Dr Surjith K.P.
23	One day international webinar on “Electron microscopy and Ultrastructure of cells” organized by Dept. of veterinary anatomy, Directorate of Entrepreneurship AND academic staff college, KVASU on 1 st January, 2021.	Dr Indu V Raj Dr Rajani C V Dr Harshad Sudhir Patki Dr Surjith K P
24	21 days International Online training programme on Physico - Biochemical & Biotechnological approaches for optimization of health and Reproduction in Animals in December 2020	Dr. S. Senthil Murugan Dr. Deepa Ananth
25	Online Faculty Development Programme on “Entrepreneurship in Livestock and Veterinary Sciences” for two weeks from 9-2-2021 to 22-2-2021, organized by the ICAR – National Research Centre on Meat (ICAR-NRCM), Hyderabad	Dr. Biju Chacko Dr. Deepa Ananth
26	Participated in Two Day National Open Workshop on "Getting Aligned to the Publishing Process"- Author, Scopus + ScienceDirect Workshop (Online). On Sept. 25 & 28, 2020. Organized by Elsevier Researcher Academy On Campus	Dr.C.N. Dinesh
27	Participated in National Webinar on IP Generation, Protection & Commercialization in Research. On Sept. 29 & 30, 2020, Organized by KSCSTE - Malabar Botanical Garden and Institute for Plant Sciences, Kozhikode	Dr.C.N. Dinesh
28	Participated in Virtual Sensitization Programme on “Knowledge Management in the Networked Digital Environment”. On Aug.27, 2020.Organized by the Tamil Nadu Veterinary and Animal Sciences University Library, Chennai and Kerala Veterinary and Animal Sciences University, Pookode	Dr.C.N. Dinesh
29	Participated in XVIII Annual Convention and National Webinar on Harnessing Potential of Indigenous Animal Genetic Resources for Enhancement of Productivity and	Dr.C.N. Dinesh

	Profitability. On Feb 11-12, 2021. Organized by the Society for Conservation of Domestic animal Biodiversity.	
30	Participated in 90 – minute webinar on Waste Management during COVID-19: from crisis to Opportunity. On 22 December 2020. Organized by UNEP/OCHA Joint Environment Unit	Dr.C.N. Dinesh
31	Successfully completed edx201: How to Learn Online . A course of study offered by edX (an online learning initiative of edX). May 15 2020.	Dr.C.N. Dinesh
32	Participated in Twelfth International Conference on Climate Change: Impacts and responses on 16/04/2020 and 17/04/2020 held at Ca Foscari University of Venice, Italy	Dr E M Muhammed
33	Participated in National Online Seminar on “Environmental Protection for improving animal and human health” from 24-27 th April 2020	Dr E M Muhammed
34	Participated in National Online Seminar on “Environmental Protection for improving animal and human health” from 8 th to 10 th May 2020.	Dr E M Muhammed
35	Participated in Science academies’ Science Leadership workshop organized by the Central University of Punjab, Bathinda, India from June 22 to June 28, 2020.	Dr E M Muhammed
36	Successfully completed R data analysis path optional conducted by DATAQUEST on 22 nd July 2020.	Dr E M Muhammed
37	Participated in the national webinar on “Modern genetic approaches for improvement of indigenous cattle on 29/07/2020 organised by DUVASU, Mathura.	Dr E M Muhammed
38	Participated in the 90 – minute global webinar series on ENVIRONMENT AND EMERGENCIES IN THE FACE OF COVID-19: WHAT YOU NEED TO KNOW IN A PANDEMIC CONTEXT On 29 JULY 2020, Organized by UNEP, OCHA, Joint Environment Unit and National Institute of Disaster Management.	Dr E M Muhammed
39	Participated in the “ONE WEEK ONLINE – INTERNATIONAL FACULTY DEVELOPMENT PROGRAMME ON RECENT ADVANCES IN NEXT GENERATION SEQUENCING (NGS)” Organized by Col. Dr. Jeppiaar Research Park, Centre for Ocean Research in association with Ministry of Earth Sciences – Earth Science Technology Cell (MoES-ESTC) from 27th July to 2nd August, 2020.	Dr E M Muhammed
40	Participated in NPTEL-e awareness workshop conducted along with GALGOTIAS University, Utterpradesh on August 13 2020.	Dr E M Muhammed
41	Participated in the one day International Webinar on “ Steps to Sustainable Livestock in COVID and Post COVID Era ” jointly organized by IVA Kerala Pookode Unit and Directorate of Entrepreneurship, KVASU on 27 th August 2020.	Dr E M Muhammed
42	Participated in 90 – minute global webinar series on ENVIRONMENT AND EMERGENCIES IN THE	Dr E M Muhammed

	FACE OF COVID-19 PREPARING FOR AND RESPONDING TO CHEMICAL RISKS: RE-STARTING INDUSTRY On 14 OCTOBER 2020 UNEP, OCHA, Joint Environment Unit and National Institute of Disaster Management.	
43	Successfully completed one week faculty development programme on “Decision making in management using R from 23 rd October to 1 st November 2020.	Dr E M Muhammed
44	Participated in International Virtual Conference on “Promising genetic and genomic technologies – frontier in selection and animal improvement” 27th - 28th January 2021 organised by Department of Animal Genetics and Breeding, Veterinary College and Research Institute, Tamilnadu Veterinary and Animal Sciences University, Orathanadu, Thanjavur, Tamil Nadu, India & Department of Animal Genetics and Breeding, College of Veterinary and Animal Sciences, Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, KVASU, Kerala	Dr Radhika G Dr C N Dinesh Dr E M Muhammed Dr Muhasin Asaf V N
45	Attended meeting related to Madikai project held at Kasargode collectorate related to Madikai project from 20-10-2020 to 22-10-2020.	Dr E M Muhammed
46	Participated in the Australia-India Council sponsored virtual international workshop on “Transfer of mitigation technologies for heat stress in farm animals” during 18 th -19 th February 2021 organised by University of Melbourne, Australia in collaboration with ICAR-NIANP, Bangaluru, India.	Dr E M Muhammed
47	Participated in the Interactive online talk on “Comparative approaches in regenerative medicine” conducted in connection with National Science Day 2021 celebrations, organized by Indian Veterinary Association, Kerala, Pookode Unit on 27/02/2021.	Dr E M Muhammed
48	Successfully completed online training programme ‘Data Science in Agriculture’ organized by ICAR-Indian Agricultural Statistics Research Institute, New Delhi from 26 th to 31 st May 2020	Dr Muhasin Asaf V N
49	Participated in the Virtual Sensitization Programme on “Knowledge Management in the Networked Digital Environment” jointly organized by the Tamil Nadu Veterinary and Animal Sciences University Library, Chennai & Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala on 27th August, 2020	Dr Muhasin Asaf V N
50	Participated in the two day’s National Webinar on “Concepts of Statistical Methodologies in Animal Sciences” organised by Department of Animal Genetics and Breeding, LCVSc, AAU, Joyhing, North Lakhimpur, Assam on 26th and 27th September 2020	Dr Muhasin Asaf V N

51	Successfully completed ‘Programming for Everybody (Getting Started with Python)’ an online non-credit course by the University of Michigan on Coursera. Course certificate earned on 05 October 2020.	Dr Muhasin Asaf V N
52	Successfully completed ‘Genomic Data Science with Galaxy’, an online non-credit course by Johns Hopkins University on Coursera. Course certificate earned on 30 September 2020.	Dr Muhasin Asaf V N
53	Successfully completed ‘Introduction to Genomic Technologies’, an online non-credit course by Johns Hopkins University on Coursera. Course certificate earned on 08 June 2020.	Dr Muhasin Asaf V N
53	Successfully completed ‘Graphs in R Data Visualization with R Programming Language’, an online course by R Tutorials Training on Udemy. Certificate of completion earned on 01 May 2020	Dr Muhasin Asaf V N
54	Successfully completed online course on “Introduction to Genomic Technologies” by John Hopkins University offered through Coursera	Dr Radhika G
55	Participated in “Knowledge Management in the Networked Digital Environment” jointly organized by the Tamil Nadu Veterinary and Animal Sciences University Library, Chennai & Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala on 27th August, 2020	Dr Radhika G
56	Handled session on “Microsatellite Analysis and Associated Tools” in Skill Development Training on 12-2-2021 from 2-4 pm in Hands on Training on Molecular Biology and Bioinformatics tools for Advanced Life Science Research conducted by SAAPBT, Mannuthy	Dr Radhika G
57	Handled Expert session on “Current Breeding Policy for cattle “for VHSE students in NSQF training on 9-2-2021	Dr Radhika G
58	AHead - Online crash course organized by IVA, Mannuthy for the aspirants of Veterinary Surgeon post in the Animal Husbandry Department, Govt. of Kerala. Took class on AGB on 20.02.2021 and by Roof at CVAS, Pookode	Dr Radhika G
59	Lecture on Breeding management of Goat Satellite units to farmers on 18-3-2020 in Training and Capacity building program on Goat Farming for improving Livelihood security of Scheduled caste clusters of Wayanad, Kerala	Dr Radhika G
60	Participated in 3 day training on Basic and Applied Bioinformatics in Animal Sciences organized by Centre of Advanced Agricultural Science & Technology Advanced Centre for Livestock Health, ICAR-Indian Veterinary Research Institute, Izatnagar (UP) from 09th to 11th February, 2021	Dr Radhika G
61	Successfully completed MOOC course on Psychology of Learning organized by ICAR-NAARM 01/05/2020 to 15/05/2020	Dr. Prejit
62	Successfully completed MOOC course on Teaching	Dr. Prejit

	from home with IT tools organized by SD Agricultural university, Gujrat 23/04/2020 to 01/05/2020	
63	Successfully completed online course on Moodle Learning management system organized by GRABS educational trust 25/05/2020 to 29/05/2020	Dr. Prejit
64	Online National Workshop on Nutritional Sustenance through Dairy Products: Initiatives and Strategies organized by College of Food and Dairy Technology on 1 st June 2020.	Dr. Renuka Nayar, Dr, Kavitha Rajagopal
65	Online FDP on Teaching Pedagogies –Innovative ways (19 th -25 th June 2020)	Dr. Renuka Nayar
66	International conference (virtual) on “Livestock Products and Food safety: Realities and Imperatives for Global Health” organized by TANUVAS and KVAFSU (24 th , 25 th and 30 th November 2020.)	Dr. Renuka Nayar, Dr, Kavitha Rajagopal
67	International conference (virtual) on “New Generation Vaccines and Animal Disease Control Strategies: Road map for Enhancement of Animal and Human Health” organized by TANUVAS and (02-04 th December 2020.)	Dr. Renuka Nayar
68	DST sponsored Two weeks online training programme on Entrepreneurship in Livestock and Veterinary Sciences“ conducted by National Research Centre on Meat (9-22 February 2021)	Dr. Renuka Nayar
69	“Psychometric scale construction technique- Basic to Advance” – Nov. 24 th to 28 th , 2020	Dr. Bimal P Bashir
70	“National faculty Development programme” – on Advanced Research Methods and quantitative data analysis using SPSS – Oct. 26 th to Nov. 1 st 2020	Dr. Bimal P Bashir
71	Massive Open Online Course (MOOC) on Designing E-learning content, NAARM, Hyderabad, India - 1 st to 31 st July, 2020.	Dr. Bimal P Bashir
72	Certificate on online Induction / Orientation programme (FIP-3-20-3rd Faculty Induction Programme). Institute of computer application and management (BVICAM), India- 1 st to 31 st August, 2020	Dr. Bimal P Bashir
73	International Workshop on “Social Science Research Methodology” – Indian Academic Researcher’s Association (IARA)- in association with Prabhat Kumar College Contai, West Bengal – August 30 th to Sept. 5 th , 2020	Dr. Bimal P Bashir
74	National level online workshop on insightful rudiments of originating google forms and generating certificates- A Horde of Approaches adaptable for online Academic Motives - 25 th to 26 th Sept. 2020	Dr. Bimal P Bashir
75	Faculty Induction Programme organized by Academic Staff College, Directorate of Entrepreneurship, KVASU, Pookode, Wayanad – 3 rd March 2021 to 5 th March 2021	Dr. Anjali K. Babu
76	National Webinar on Microbial disease occurrence/emergence pattern under changing climatic	Dr.Balusami.C

	conditions in livestock and poultry - current solutions and future perspectives” on 03 – 04, August, 2020 held at Department of Veterinary Microbiology Veterinary College and Research Institute Orathanadu – 614 625, Tamil Nadu, South India	
77	International webinar on “Conceptual Framework Entwining Translational Anatomy with Veterinary Clinical Sciences” from 19/08/2020 and 20/08/2020 organized by Dept.of Veterinary Anatomy, DE and Academic Staff college, KVASU	Dr.Balusami.C
78	National online webinar on Precision technologies in livestock farming on 04.11.2020 organized by Indian Society of Animal Production Management	Dr. Balusami.C
79	International webinar on Challenges and Opportunities in Swine Production on 03.12.2020	Dr.Balusami.C
80	21 days online national training programme on fodder production-ICAR- IGFRI, RARS, SriNagar, J&K- From 20/08/20 to 11/09/20	Dr.Sabin George
81	12 th Kerala Veterinary Science Congress- 14 & 15 November, 2020	Dr.Sabin George
82	Wildcon- 2020 (Online International Conference) on “Insights into wildlife conflicts, rescue and rehabilitation: Challenges and opportunities for Conservation” organized by Wildlife Research & Training Centre, Gorewada Rescue centre, Nagpur & Association of Indian Zoos & Wildlife Veterinarians, held during 18th - 20th December, 2020 conducted from Nagpur.	Dr.Sabin George
83	International e-Conference on “AN INTEGRATED APPROACH TO ELIMINATE CANINE AND FELINE VIRAL DISEASES IN INDIA” Organized by DEPARTMENT OF VETERINARY PREVENTIVE MEDICINE MADRAS VETERINARY COLLEGE CHENNAI – 600 007, TN, India 30.11.2020 & 01.12.2020	Dr.Sabin George

84	National workshop on “Comprehensive management of working dogs”.27th to 29th July 2020 Kerala Police Academy Ramavarmapuram, Thrissur	Dr.Sabin George
85	Participated in the International webinar on ‘Conceptual framework entwining translational anatomy with Veterinary clinical Sciences’ jointly organized by Department of Veterinary Anatomy and Histology, Directorate of Entrepreneurship and Academic staff college, Kerala Veterinary and Animal Sciences University on 19/08/2020 and 20/08/2020	Dr.N.Geetha
86	Participated in the Virtual sensitization programme on ‘Knowledge management in the network digital environment’ jointly organized by Tamilnadu Veterinary and Animal Sciences University Library, Chennai & Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala on 27/08/2020	Dr.N.Geetha
87	Participated in the two day International webinar on ‘Epistemological approaches to animal disease control programmes with special reference to rabies’ on the occasion of world rabies day 2020 organized by Department of Veterinary Epidemiology & Preventive Medicine, Kerala Veterinary and Animal Sciences University and Indian Veterinary Association, College of Veterinary and Animal Sciences, Mannuthy on 28/09/2020 and 29/09/2020	Dr.N.Geetha
88	Participated in the International e- Conference on ‘Expanding horizons in physio-biochemical and molecular approaches for improving livestock health and production’ organized by Department of Veterinary Physiology and Biochemistry, Veterinary College and Research Institute, Orthanadu, Thanjavur, Tamilnadu from 19/10/2020 to 20/10/2020	Dr.N.Geetha
89	Achieved the 3 rd best presentation in online webinar on	Dr.N.Geetha

	'Precision technologies in livestock farming' organized by Indian Society of Animal Production Management on 04/11/2020	
90	Participated and presented a paper entitled 'Effect of body condition score on milk yield in crossbred cows under different bedding systems' in 12 th Veterinary Science Congress with the theme 'Evolving strategies for combating disease of livestock and poultry in the current global scenario' organized by Indian Veterinary Association, Kerala during 14/11/2020 & 15/11/2020 at Thiruvananthapuram, Kerala	Dr.N.Geetha
91	Participated as a speaker in the online webinar on 'Precision technologies in livestock farming' organized by Indian Society of Animal Production Management on 04/11/2020	Dr.N.Geetha
92	Participated in the International webinar on 'Climate smart livestock and poultry production through nutritional interventions' organized by Institute of Animal Nutrition, Directorate of Animal Production Studies, Tamilnadu Veterinary and Animal Sciences University on 23/11/2020 & 24/11/2020	Dr.N.Geetha
93	Participated in the National webinar on 'Water footprints and conservation in Livestock Farming' organized by Department of Livestock Production Management, Madras Veterinary College, Chennai on 26/11/2020	Dr.N.Geetha
94	Participated in the National webinar on 'Mitigating the challenges in Animal Reproduction sector' organized by the Department of Animal Reproduction, Gynaecology & Obstetrics, College of Veterinary Science & Animal Husbandry, Odisha University of Agriculture & Technology, Bhubaneswar on 13/12/2020	Dr.N.Geetha
95	Participated in the Virtual International Conference on 'Livestock products and food safety: Realities and imperatives for global health' organized by the	Dr.N.Geetha

	Department of Livestock Products Technology, Veterinary College and Research Institute, Orthanadu, Thanjavur, and the Department of Livestock Products Technology, Veterinary College, Hebbal, Bangalore on 24/11/2020, 25/11/2020 & 26/11/2020	
96	Participated in the Virtual International Conference on 'New generation vaccines and animal disease control strategies: Roadmap for enhancement of animal and human health' jointly organized by the Department of Veterinary Microbiology, Veterinary College and Research Institute, Orthanadu, Thanjavur, and the Department of Veterinary Microbiology, College of Veterinary and Animal Sciences, Pookode from 02/12/2020 to 04/12/2020	Dr.N.Geetha
97	Participated in the web-based training on 'Current concepts in biostatistics and Phytopharmacology' conducted by Kerala Veterinary and Animal Sciences University, Directorate of Entrepreneurship, Academic staff college, from 20/11/2020 to 03/12/2020 at the Department of Veterinary Pharmacology and Toxicology, College of Veterinary and Animal Sciences, Mannuthy	Dr.N.Geetha
98	Participated in the webinaer on 'Sample size determination' organized by Department of Statistics, College of Veterinary and Animal Sciences, Mannuthy in connection with World Statistics Day on 20/10/2020	Dr.N.Geetha
99	Participated in the webinar on 'Augmenting productivity in Dairy animals through improved feeding management' organized by Department of Animal Nutrition, Veterinary College and Research Institute, Orthanadu, Tamilnadu on 23/12/2020	Dr.N.Geetha
100	Participated in the webinar on 'Cow based farming for keeping soil alive and protecting soil biodiversity'	Dr.N.Geetha

	organized by Samshodhana khanda and Bharathiya Gou Parivara of Sri Ramachandrapura Matha on 12/12/2020	
101	Participated in the webinar on ‘Geographical Indications-Significance & Registration procedures’ organized by Intellectual Property Rights Information Centre-Kerala (IPRICK), Kerala State Council for Science, Technology and Environment (KSCSTE) on 18/12/2020	Dr.N.Geetha
102	Participated in the webinar on ‘Patent Drafting Made Easy’ organized by Intellectual Property Rights Information Centre-Kerala (IPRICK), Kerala State Council for Science, Technology and Environment (KSCSTE) on 29/12/2020	Dr.N.Geetha
103	MOOC course on Introduction to Proteomics	Shynu M.
104	Virtual International Conference-New Generation vaccines and Animal Disease control strategies	Shynu M
105	Online International Workshop ‘Thriving with Change’	Shynu M
106	Proteomics Society-Education Day 2021	Shynu M.
107	Recent advances in Analytical Biochemistry techniques	Naheef K
108	Virtual sensitization programme on ‘Knowledge management in the networked digital environment’ jointly organized by TANUVAS, Chennai and KVASU, Pookode	Renjith Sebastian
109	Webinar on ‘Microbiome, Immunity and Vaccines’ organized by Indian Association of Veterinary Microbiologists, Immunologists & Specialists in Infectious Diseases (IAVMI)	Renjith Sebastian
110	International Web-Course on “Preclinical Studies in Biomedical Research and Regenerative Medicine” organized by Assam Agricultural University	Renjith Sebastian
111	MOOC course on Designing E learning content- ICAR-NAARM	Lijo John
112	International E- conference on New Generation Vaccines and Animal Disease Control Strategies , Roadmap for enhancement of Animal and Human Health	1. Dr. Koshy John 2. Dr. Chintu Ravishankar 3. Dr. Rajasekhar R. 4. Dr. Sumod. K.
113	FDP on Computer Aided Drug Designing (NPTEL)	Dr. Bibu John Kariyil
114	FDP on Animal Physiology (NPTEL)	Dr. Bibu John Kariyil
115	ISVPT National Webinar on "Overview of Regulatory Toxicology: Challenges and Opportunities	Dr. Bibu John Kariyil
116	ISVPT 20th Annual e -conference and International Webinar on Receptor Dynamics in Cell signalling	Dr. Bibu John Kariyil
117	Participated in National webinar on “ Animal production Medicine in Anthropocene Epoch” on 13 th August 20	Dr. Deepa PM

	conducted by VIPM society	
118	Participated in online training session on Vja de the Veterinarian “ organized by IVA, CVAS, Mannuthy on 22 nd April 20	Dr. Deepa PM
119	Participated in ISVM webinar on “ Pandemic preparedness : role of Veterinarians” organized by ISVM on 16 th August 20	Dr. Deepa PM
120	Participated in National webinar on” Surveillance of rabies in animals and initiatives in its control” organized by SKUAST, Jammu on 21 st July 20	Dr. Deepa PM
121	Participated in 4 day national seminar on” Enviornmental protection for improving animal and human health “ organized by IVA, Kerala in association with KVASU from 24 to 27 th April, 20	Dr. Deepa PM
122	Participated in National webinar on” Microbial disease occurrence /emergence pattern under changing climatic conditions in livestock and poultry – current solutions and future perspectives” organized by Dept. of Veterinary Microbiology , VCRI, Orthanadu , Thanjavur , TN from 3,8.20 to 4.8.20	Dr. Deepa PM
123	Participated online course on” Research Methodology” jointly organized by Grabs Educational Charitable trust and Tamil Nadu association of Intellectuals and faculty from 5.5.20 to 11.5.20	Dr. Deepa PM
124	Participated in International seminar on” Diagnostic Veterinary Pathology” organized by dept of Veterinary Pathology, Madras Veterinary College, Chennai on 12.9.20	Dr. Deepa PM
125	Participated in two day international webinar on” Epistemiological approaches to animal disease control programmes with special reference to rabies “ on world Rabies day 20 organised by Dept of VEPM, KVASU and IVA, Mannuthy on 28 th and 29 th September 20	Dr. Deepa PM Dr. Bipin KC Dr. Rathish RL Dr. Janus A
126.	Participated in SAARC rabies webinar “ Updates and progress in the SAARC region towards elimination of dog mediated human rabies by 2030” from 18 th to 20 th May 2020 organised by FAO , OIE and WHO	Dr. Deepa PM
127	All India Inter Agricultural Sports and Games Meet 2019-2020 SVV University, Tirupathi, A.P Team Managers	Dr. R. Kanthanathan Dr. Vinaya.C.Damu
128	Webinar organized by Swarnim Gujarat Sports University Understanding of Rules and Regulations 23.05.2020	Dr. R. Kanthanathan Dr. Vinaya.C.Damu
129	Orientation Programme- New Vistas for Disaster Resilient Academic Ecosystem Management” held from 25-11-2020 to 15-12-2020.	Dr Rejitha Joseph
130	One day online workshop on Knowledge Management in the Networked Digital Environment conducted by TANUVAS, Chennai	Dr Rejitha Joseph

131	NPTEL online course for Animal Physiology	Dr Beena V
132	5-day Online Faculty Development Programme on Universal Human Values for Deeksharambh (Student Induction Programme) during 23-27 November 2020 organized by National Institute of Technology (NIT), Patna	Dr.Mohanlal E K Assistant Librarian & Head Library & Information Centre, CoVAS, Pookode
133	Webinar on “Online tools for Smart Research” organized by the Library and IQAC, Union Christian College, Aluva and KCLA, MG University Region on 20-11-2020	Dr.Mohanlal E K Assistant Librarian & Head Library & Information Centre, CoVAS, Pookode
134	Webinar on “Libraries in New Normal” by Dr.H.Anilkumar, Librarian & Head, IIM, Ahmedabad on 26.05.2020	Dr.Mohanlal E K Assistant Librarian & Head Library & Information Centre, CoVAS, Pookode
135	Online Refresher Course on Language Skills, Directorate of Human resource Management, CCSHAU, Hisar, 27 May 2020 to 16 June 2020	Dr Rajani C V

SEMINAR / CONFERENCE / WORKSHOPS CONDUCTED

Organizers	Name of the workshop	Venue	Date
Dr Vinu David P	Animal health work shop 2020 by IVA Pookode unit	Online	19 th and 20 th December 2020
Dr Ajithkumar S Dr Vinu David P Dr Biju P Habeeb Dr Umesh C G Dr Sindhu O K	PSC coaching class for Students	Online	January, February and March 2021
Department of Animal Genetics and Breeding, College of Veterinary and Animal Sciences, Kerala Veterinary and Animal Sciences University, Pookode, Wayanad, Kerala in collaboration with Department of Animal Genetics and Breeding, Veterinary College and Research Institute, Tamilnadu Veterinary and Animal Sciences University, Orathanadu, Thanjavur, Tamil Nadu	International Virtual Conference on “PROMISING GENETIC AND GENOMIC TECHNOLOGIES – FRONTIER IN SELECTION AND ANIMAL IMPROVEMENT”	Online	27th - 28th JANUARY 2021
Dr. Bimal P. Bashir Assistant Professor Dept. of Veterinary and Animal Husbandry	National Agricultural Education Day-Seminar for High		04.12.2020

Extension CVAS, Pookode	School Students		
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode and Directorate of Entrepreneurship, KVASU	Webinar: “Monsoon management in dairy farming and flood preparedness”	Through Zoom App From dept. of Veterinary and Animal Husbandry Extension	13.07.2020 to 17.07.2020
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode and Directorate of Entrepreneurship, KVASU	Webinar: “Scientific Poultry Farming”	Through Zoom App From dept. of Veterinary and Animal Husbandry Extension	21.07.2020 to 24.07.2020
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode and Directorate of Entrepreneurship, KVASU	Webinar: “Profitable Goat Farming”	Through Zoom App From dept. of Veterinary and Animal Husbandry Extension	03.08.2020 to 07.08.2020
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode and Directorate of Entrepreneurship, KVASU	Webinar: “Commercial Pig Farming”	Through Cisco Webex App From dept. of Veterinary and Animal Husbandry Extension	15.09.2020 to 24.09.2020
Dr. R. Senthilkumar	Online Quiz	Through Google	01.12.2020 &

Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode in collaboration with NSS Unit Pookode and Centre for One Health Education, Advocacy, Research and Training (COHEART) of KVASU, Pookode, Wayanad and Directorate of Entrepreneurship, KVASU	competition and awareness talk: “Opportunities in agricultural sector with special reference to veterinary education”.	Meet App From dept. of Veterinary and Animal Husbandry Extension	04.12.2020
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Dr. Anjali K. Babu Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode	NSQF- Expert Interactive Session for First Year Vocational Higher Secondary Students of GVVHSS, Kalpetta, Wayanad	Through Google Meet App From dept. of Veterinary and Animal Husbandry Extension	19 th January, 9 th , 16 th & 23 rd February and 2 nd March 2021
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Dr. Anjali K. Babu Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode	NSQF- Expert Interactive Session for First Year Vocational Higher Secondary Students of WOVHSS, Muttill, Kalpetta, Wayanad	Through Google Meet App From dept. of Veterinary and Animal Husbandry Extension	20 th January, 8 th , 15 th & 23 rd February and 1 st March 2021
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Dr. Anjali K. Babu Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode	NSQF- Expert Interactive Session for First Year Vocational Higher Secondary Students of GVVHSS, Ayyanthole, Thrissur	Through Google Meet App From dept. of Veterinary and Animal Husbandry Extension	27 th February to 4 th March 2021

Pookode			
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Dr. Anjali K. Babu Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode	NSQF- Expert Interactive Session for First Year Vocational Higher Secondary Students of GVHSS, Pullanur, Malappuram	Through Google Meet App From dept. of Veterinary and Animal Husbandry Extension	26 th February to 3 rd March 2021
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Dr. Anjali K. Babu Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode	NSQF- Expert Interactive Session for First Year Vocational Higher Secondary Students of GVHSS, Thamarassery, Kozhikode	Through Google Meet App From dept. of Veterinary and Animal Husbandry Extension	8 th and 9 th March 2021
Dr. R. Senthilkumar Associate Professor and Head Dr. Bimal P. Bashir Assistant Professor Department of Veterinary and Animal Husbandry Extension, CVAS, Pookode	ATMA Project 2020-21: One-day training and farm visit program for the SC farmers of Perambra Block	CVAS, Pookode	10 th March 2021
Department of Veterinary Microbiology	International E-conference on New Generation Vaccines and Animal Disease Control Strategies , Roadmap for enhancement of Animal and Human Health	College of Veterinary & Animal Sciences, Pookode and Veterinary College & Research Institute, Orthanandu	2-4 December, 2020
Jointly organized by Kerala Veterinary and Animal Sciences University and Tamil Nadu Veterinary and Animal Sciences University	National Agricultural Higher Education Project(NAHEP), ICAR <i>Virtual Sensitization Programme on</i>	Online programme	27-08-2020

	<i>Knowledge Management in the Networked Digital Environment</i>		
Jointly organized by Kerala Veterinary and Animal Sciences University and Information Library Network	Regional Training Programme on Plagiarism Detection Software (PDS - URKUND)	Web-Training Programme	30-04-2020

RESEARCH

Department	Students enrolled
PG	
Anatomy and Histology	one
Animal Nutrition	9
Veterinary clinical medicine, Ethics and Jurisprudence	14
Department of Animal Genetics and Breeding, (MVSc)	3
VPH	3
Livestock Products Technology	04
LPM	1
Veterinary Microbiology	7
Dept of Veterinary Epidemiology and Preventive Medicine	7
Department of Veterinary Surgery & Radiology	9
Department of Veterinary Physiology	2
PHD	
Anatomy and Histology	1
VPH	1
Livestock Products Technology	02
LPM	4
Veterinary Microbiology	1
Dept of Veterinary Epidemiology and Preventive Medicine	1+1(PhD Bioscience)

COLLABORATIVE RESEARCH PROJECTS

Funding agency	Budget	Implementing Officer
Lion-tailed Macaque (<i>Macaca silenus</i>): Feeding Ecology and Management of an endangered species in captivity". Department of Science and Technology (DST) - WOSA, Government of India	Rs.19.74 Lacs	Dr. S. Senthil Murugan (As mentor)
Kerala state council for science technology and Environment	0.1 lakh	Dr Umesh C G

Kerala state council for science technology and Environment	0.1 lakh	Dr Umesh C G and Dr Soorya Das
ICAR- NASF	Rs. 41.22476	Dr. Jess Vergis
University of Minnesota (USA)	82 Lakhs	Dr.Chinthu Ravisankar
SERB, DST	29.5 Lakhs	Dr. Rajasekhar R.
Kerala STEC (Student Project)	0.1	Dr. Sooryadas S

ACADEMIC ACTIVITIES - DETAILS OF STUDENTS

Sl No.	Batch	No.of Students		
		Male	Female	Total
1.	BVSc	251	335	586
2.	MVSc	36	75	111
3.	PhD	3	8	11
4.	Diploma in Dairy Science	41	38	79
5.	Bsc PP&BM	56	33	89

COLLEGE OF DAIRY SCIENCE AND TECHNOLOGY MANNUTHY, THRISSUR



OVERVIEW

College of Dairy Science and Technology, Mannuthy have been instrumental in contributing quality manpower to the dairy and allied industries in India and abroad for last twenty five years. The college witnessed its dream of an independent building as Dr. Verghese Kurien Institute of Dairy and Food Technology (VKIDFT) amidst the celebration of its successful completion of 25 years in 2019. The Institute offers a four year graduate professional program in B.Tech Dairy Technology and Post graduate and Doctoral programs in M.Tech Dairy Technology, Dairy Chemistry and Dairy Microbiology. Various academic activities of the college are harnessed through the seven different departments namely Dairy Technology, Dairy Engineering, Dairy Microbiology, Dairy Chemistry, Dairy Business Management, Dairy Husbandry and Dairy Extension in terms of Milk Production, Processing and Marketing. The course curricula for B. Tech (Dairy Technology), is prepared as a unique job oriented degree programme which leads to a total development of graduates and make them capable to face varied situations in their field of work. Additionally, the graduates get acquainted with various facts of professionally managed industries which include production management, raw material purchases, personnel management, sales and marketing by virtue of industrial in-plant training. The Annual Arts Fest, Intercollegiate meets, Students' Union Activities through various clubs, NSS and NCC units, seminars, debates, quiz, etc add colour to the campus life. The aim of the Institute is to provide quality education of the highest standard in the field of Dairy Science and Technology to cater the need of Dairy professionals in the field of Dairy and Food processing in the country.

ACADEMICS

i. Admission Procedure

The college is offering four year professional B.Tech Programme (4 years), M.Tech (2 years) in Dairy Microbiology, Dairy Chemistry and Dairy Technology and PhD in Dairy Microbiology, Dairy Chemistry and Dairy Technology. Candidates admitted to B. Tech (DSc. & Tech.)

programme are selected through the Common Engineering Entrance Examination conducted by Govt. of Kerala. The candidates who have passed the Higher Secondary Examination, Kerala or examinations recognized as equivalent thereto, with minimum 50% marks in Mathematics separately, and 50% marks in Mathematics, Physics and Chemistry put together are eligible for admission. The college also admits students from ICAR quota for the UG programme. The admission to M. Tech and PhD programmes is done through the Entrance examination conducted by the University. One seat in the M. Tech course is earmarked for student admitted under the Senior Residency programme.

ii. Courses Offered

Sl. No.	Title of the Programme	Level	Duration (Yrs)	Year of Starting	Sanctioned annual intake
1	B.Tech (DSc.&Tech.)	UG	4	1993	40
2	M.Tech (DT)	PG	2	2012	2 regular + 1resident
3	M.Tech (DC)	PG	2	2017	2 regular + 1resident
4	M.Tech (DM)	PG	2	2017	2 regular + 1resident
5	PhD (DT)		3	2019	1
6	PhD (DM)		3	2019	1
7	PhD (DC)		3	2019	1

iii. Course Curriculum

UG programme - Department-Wise Distribution of Courses for B.Tech (DSc. & Tech) degree programme

No.	Name of the Department	Credit Hours
1	Dairy Technology	33 (21+12)
2	Dairy Engineering	34 (21+13)
3	Dairy Business Management Dairy Extension & Dairy Husbandry	27 (20+7)
4	Dairy Microbiology	17 (11+6)
5	Dairy Chemistry	17 (11+6)
	Total	128

Non-Credit Courses			
No.	Catalogue No. of course	Name of the course	Credit Hours
1	SREV 1201	Students READY Exposure Visit I -7 days	5 (0+5) *
2	SREV 2201	Student READY Exposure Visit – II -23 days	5 (0+5) *
3	DT 4112	Student READY In-Plant Training	20(0+20)
4	DT 4113	Student READY experiential	10(0+10)

		Learning Module	
		Total	40 (0 + 40)

* - Non credit course (not included in the credit load)

** - Non credit optional course (not included in the credit load)

Total Class room credits (upto VIIth semester) = 128

Total credits for work experience = 30

Total credit load (excluding non credit courses) = 128

Total credits for Non credit courses = 40

PG programme

M.Tech (Dairy Technology, Microbiology and Chemistry) Course Structure - at a Glance

Major	20
Minor	09
Supporting	05
Seminar	01
Research	20
Total Credits	55

+Non credit compulsory courses – 06

PhD programme

PhD (Dairy Technology and Microbiology) Course Structure - at a Glance

Major	17
Minor & Supporting	11
Seminar	02
Research	45
Total Credits	75

+Non credit compulsory courses – 04, if not taken for masters' programm

iv. Student Profile

Total Student Strength	152
UG Student Strength (2020-2021)	133
PG Student Strength (2020-2021)	14
Dairy Technology	3+1
Dairy Microbiology	4+1
Dairy Chemistry	4+1
PhD Student Strength (2020-2021)	5

Dairy Technology	2
Dairy Microbiology	2
Dairy Chemistry	1

Student Details	2020-2021	
	Male	Female
UG		
Students admitted	18	19
PG		
Students admitted	3	5
PhD		
Students admitted	1	2

STUDENT SCHOLARSHIPS & GRANTS

Students at College of Dairy Science and Technology receives various scholarships during their degree programme

1. KVASU Merit cum Means (yearly)

Sl. No.	Name of the Student	Course	Amount
1	Rasha V P	B. Tech	20000/-
2	Sreelakshmi O S	B. Tech	20000/-
3	Devika Sivan	B. Tech	20000/-
4	Fathimath Shahna Nesli	B. Tech	20000/-
5	Muhammed Midlaj A B	B. Tech	20000/-
6	Swathi Priya T R	B. Tech	20000/-
7	Haritha A	B. Tech	20000/-

2. KVASU PG Scholarship (monthly)

Sl. No.	Name of the Student	Course	Amount
1	Sana Jose K	M. Tech	Rs.4000/
2	Mohammed Arshath	M. Tech	Rs.4000/
3	Haritha C	M. Tech	Rs.4000/
4	Aswathy M R	M. Tech	Rs.4000/
5	Anne Mary Catherine	M. Tech	Rs.4000/
6	Sreevishnu N T	M. Tech	Rs.4000/

3. KVASU Merit Scholarship (per Semester)

Sl. No.	Name of the Student	Course	Amount
1	Sruthi V	B. Tech	1500/-
2	Ersha Mohan	B. Tech	20000/-
3	Sukritha A K	B. Tech	1500/-
4	Aiswarya Velekat Santhosh	B. Tech	1500/-
5	Amrutha S	B. Tech	1500/-
6	Angela Joseph B	B. Tech	1500/-
7	Akshaya K Sudheer	B. Tech	1500/-
8	Athila K Ummer	B. Tech	1500/-
9	Aswathi S	B. Tech	1500/-
10	Amritha P	B. Tech	1500/-
11	Arya satheesan	B. Tech	1500/-

FACULTY PROFILE

Sl No	Department	Present Status				
		Prof	Asso. Prof	Asst. Prof.	TA	Total
1	Dairy Technology	1	0	3 (1 AP –Deputation)	7	11
2	Dairy Engineering	1	0	1 (AP – KVASU Dairy Plant)	4	6
3	Dairy Chemistry	0	0	3	3	6
4	Dairy Microbiology	1	0	2	2	5
5	Dairy Husbandry	0	0	1	0	1
6	Dairy Business Management	0	0	0	4	4
7	Dairy Extension	0	0	1	0	1
8	Physical Education	0	0	1	0	1
	Total	2	0	12	20	34

Administrative Status

Category	Sanctioned	Permanent	Temporary	Vacant	Total	Remarks
Administrative Officer	1	1	NIL	NIL	1	
Section Officers	2	2	NIL	NIL	2	
Office superintendent(HG)	1	1	NIL	NIL	1	
Office superintendent	1	1	NIL	NIL	1	
Assistants	5	5	NIL	NIL	5	
Computer Assistant	1	NIL	1	NIL	1	
Clerical Assistant	3	3	NIL	NIL	3	
LDV Driver	1	NIL	1	NIL	1	
Class IV	5	2	3	NIL	5	
Reference officer	1	1	NIL	NIL	1	
Assistant Librarian	1	NIL	NIL		0	
TOTAL	22	16	5	NIL	21	

COLLEGE OF DAIRY SCIENCE AND TECHNOLOGY, MANNUTHY**DEAN Dr. S. N. RAJAKUMAR Ph: 9495882953****E mail: deancdstmtv@gmail.com, rajakumar@kvasu.ac.in**

Sl No	DEPARTMENT	NAME	DESIGNATION	Contact No.	E mail ID
I	DAIRY TECHNOLOGY				
1	DAIRY TECHNOLOGY	Dr. S. N. RAJAKUMAR	HEAD KVASU DAIRY PLANT	9495882953	rajakumar@kvasu.ac.in nageshrajakumar@yahoo.co.in
2	DAIRY TECHNOLOGY	Ms. DIVYA K B	Assistant Professor	9495796738	kbdivya2002@gmail.com
3	DAIRY TECHNOLOGY	Ms. RASHMI K.G	Assistant Professor (Deputation)	9895245661	rashmikg85@gmail.com
4	DAIRY TECHNOLOGY	Ms. BEENA R L	Assistant Professor (Deputation)	9947367580	beenarl@kvasu.ac.in
II	DAIRY ENGINEERING				
5	DAIRY ENGINEERING	Dr. P SUDHEER BABU	HEAD	9447331231	sudheer@kvasu.co.in
6	DAIRY ENGINEERING	Er. ASWIN S WARRIER	Assistant Professor Kvasu Dairy Plant	7559067959	aswinswarrier@kvasu.ac.in
III	DAIRY MICROBIOLOGY				
7	DAIRY MICRO BIOLOGY	Dr. A K BEENA	HEAD	9446293686	akbeena@kvasu.ac.in
8	DAIRY MICRO BIOLOGY	Dr. LIJIMOL JAMES	Assistant Professor	9567086007	lijimoljames@kvasu.ac.in ligil1@rediffmail.com
9	DAIRY MICRO BIOLOGY	Dr. APARNA. SUDHAKARAN. V	Assistant Professor	7558067959	aparna@kvasu.ac.in aparna.asv@gmail.com
IV	DAIRY CHEMISTRY				
10	DAIRY CHEMISTRY	Dr. DIVYA M P	Assistant Professor	9895424209	divya@kvasu.ac.in
11	DAIRY	Ms. INDU B	Assistant	9400503677	indubthayyil

	CHEMISTRY		Professor		@gmail.com
12	DAIRY CHEMISTRY	MS. SMITHA J LUKOSE	Assistant Professor	9495866742	smitha.lukose@kvasu.ac.in
V	DAIRY HUSBANDRY				
13	DAIRY HUSBANDRY	Dr. C.T SATHIAN	Professor & Head (I/c)	9495039707	ctsathian@gmail.com
14	DAIRY HUSBANDRY	Dr. YANCY MARY ISSAC	Assistant Professor	9440027590	dryancymaryissac@gmail.com
VI	DAIRY EXTENSION				
15	DAIRY EXTENSION	Mr. SHYAM SURAJ S.R	Assistant Professor	9496447537	shyamsura@gmail.com
VII	PHYSICAL EDUCATION				
16	PHYSICAL EDUCATION	Dr. JOSE MATHEW	Assistant Professor	9448743373	josemathew@kvasu.ac.in

Faculty Improvement Programme

a) Deputation of Scientists for Seminars/ Workshops/ Symposia/ training /summer school/winter school/ short course/ higher studies/ Webinars attended by faculty

Name & Designation	Name of event	Venue	Date
Dr. Aparna Sudhakaran V , Assistant Professor, Dairy Microbiology Er. Aswin S Warriar , Assistant Professor, Dairy Engineering	Training on MOOC on teaching from home with IT tools conducted by Center for Agricultural Information and communication Technology, Sardar Krushinagar Dantiwada Agricultural University Gujarat		23/04/2020 to 30/04/2020
Ms. Beena R.L , Assistant Professor (on deputation for Ph.D), Dairy Technology	MOOC on Teaching from home with IT tools conducted by SardarkrushinagarDantiwada Agricultural University, Gujarat	On-line certificate course	23/04/2020 to 01/05/2020
Dr. A.K Beena , Professor& Head, Dairy Microbiology Dr. Aparna Sudhakaran V , Assistant Professor, Dairy Microbiology Er. Aswin S	Training on MOOC on Psychology of learning organized by ICAR-NAARM		01/05/2020 to 15/05/2020

Warrier , Assistant Professor, Dairy Engineering			
Dr. Jose Mathew , Assistant Professor, Physical Education	Faculty Development Programme on Prerana- New Warriors in the New Normal World conducted by M.E.S Institute of Management, Rajajinagar, Bangalore, Karnataka		05/05/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	National Webinar on Nero-Linguistic Programming Techniques for Enhancing Teaching Effectiveness conducted by NITTE Dr. NSAM First Grade College, Bangalore , Karnataka		08/05/2020
Dr. P Sudheer Babu , Dean, CDST	Inaugurated the webinar – online lecture series conducted in association with Indian Dairy Association in association with World Milk Day celebrations		09/05/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	National Webinar on Effects of Covid-19 Pandemic on Biodiversity and Human Health conducted by Government First Grade College, Kolar, Karnataka		09/05/2020
Ms. Rashmi K.G , Assistant Professor (DEO on Deputation), Dairy Technology	Participated in the Webinar series on “Steering Dairy Sector to Face Challenges” By IDA (Kerala chapter) and CDST, Mannuthy		May 2020
Dr. S. N. Rajakumar , Professor & Head, Dairy Technology Dr. A.K Beena , Professor & Head, Dairy Microbiology Dr. Ligimol James , Assistant Professor, Dairy Microbiology Dr. Aparna Sudhakaran V , Assistant Professor, Dairy Microbiology Er. Aswin S Warrier , Assistant Professor, Dairy Engineering	Online lecture series organized by IDA (Kerala chapter)		09/05/2020, 16/05/2020, 23/05/2020 & 30/05/2020

Ms. Smitha J Lukose, Assistant Professor (Working Arrangement), Dairy Chemistry Ms. Divya K B, Assistant Professor, Dairy Technology			
Dr. Divya M P, Assistant Professor, Dairy Chemistry	Online lecture series (Second & Fourth) organized by IDA (Kerala chapter)		16/05/2020, & 30/05/2020
Ms. Smitha J Lukose, Assistant Professor (Working Arrangement), Dairy Chemistry	Free Webcast- Online Teaching – learning and Online assessment demo conducted by <i>InPods Ed- techon</i> 13/05/2020		13/05/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology Dr. Ligimol James, Assistant Professor, Dairy Microbiology	Webinar on Food, Nutrition and Hygiene - Keys to Proactive Health Organised by B.Voc. Food Processing and Quality Control, Stella Maris College (Autonomous), Chennai		14/05/2020
Ms. Divya K B, Assistant Professor, Dairy Technology Dr. Jose Mathew, Assistant Professor, Physical Education	Two Weeks Faculty development programme on “Managing Online Classes and co-operating MOOCS:2.0”		18/05/2020 to 03/06/2020
Dr. Ligimol James, Assistant Professor, Dairy Microbiology	Webinar on “ICT Tools for the Resilient Agriculture Education in India” Organized by ICAR		21/05/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology Dr. Aparna Sudhakaran V, Assistant Professor, Dairy Microbiology Er. Aswin S Warrier, Assistant Professor, Dairy Engineering	Webinar Preparing for online teaching presented by Dr. Muralee Thummarukudy, Operations Manager Crisis Management Branch, UNEP organized by Sacred Heart College Kochi		21/05/2020

Dr. Aparna Sudhakaran V , Assistant Professor, Dairy Microbiology	Online course on Zotero Training organized by Sree Neelakanta Govt Sanskrit College Pattambi		21/05/2020 to 30/05/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	International Yoga Conference on Yoga for All conducted by Utshi Yoga Foundation, Bangalore		21/05/2020
Ms. Beena R.L , Assistant Professor (on deputation for Ph.D), Dairy Technology	On-line training programme on Reference management using free software Zotero conducted by Government Sanskrit college, Pattambi	On-line certificate training program (10 days)	22/05/2020 to 31/05/2020
Dr. A.K Beena , Professor& Head, Dairy Microbiology	Webinar on 'Regulatory aspects for food industry' organized by National agriculture and Food Analysis Research Institute, MFPI, GoI and NABARD		24/05/2020
Ms. Smitha J Lukose , Assistant Professor (Working Arrangement), Dairy Chemistry	Lecture on "Doing Science with Roots Intact" by Padma Shri. Prof. T Pradeep, IIT Madras, of the webinar series "Connecting Inquisitive Minds During Lock- down" jointly organized by Research & PG Department of Chemistry and IQAC, St. Thomas College (Autonomous), Thrissur, Kerala		25/05/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	National Webinar on Yoga For All- Yoga For Life conducted by KLE Society's Raja Lakhamagouda Science Institute , Belgavi, India		27/05/2020
Dr. A.K Beena , Professor& Head, Dairy Microbiology Dr. Ligimol James , Assistant Professor, Dairy Microbiology Dr. Aparna Sudhakaran V , Assistant Professor, Dairy Microbiology	Webinar on- "Standard Practices in Harvesting, Handling and Marketing of Meat, Poultry and Fish" organized by Meat Technology Unit, KVASU in association with Commissionerate of Food Safety Kerala, ICAR-Central Institute of Fisheries Technology (CIFT) and Association of Meat Scientists and Technologists		28/05/2020
Dr. Divya M P , Assistant Professor, Dairy Chemistry	Webinar on "Understanding Spectrometric Measurements" organized by Hanna Equipments (India) Pvt. Ltd		28/05/2020

Dr. Jose Mathew , Assistant Professor, Physical Education	International Webinar on Sports Medicine conducted by International Federation of Physical Education, Fitness and Sports Science Association and Sports Science Faculty, Yogyakarta State University, Indonesia		28/05/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	Orientation on Google Tools for Effective Teaching Methodologies conducted by BES, College, Jayanagar, Bangalore		29/05/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	National Webinar on Yoga and Wellness conducted by Government First Grade College, Kolar, Karnataka		30/05/2020
Ms. Beena R.L , Assistant Professor (on deputation for Ph.D), Dairy Technology	Webinar series on“Steering dairy sector to face challenges” conducted by IDA Kerala chapter and CDST Mannuthy	Webinar series	May, 2020
Dr. Divya M P , Assistant Professor, Dairy Chemistry	Webinar Series “Towards Outcome-Based Agri-Biotech Education & Research: A Roadmap” During June, 2020 conducted by DBT-NECAB, Assam Agricultural University, Jorhat, Assam, INDIA		June,2020
Dr. Divya M P , Assistant Professor, Dairy Chemistry	National Webinar on “Post COVID-19 Agribusiness: Challenges and Opportunities” organized by the Junagadh Agricultural University, Junagadh during June 13-14, 2020		13/06/2020 to 14/06/2020
Dr. A.K Beena , Professor& Head, Dairy Microbiology	Online course on research methodology organized by Tamilnadu		03/06/2020 to 09/06/2020
Ms. Beena R.L , Assistant Professor (on deputation for Ph.D), Dairy Technology	Online course on research methodology organized by Tamilnadu		03/06/2020 to 09/06/2020
Dr. Jose Mathew , Assistant Professor, Physical Education	International Multidisciplinary Webinar on Stay Physically Active and Away From Stress During Lock Down conducted by S.E.S College, Sreekandapuram, Kannur, Kerala		06/06/2020

Dr. A.K Beena, Professor& Head, Dairy Microbiology Dr. Ligimol James, Assistant Professor, Dairy Microbiology Dr. Aparna Sudhakaran V, Assistant Professor, Dairy Microbiology	Short term online training programme on ‘Moodle Based Learning Management System’ organized by the Internal Quality Assurance Cell and LMS monitoring committee of Sree Neelakanta Govt. Sanskrit College Pattambi		07/06/2020 to 21/06/2020
Dr. Jose Mathew, Assistant Professor, Physical Education	Faculty Development Programme on Mental Health and Physical Well-Being During Covide-19 conducted by Government of Karnataka, Government First Grade College, Channapatna, Bangalore, Karnataka		08/06/2020 to 15/06/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology	Supply chain quality management in food industry during COVID-19		16/06/2020
Dr. Jose Mathew, Assistant Professor, Physical Education	National Webinar on Online Education Verses Conventional Education During Covid 19 conducted by Indo Global Institute of Management, Training and Research, New Delhi		18/06/2020 to 19/06/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology	National webinar on Pandemics and Food Security in the new world order organized by TANUVAS and AMST, Chennai		19/06/2020 & 20/06/2020
Dr. Jose Mathew, Assistant Professor, Physical Education	National Webinar on 6 days Multidisciplinary Webinar conducted by Government First Grade College, Kolar Karnataka		22/06/2020 to 27/06/2020
Ms. Divya K B, Assistant Professor, Dairy Technology	Webinar on E-Conference on "Role of Fermented food in pandemic era"organized by Lund University, SASNET-FF and AAU		25/06/2020
Dr. Aparna Sudhakaran V, Assistant Professor, Dairy Microbiology	Webinar on E-Conference on "Role of Fermented food in pandemic era"organized by Lund University, SASNET-FF and AAU		25/06/2020

Ms. Divya K B, Assistant Professor, Dairy Technology	Online Induction/Orientation Training Programme for Faculty in Universities/Colleges/ Institutes of Higher Learning		26/06/2020 to 24/07/2020
Dr. A.K Beena, Professor & Head, Dairy Microbiology	International webinar on Sports nutrition and Immunity-The role of dairy foods		29/06/2020 to 30/06/2020
Dr. Jose Mathew, Assistant Professor, Physical Education	Two Days International Webinar on Sports Nutrition and Immunity, the Role of Dairy Foods and other Sports Drinks conducted by St. Aloysius College, Mangalore, Karnataka		29/06/2020 to 30/06/2020
Ms. Beena R.L, Assistant Professor (on deputation for Ph.D), Dairy Technology	MOOC on Designing E-learning content conducted by ICAR-NAARM, Hyderabad	On-line certificate FDP programme (1 month)	01/07/2020 to 31/07/2020
Dr. Ligimol James, Assistant Professor, Dairy Microbiology	Workshop on Open Source Data Analysis Software and Graphical representation of Data Organized by IT Club and IQAC of NSS Training College, Ottapalam		04/07/2020
Dr. A.K Beena, Professor & Head, Dairy Microbiology Dr. Ligimol James, Assistant Professor, Dairy Microbiology Dr. Aparna Sudhakaran V, Assistant Professor, Dairy Microbiology	International Webinar on 'Human-Animal- Environment Inter face: Recent Approaches for Containing the Global Zoonotic Burden' organized by Indian Veterinary Association, CVAS, Mannuthy, Meat Technology Unit, KVASU and AMST, India		06/07/2020 to 08/07/2020
Dr. Ligimol James, Assistant Professor, Dairy Microbiology	International Webinar on 'Empowerment through effective communication' organized by Department of English, St. Mary's College, Thrissur.		14/07/2020
Ms. Divya K B, Assistant Professor, Dairy Technology	Webinar on Entrepreneurial Opportunities in Food Processing Sector		15/07/2020

Ms. Divya K B, Assistant Professor, Dairy Technology	166 th orientation programme of UGC-HRDC, University of Kerala	University of Kerala, Kariavattom, Thiruvananthapuram	06/08/2020 to 17/08/2020
Dr. Divya M P, Assistant Professor, Dairy Chemistry	Two Day International webinar organized by Womens study Centre, CUSAT,Kerala		06/08/2020 to 07/08/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology Dr. Ligimol James, AssistantProfessor, Dairy Microbiology	Webinar on “New Education Policy & Higher Education Sector, Keralam - Prospects, Problems & Preparedness” Organized by IQAC and Heartian Beavers (Tech Innoadapt Team) Sacred Heart College		07/08/2020
Dr. Divya M P, Assistant Professor, Dairy Chemistry	Virtual webinar organized by Department of Food Technology, Agilent Technologies (Pvt) Ltd.	Virtual webinar	14/08/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology Dr. Ligimol James, AssistantProfessor, Dairy Microbiology	Webinar on ‘Student mentoring in Universities and Colleges’ conducted by Psychological Counselling Centre, School of Behavioural Sciences, Mahatma Gandhi University		22/08/2020
Dr. Ligimol James, AssistantProfessor, Dairy Microbiology	International E-Conference on ‘Effect of COVID-19 Pandemic on Agriculture and Allied Sciences-ECPAAS-organized by Society For Science and Nature, Lucknow.	Online	23/08/2020 to 24/08/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology	National Webinar Series 2020 on “Recent Advances In Dairy Process Engineering” held from organized by College of Food and Dairy Technology (CFDT), Tamil Nadu Veterinary and Animal Sciences University, Chennai		24/08/2020 to 28/08/2020
Dr. A.K Beena, Professor& Head, Dairy Microbiology Dr. Ligimol James, AssistantProfessor, Dairy Microbiology	Attended the Virtual Sensitization Programme on "Knowledge Management in Networked Digital Environment"		27/08/2020

Dr. Ligimol James, Assistant Professor, Dairy Microbiology	Attended the live session on ‘Patent protection for innovation driven educational institutions’ organized by Turnip innovations with The Frontiers Legal	Online	29/08/2020
Dr. Ligimol James, Assistant Professor, Dairy Microbiology	Workshop on Intellectual Property Rights in Agricultural Research & Education in India organized by National Agricultural Higher Education Project (NAHEP) and the Intellectual Property and Technology Management Unit (IPTMU) ICAR	Virtual	12/09/2020 to 28/09/2020
Ms. Beena R.L, Assistant Professor (on deputation for Ph.D), Dairy Technology	Speaker for the webinar on Fortified foods- a new way for healthy life conducted by AFSTI (Kollam chapter) Topic- Milk fortification for good health	Webinar	20/09/2020
Dr. A.K Beena, Professor & Head, Dairy Microbiology	Online short term training programme for faculty on ‘Changing paradigms on food security and food sufficiency’ organized by College of Food and Dairy Technology, Koduveli, Chennai	Online	19/10/2020 to 24/10/2020
Dr. Aparna Sudhakaran V, Assistant Professor, Dairy Microbiology	Six Days Online Short Term Training Programme on “Changing Paradigms on Food Security and Food Sufficiency” organized by College of Food and Dairy Technology, Koduveli, Chennai	Online	14/12/2020 to 19/12/2020
Dr. Ligimol James, Assistant Professor, Dairy Microbiology	‘Awareness workshop –NIRF INDIA RANKINGS-2021 For Higher Educational Institutions’ organized by Institute for Academic Excellence, Hyderabad and Collegiate Education and Technical Education Department, Govt. of Telangana	Online Mode	18/01/2021 to 19/01/
Ms. Divya K B, Assistant Professor (on deputation for Ph.D)	3days training programme on “ Modern Analytical Techniques used in Veterinary and Animals sciences”	Central Instrumentation on Laboratory, COVAS, Mannuthy	04/03/2021- 06/03/2021
Beena R.L, Assistant Professor (on deputation for Ph.D)	3days training programme on “ Research Techniques used in Veterinary and Applied sciences”	Central Instrumentation on Laboratory, COVAS	04/03/2021- 06/03/2021

		,Mannuthy	
Beena R.L Assistant Professor (on deputation for Ph.D)	3days Hands on training programme on” Lab animals as experimental models	Dept. of Pharmacology,COVAS ,Mannuthy	15/03/2021- 19/03/2021
Beena R.L Assistant Professor (on deputation for Ph.D)	Delivered a class on “ Scope and importance of Milk Processing “	VHSE ,Alanallur	24/01/2021
Beena R.L Assistant Professor (on deputation for Ph.D)	Chaired a section on “ International Online Congress on Membranes and assisted process”	International Online Congress,Kot tayam	12/02/2021- 14/02/2021
Beena R.L Assistant Professor (on deputation for Ph.D)	Paper presentation on “ Ultrafiltration in shrikhand manufacturing”	International Online Congress,Kot tayam	12/02/2021- 14/02/2021
Beena R.L Assistant Professor (on deputation for Ph.D)	Delivered a talk on “ Chemistry of milk and milk products in connection with Chemitalks”	PG and research dept.of Chemistry ,MES College ,MAMPAD	02/01/2021
Muhammed Riyas P Teaching assistant	Participated in webinar conducted by IDA Kerala chapter in connection with Dr.Verghese Kurien birth centenary celebrations	Webinar	14/02/2021
Amrutha T A (Teaching assistant)	Webinar on “Artificial Intelligence in Agriculture” organized by the Centre for Agricultural Market Intelligence, AAU, Anand	Webinar	02/02/2021
Er. Aswin S Warrier ,Assistant Professor, Dairy Engineering	International Conference on IPR	Santhigiri College of Computer Sciences, Vazhithala	20.02.2021

Er. Aswin S Warriar , Assistant Professor, Dairy Engineering	One day virtual training program on Energy Efficiency in Dairy Sector	Confederation of Indian Industry	18.02.2021
Er. Aswin S Warriar , Assistant Professor, Dairy Engineering	Webinar on ‘Agriculture Research through Knowledge Discovery’	EBSCO Information Services	23.02.2021
Er. Aswin S Warriar , Assistant Professor, Dairy Engineering	Online programme on fitness, yoga and self defence	Veterinary College and Research Institute (TANUVAS), Orathanadu	28.01.2021 - 29.01.2021
Er. Aswin S Warriar , Assistant Professor, Dairy Engineering	International webinar on Dairy Products for Health and Wealth	SMC College of Dairy Science, AAU, Anand	02.01.2021
Dr. Divya M P , Assistant Professor, Dairy Chemistry	International Conference on “Intellectual Property Rights”, organized by Santhigiri College of Computer sciences, Vazhithala	online	20/02/2021
Dr. Divya M P , Assistant Professor, Dairy Chemistry	Online programme on fitness ,Yoga and self defence for students and faculty of Veterinary and Agricultural universities and All India sports e-Quiz Competition organized by TANUVAS, Orathanadu		28/01/2021- 29/01/2021
Ms. Smitha J Lukose , Assistant Professor (Working Arrangement), Dairy Chemistry	Hands on training on “lab animals as experimental Models”	Department of Veterinary Pharmacology and Toxicology, College of Veterinary and Animal Sciences, KVASU	15/03/2021- 19/03/2021
Ms. Smitha J Lukose , Assistant Professor (Working Arrangement), Dairy Chemistry	Training programme on “Modern Analytical Techniques used in Veterinary and Allied Sciences”	CIL, KVASU, Mannuthy	04/03/2021- 06/03/2021

b) Details of Seminars/ Workshops/ Symposia/Trainings conducted at the College:

1. Online Lecture Series in connection with World Milk Day Celebrations

Indian Dairy Association (Kerala Chapter) in association with CDST Mannuthy organized an Online Lecture Series on 09/05/2020, 16/05/2020, 23/05/2020 & 30/05/2020, in connection with World Milk Day Celebrations

2.Training on Starter Culture Technology:

Department of Dairy Microbiology offered a training on Starter Culture technology to an employee of Eden Food Products, Kunnankulam from 8th to 9th June 2020

3. Farmers day Celebrations:

In connection with the Farmers day which falls on Chingam 1st, also marking the beginning of Malayalam year, a three day online webinar series was organized in association with IDA, Kerala Chapter

4. One day online training programme on yoghurt preparation:

A one day online training programme on yoghurt preparation was organized in association with IDA, Kerala Chapter on September 9th, 2020 through Google meet platform

5.National Milk Day 2020:

Celebrated National Milk Day 2020 in a befitting manner by organizing various programmes in memory of Dr.Verghese Kurien, the Milk Man of India, on his 99th Birthday in association with IDA, Kerala Chapter

6. As part of the **birth centenary year celebration of Dr.Verghese Kurien**, a webinar series was organized in association with IDA, Kerala Chapter

7. Organized a webinar series in association with IDA, Kerala Chapter on 14/03/2021, as part of the birth centenary year celebration of Dr. Verghese Kurien

c) Awards/ Scholarships/Recognition to staff:

1.**Dr. Aparna Sudhakaran V**, Assistant Professor, Department of Dairy Microbiology was the Programme convenor for the World Milk Day Celebrations in association with Indian Dairy Association – Kerala chapter conducted during the month of May- 09/05/2020,16/05/2020, 23/05/2020 & 30/05/2020

2.**Dr. Aparna Sudhakaran V**, Assistant Professor, Department of Dairy Microbiology Won First prize in the Best Article Awards on Zoonoses in the International webinar on “Human-Animal- Environment Interface: Recent Approaches for containing the Global Zoonotic Burden’ organized by Indian Veterinary Association, CVAS Mannuthy

3. **Dr.Ligimol James**, Assistant Professor, Department of Dairy Microbiology recognized as Subject Expert in the translation of Swayam and Swayamprabha Courses in Malayalam language- May 2020

4. **Dr. A.K.Beena**, Professor & Head, Department of Dairy Microbiology- Member , Scrutiny Committee, KPSC- 2020

5. **Dr. Aparna Sudhakaran V.**, received certificate of appreciation from the Vice Chancellor, KVASU for publication of the book ‘Dairy Processing: Advanced Research to Applications’. Springer Singapore

6. **Aswin S Warriar** – Deputed as nodal officer for collaborations with CEDSI

7. **Aswin S Warriar** – Acted as member, committee for preparation of application for Chancellor’s Award 2020

8. **Aswin S Warriar** – Acted as Evaluator for Young Innovator’s Programme by Kerala Development and Innovation Strategic Council

d) Other Details (if any): External Examiner/ Reviewer of the Journal/ Thesis evaluation

i) External Examiner/ Question paper Setter:

1. **Dr. S. N. Rajakumar**, Professor & Head, Department of Dairy Technology- Got selected as external examiner for College of Food and Dairy Technology, Koduvally, Chennai

2. **Ms. Divya K.B**, Assistant Professor, Department of Dairy Technology- Got Selected as an external examiner for M. Tech Scholar from NDRI, Karnal

3. **Ms. Divya K.B**, Assistant Professor, Department of Dairy Technology- Got selected as question paper setter for Kerala PSC

4. **Ms Rashmi K G**, Assistant professor (On deputation), Department of Dairy Technology - Got selected as external examiner for College of Food Technology, Kerala Veterinary and Animal Sciences University

5. **Dr. A.K.Beena**, Professor & Head, Department of Dairy Microbiology - Advisory Committee Member of Post graduate students (Ms. C.R.Rejeesha, Ms. Amrutha) of Department of Community Science, College of Horticulture, Kerala Agricultural University

6. **Dr.Ligimol James**, Assistant Professor, Department of Dairy Microbiology- Examiner for evaluation of answer sheets, College of Food Technology

7. **Ms. Beena R.L**, Assistant Professor (on deputation for Ph.D), Dairy Technology- External Examiner, College of Food Technology

8. **Ms. Beena R.L**, Assistant Professor (on deputation for Ph.D), Dairy Technology-Got selected as question paper setter for Kerala PSC

9. **Aswin S Warriar** – acted as Question paper setter of ‘Food Plant Design and Layout’ for semester final examination in CFT, Thumboormuzhy

10. **Smitha J Lukose**-Question paper setter for the course DC-111 Physical Chemistry of Milk for P V Narasimha Rao Telangana Veterinary University, Rajendranagar, Hyderabad.

11. **Smitha J Lukose**-Question paper setter for the course DC-311 Chemical Quality Assurance for P V Narasimha Rao Telangana Veterinary University, Rajendranagar, Hyderabad

12. **Dr.Divya M.P.** Question paper setter for the course DC-211 Human Nutrition for karnataka veterinary, animal and fisheries sciences university, Bidar Dairy science college, Mahagaon cross, kalaburagi-585316

ii) Reviewer of the Journal:

1. **Dr. A.K.Beena**, Professor & Head, Department of Dairy Microbiology- Journal of Environmental Biology- April 2020

2. **Dr.Ligimol James**, Assistant Professor, Department of Dairy Microbiology- Journal of Packaging Technology and Research, Journal of Dairy Research- June, July 2020

3. **Aswin S Warriar** – Reviewed 1 manuscript in Journal of the Institution of Engineers (India): Series A, published by Springer Journals

RESEARCH PROGRAMMES

a) Major research achievements (highlights) :

Department of Dairy Chemistry

Stability of different cooking oils on high heating were studied and formulated inference based on the study

b) Details of research projects:

i) Finished Projects:

Name of Project	Funding Agency	Name of PI	Name of Co-PI	Outlay (Rs.)
Development of casein based edible coating incorporated with essential oil for paneer	Student project by KSCSTE	Ms.Divya K B		10000/-

ii) Ongoing projects:

Name of Project	Funding Agency	Name of PI	Name of Co-PI	Outlay (Rs.) lakhs
Value Addition for Skim Milk through Product Diversification	State goverment	Dr.S N Rajakumar	Mrs.Divya K B	6.5 lakh
Research on Fermented and Functional Dairy Foods	State goverment	Dr.S N Rajakumar	Mrs.Divya K B	5 lakh
Strengthening of Food Technology Laboratory in VKIDFT Building	State goverment	Dr.S N Rajakumar	Mrs.Divya K B	13 lakhs
Strengthening of Dairy Technology PG Laboratory in VKIDFT Building	State goverment	Dr.S N Rajakumar	Mrs.Divya K B	8 lakhs
Strengthening of Dairy Technology UG Laboratory in VKIDFT Building	State goverment	Dr.S N Rajakumar		8 lakhs
Development of Herbal Paneer and whey based Diebetic Cookies	State Government	Dr .S N Rajakuamar		3 lakhs
Project title	Funding Agency	PI	Student Investigator	Outlay (Rs.)
Assessment of heat and antibiotic resistance of low temperature growing bacteria isolated from market samples of pasteurized milk	KSCSTE	Dr.Ligimol James	Mr. Vishnu Suresh, Mr. Sree Vishnu Rajmohan T	Rs.10,000

Assessment of biosorption potential of lactic acid bacteria against heavy metal	KSCSTE	Dr. Aparna Sudhakaran V	Ms. Mariya Divanshi A S, Ms. Anne Mary Catherine	Rs.10,000
Development of a probiotic dairy product using Lactic acid bacteria isolated from human milk		Dr. A. K. Beena	Ms. Anne Mary Catherine	Rs.10,000
Carbon dioxide infusion for quality improvement of raw milk		Dr. A. K. Beena	Mr. Sree Vishnu Rajmohan T	Rs.10,000
Revolving fund project for expanding the starter Culture Sales"	KVASU revolving fund	Dr. A. K. Beena	-	0.5
Scaling up of stock of indigenous lactic acid bacteria to assure the supply of proven functional starters for small scale entrepreneurs – <i>Continuation project of 'Development of Starter culture centre'</i>	State Plan	Head , Department of Dairy Microbiology		5.5
Assessment of stress resistance in food grade lactic acid Bacteria- <i>Continuation project of Strategy development to assure safe food for the public by combating microbial threats in the food chain</i>	State Plan	Head , Department of Dairy Microbiology		2.5
Setting up of a laboratory facility for shelf life studies -	State Plan	Head , Department of Dairy		8

<i>Continuation project of Establishment of a food diagnostic facility in the post graduate laboratory of Department of Dairy Microbiology to redress food safety issues</i>		Microbiology		
Development of adulteration test strips for milk	State Plan	Head, Department of Dairy Chemistry		13.5 Lakhs
Strengthening of Post Graduate Laboratory/Testing lab for the Department of Dairy Chemistry at VKIDFT building” RSP/20-21/XIV-37	State Plan	Head,DC		8.0 lakhs

c) Other Details (if any):

i) Project work for Master’s degree M.Tech completed

SI No	Name of the student	Admission No.	Name of project	Department
1	Archana S	2018-MDM-01	Development of Essential Oil incorporated Casein based Edible coating of Paneer	Dairy Technology
2	Aleena K.S.	2018-MDM-02	Extent of degradation of ghee on repeated use as cooking medium	Dairy Chemistry
3	Helna Pious	2017-MDM-08	Effect of incorporation of organogels on physic chemical characteristics of yoghurt	Dairy Chemistry
4	Arya P.R.	2018-MDM-03	Effect of Tea polyphenols on Calcium in Milk	Dairy Chemistry
5	Jithu Rappai	2017-MDM-09	Standardization of Encapsulation Technique for Effective Probiotic Delivery.	Dairy Microbiology
6	Vishnu Suresh	2018-MDM-05	Characterization of pasteurization resistant psychrotrophs of dairy	Dairy Microbiology

			origin	
7	Mariya Divanshi A S	2018-MDM-04	Assessment of bioremediation potential of Lactic Acid Bacteria against heavy metals.	Dairy Microbiology (Submitted on 22/12/2020)

ii) Research projects-External students

SI No	Name of the student	Name of College	Name of project	Department
1	Nusaiba	School of Health Sciences,University of Calicut	Milk based Mayonnaise with reduced fat and added cashewnut to enhance its nutritional and sensory quality	Dairy Chemistry
2	Sayyidath Fathima Safa V	School of Health Sciences,University of Calicut	Effect of added fenugreek and black seed on quality attributes of ghee used as a frying medium	Dairy Chemistry
3	Jyothi P.T	School of Health Sciences,University of Calicut	“Aloe vera incorporated wheydrink with enhanced nutritional properties”	Dairy Chemistry
4	Rameesha parveen	School of Health Sciences,University of Calicut	“Development of a flavored milk with potential health benefits”	Dairy Chemistry
5	Ashik V	Mother Arts and science College, Peruvallur	Effect of adulterants on Milk Composition during heat treatment	Dairy Chemistry
6	Sreejith P	Mother Arts and science College, Peruvallur	Development of Platform tests to detect the presence of inorganic coagulants in Paneer	Dairy Chemistry
7	Najiya P	School of Health Sciences,University of Calicut	Raw Mango Incorporated Whey Drink With Antioxidant and Medicinal Properties.	Dairy Chemistry
8	Rasiya Thasni	School of Health Sciences,University of Calicut	Development of modified peda with enhanced nutritional and fibre	Dairy Chemistry

			content	
9	Six students from College of Indigenous Food Technology Konni) conducted short term projects on following topics during the period 24.11.2020 to 24.12.2020 1. Process Standardisation of preparation of Whey Gelatina using <i>Streptococcus salivarius</i> ssp <i>thermophilus</i> (MS22.07) 2. Process Standardisation of preparation of Custard Quark using <i>Streptococcus salivarius</i> ssp <i>thermophilus</i> (MS22.07)			Dairy Microbiology

iv) Allocation of Accession number to bacterial cultures isolated in Department of Dairy Microbiology

Sl. No.	Sequence deposited	Depositors	NCBI Accession No.
1	16S ribosomal RNA gene partial sequence of <i>Aeromonas caviae</i> strain DMV01	Suresh,V., James,L., Beena, A.K., and Sudhakaran, A.V.	MT071634
2	16S ribosomal RNA gene partial sequence of <i>Staphylococcus arlettae</i> strain DMV02	Suresh,V., James,L., Beena,A.K.,. and Sudhakaran, A.V.	MT158662
3	16S ribosomal RNA gene partial sequence of <i>Moraxella osloensis</i> strain DMV03	Suresh,V., James,L., Beena,A.K.,. and Sudhakaran, A.V.	MT158663
4	16S ribosomal RNA gene partial sequence <i>Carnobacterium maltaromaticum</i> strain DMV05	Suresh,V., James,L., Beena,A.K.,. and Sudhakaran, A.V.	MT158664
5	16S ribosomal RNA gene partial sequence <i>Carnobacterium maltaromaticum</i> strain DMV06	Suresh,V., James,L., Beena,A.K.,. and Sudhakaran, A.V.	MT158665
6	16S ribosomal RNA gene partial sequence of <i>Delftia tsuruhatensis</i> strain DMV04	Suresh,V., James,L., Beena,A.K.,. and Sudhakaran, A.V	MT158670
7	16S ribosomal RNA gene partial sequence of <i>Weissella confusa</i> strain DMM01	Divanshi, A.S., Sudhakaran, A.V., Beena, A.K., James, L. and Ch, A.	MT158671
8	16S ribosomal RNA gene partial sequence of <i>Lactobacillus plantarum</i> strain DMM05	Divanshi, A.S., Sudhakaran, A.V., Beena, A.K., James, L., Ch, and Chandran, A.	MT158675
9	16S ribosomal RNA gene partial sequence of <i>Pediococcus pentosaceus</i> strain DMM02	Divanshi, A.S., Sudhakaran, A.V., Beena, A.K., James, L. and Ch, A.	MT158672

10	16S ribosomal RNA gene partial sequence of <i>Fructobacillus tropaeoli</i> strain DMM03	Divanshi, A.S., Sudhakaran, A.V., Beena, A.K., James, L. and Ch, A.	MT158673
11	16S ribosomal RNA gene partial sequence of <i>Lactobacillus fermentum</i> strain DMM04	Divanshi, A.S., Sudhakaran, A.V., Beena, A.K., James, L., Ch, and Chandran, A.	MT158674

EXTENSION ACTIVITIES

i) Training programmes organized:

- Aswin S Warriar - Organized Training programme on "Familiarizing the operations the operations of Dairy Plant and preparation of Milk Products – 10.02.2021 to 09.03.2021

ii) Training programmes organized: Off Campus:

- Mrs. Divya K B and Mrs. Archana Chadhran delivered class for Women entrepreneurs of Vellangara block panchayath on Capacity Building Training programme conducted by ATMA Thrissur

iv) Details of extension activities of individual scientists (other than above):

- Dairy Technology:** Online classes were conducted for farmers though Facebook live and other online modes by faculty
- Aswin S Warriar – Acted as invited speaker in One-day online seminar on ‘Entrepreneurship in Dairy Industry’ on 17.03.2021, organized by College of Dairy Technology, Udgir, Maharashtra
- Online 2nd Expert interaction class for DPEO students on “Hygienic Standards at Processing” for the students of GVHSS, Ayyanthole, General Education Department, Govt of Kerala taken by Mrs. Smitha J Lukose
- Dr.Divya M.P. conducted Online Expert interaction class for first year DPEO Students at GVHSS Ayyanthole on 23/01/2021

v) Farm Advisory Services

In person	Over telephone	Through letters
17	39	

Supply of starter cultures: 11.425 Ltrs

PUBLICATIONS

a) Scientific Papers:

Sl. No	Title of the Article	Authors	Year	Journal
1	Physico-Chemical Analysis of Calcium Enriched Herbal IceCream	A.K Beena,Mohammed Davuddin Kumar,S.N Rajakumar,Wangdare, S.S. and Ahamed F	2020	Indian Journal Of Dairy Science
2	Herbal dairy supplements: research status and market opportunities in India	Shyam Suraj S.R, & Divya K.B.	(2020)	. Research and Reviews: Journal of Environmental Sciences, 2(2), 1–13. http://doi.org/10.5281/zenodo.4133316
3	Evaluation of sensory quality of paneer with casein based edible coating incorporated with essential oil	Archana S, Divya KB, Rajakumar SN and Aswin S Warriar	2020	The Pharma Innovation Journal 2020; 9(11): 26-28
4	Effect of different coagulants on Textural characteristics of Paneer	Sharath S ,Divya M.P	2020	The Pharma Innovation 9(1) 357-358
5	Oxidative Stability of Sunflower oil on High temperature cooking	Aleena K.S., Divya M.P., Beena A.K., Rachana C.R.,Divya K.B	2020	The Pharma Innovation 9(10) 552-554
6	Probiotic characterization of lactic acid bacteria isolated from human milk	Rappai,J., Beena, A.K., James,L and Aparna S. V.	2020	The Pharma Innovation Journal2020; 9(7): 383-388
7	Isolation and characterization of a lactic acid bacterium from infant Feces	Mariya Divanshi AS, Aparna S. V, Beena, A.K., James,L and Aysha C.H.	2020	The Pharma Innovation, 2020 9(11): 70-74
8	Physico chemical characteristics of Skim milk yoghurt incorporated with sunflower wax canola oil Organogel	Helna Pious, Dr. Divya M.P. Dr. P Sudheer Babu, Dr. A K Beena, Dr. Rachana C R	2020	Pharma Innovation, 2020 9(10): 555-556

b) Posters & Oral Presentations:

Sl. No	Name of faculty	Details
1	Dr. Aparna Sudhakaran V, Assistant Professor, Dairy Microbiology	E Poster <i>Yersenia enterocolitica</i> – An emerging Psychrotrophic food borne pathogen presented on Zoonoses in the International webinar on “Human- Animal- Environment Interface: Recent Approaches for containing the Global Zoonotic Burden’ organized by Indian Veterinary Association, CVAS Mannuthy

c) Abstracts presented in national and international seminars:

Sl. No	Article	Authors	Year/ Date	Details
1	Lactic acid bacteria as biotechnological tools: Assessment of probiotic attributes of lactic acid bacterial isolates from fermented VADA batter	Sumayya P.K., <u>James</u> , L., Beena A. K. And Aparna S.V.	23 rd , 24 th August, 2020	International e-conference ON’ “Effect of COVID Pandemic on Agriculture and Allied Sciences (ECPAAS-2020 organized by Society For Science and Nature

d) List of popular articles with name of the author and other details:

Sl. No.	Title	Author	Year	Details
1	Parichayappedam Greek yogurttine	James. L	2020	Smaranika, Samsthana Ksheerasangamam

e)Books : Contributed in the book

- Minj, J., **Aparna S V** & Kumari, A. (2020). Dairy Processing: Advanced Research to Applications. Springer Singapore
- **Beena A K, Ligimol James and Aparna S V.** 2021. Food Safety in Milk Supply Chain. In: Sudheer K.P. and Bindu Lakshmanan (ed.) Safety and Quality Assurance In Food Supply Chain: Emerging Technologies and Challenges. CRC Press

Book chapters

- **Aparna S V** & Anand, S. (2020). Approaches for Detection of Dairy Microorganisms: An Update. In Dairy Processing: Advanced Research to Applications (pp. 217-241). Springer, Singapore.
- **Aparna S V** & Minj, J. (2020). Basic Facts About Dairy Processing and Technologies. In Dairy Processing: Advanced Research to Applications (pp. 1-24). Springer, Singapore.
- Kumari, A., Solanki, H., & **Aparna S V** (2020). Novel Milk and Milk Products: Consumer Perceptions. In Dairy Processing: Advanced Research to Applications (pp. 283-299). Springer, Singapore.
- **Warrier, A. S.** (2020). . Advances in Dairy Engineering Research Across the Globe In Dairy Processing: Advanced Research to Applications (pp. 63-85). Springer, Singapore

STUDENTS ACHIEVEMENTS

- Vishnupriya K A of 2018 admission secured Third prize in Online Patriotic Poetry writing competition organized by Sree Krishna College Guruvayoor, NCC Unit as part of Independence day Celebrations
- Treesa Antony of 2017 Admission secured Second prize in Online comic making competition conducted by the School of Ocean Science & Technology- KUFOS on World Food Day
- Shobitha Anna Jose of 2018 Admission secured Second prize in Online Poster making competition conducted by the School of Ocean Science & Technology- KUFOS on World Food Day
- Treesa Antony of 2017 Admission secured Third prize in Online Photography competition conducted by the School of Ocean Science & Technology- KUFOS on World Food Day

STUDENTS UNION ACTIVITIES

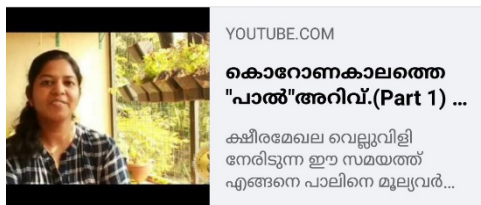
Various activities were organized by Students' union 2019-'20 of CDST Mannuthy amid lockdown. This included activities which improve the cultural talents of students and activities leading students more towards social responsibility

- **Initiative to introduce various milk products to public during COVID19 lockdown**

Faculty of Dairy science and Technology took an initiative to introduce Value added products to public through videos on preparation of various milk products such as Paneer, Shrikhand,

Phirni etc so as to increase the consumption of milk and milk products during lockdown period from 04th April 2020

https://youtu.be/iyDWy0w-g_c

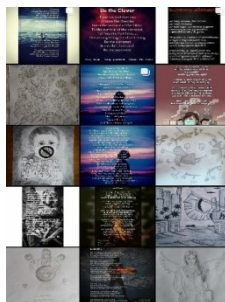


- **Daily Exercise Plan during COVID 19 Lock down Period**

Department of Physical Education of College of Dairy Science & Technology provided a daily exercise plan for physical fitness and exercise for the students and staff during COVID 19 Lock down Period. The initiative was to maintain physical and mental health during the lock down

- **Online poetry, pencil drawing and painting contest (23/03/2020 - 10/05/2020)**

An online poetry, pencil drawing and painting contest based on the theme 'Survival' was been conducted by Students' union 2019-'20. Received 30 entries for the poetry contest, 12 entries for pencil drawing and 5 entries for painting contest. The contest was from 23rd March 2020 to 10th May 2020



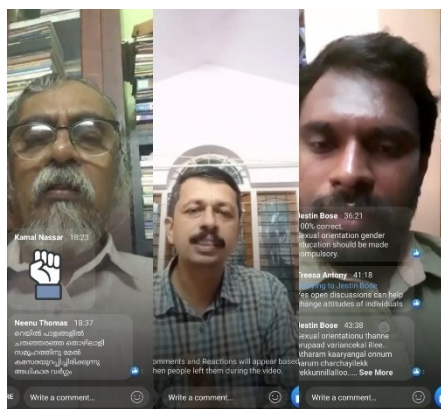
- **'Dughaalay challenge' to introduce various milk products to public- From 04/04/2020**

Students' union 2019-'20 took an initiative to familiarize various milk products to public through videos based on preparation of various milk products so as to increase the milk consumption rate for avoiding draining of milk by dairy farmers during the COVID19 lockdown period. Thus was done as a challenge named 'Dughaalay challenge' started from 4th April 2020. Students of CDST Mannuthy actively participated in the challenge and introduced various milk products to public



- **Live talk series during COVID19 lockdown (12/05/2020, 18/05/2020 & 25/05/2020)**

Students'union 2019-'20 in association with CDST Graduates' Association organized Live talk series through Students'union Facebook page on May 12th, May 18th and May 25th at 6 p.m. by Mr.K.E.N.Kunjahammed (writer), Mr.S.Harish (Novelist) and Mr.Prijith P.K. (founder secretary of Queerhythm LGBTIQ community) on these respective days.

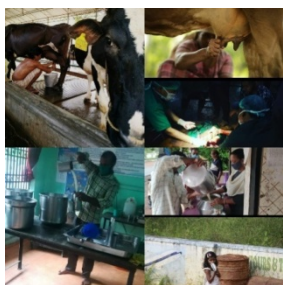


- **World milk day celebrations 2020 (From 06/05/2020)**

As a part of June 1st world milk day celebrations, activities of Students'union started from 6th May 2020 with an all Kerala level online photography contest and online quiz competition in association with Indian Dairy Association Kerala chapter. 40 entries were received for photography contest based on the theme 'To salute the heroes of Dairy Sector from farm to fork'. The online quiz competition was organised with help of windows classes and was conducted through Zoom cloud meeting application.

To develop the creativity of students by incorporating dairy related ideas to art work Students'union 2019-'20 also organised an exhibition through social media called 'Dairish' for celebrating June 1st world milk day.

Joining hands with CDST Graduates'Association, Students 'union 2019-'20 conducted an online quiz competition 'Palarivu 2020' for dairy cooperative society employees as part of World Milk day celebrations.



- **TV challenge**

A TV challenge was organised by Students'union in association with CDST Graduates' Association as part of 'First bell' program by the Kerala government and provided 23 TV's to students from different parts of Kerala to help them have access to online classes

- **AICTE Approval; CDST celebrates the achievement:**

College of dairy science and technology during the tenure of crossing its 25 years of establishment and successful journey ahead has now been approved by All India Council for Technical Education, being another golden feather in its path of excellence. CDST family celebrated the achievement on 02/07/2020 within the campus through a small gathering maintaining social distance and safety measures in the current situation of pandemic threat- July 2020

- **Farmers Day- 2020:**

In connection with Farmers Day (Chingam 1), Indian Dairy Association (Kerala Chapter) and College of Dairy Science and Technology Mannuthy jointly organized a three day online training programme for dairy farmers via Google Meet on 17th, 18th and 19th of August 2020. Farmers Day message was given by Prof. Dr. M. R Saseendranath (Hon. Vice Chancellor, KVASU) on 17/08/2020. The programme included seminars and Demonstration of preparation of paneer. The sessions were handled by Dr C. T Sathian (Professor and Head, Dairy Science Department, KVASU), Dr. S Athira (Assistant Professor, KVASU) and Ms. Aswathy V. A (M. Tech Scholar, CDST Mannuthy)

- **Webinar on "Career choice and planning during recession":**

College of Dairy Science and Technology Mannuthy in association with TIME Thrissur conducted a Webinar on "Career choice and planning during recession" on 20th September 2020. The session was handled by Mr. Diyu Jose, Centre Director, TIME Thrissur

- **Loop video in connection with Doctors Day:**

On July 1, Doctors day, a loop video was created by the students of CDST Mannuthy as a tribute to all doctors and health workers all over the world. It was uploaded in students' Union Instagram and facebook pages as well as in the Youtube channel.

- **International Paper bag Day:**

On July 12, International Paper bag Day, paper bags were prepared by students of |CDST

Mannuthy as an attempt to generate social awareness on increasing plastic pollutions.

- **World Nature Conservation Day:**

E-poster competition was conducted as part of World Nature Conservation Day On July 28th. The topic given was HEAL THE NATURE. 13 students participated in the competition. First prize was secured by Mr.Abdul Razik M. of 2016 batch

- **Friendship Day Celebrations:**

In connection with Friendship Day Celebrations, an Amigo Quiz was conducted on a Google form with 15 questions to be filled, on 02/08/2020. Ms.Donna Agnes Augustine and Ms.Akshaya K. Sudheer of 2018 batch won the 1st prize

- **Hiroshima and Nagasaki Day:**

Remembering the victims of atomic explosion in Hiroshima and Nagasaki, students of College of Dairy Science and Technology Mannuthy lit candles for a nuclear free world on 09/08/2020

- **Gandhi Jayanti-2020**

Online discussion was conducted by Students Union in connection with Gandhi Jayanti-2020

- **World Food Day Celebrations**

An entertaining 'Product Marketing Programme' was conducted on 16/10/2020 in connection with World Food Day

- **Children's day-2020**

An entertaining 'Guess the Kiddoo' programme was conducted in connection with Children's day-2020

- **National Milk Day Celebrations**

In connection with National Milk Day, Milk Packet innovation, status video making, and caricature competitions were conducted

- Conducted an online quiz programme in connection with **National Science Day** on 28th February, 2021
- Released the college magazine '**Thrithvam**' on 8th March, 2021

COLLEGE OF DAIRY SCIENCE AND TECHNOLOGY, POOKODE

An overview

College of Dairy Science and Technology, Pookode established in 2015 is located in Kerala veterinary and animal sciences university headquarters campus at Pookode Wayanad. The pristine landscape and cool climate makes Wayanad one of the most ideal places for dairying in the state. The district is also popular for implementation of contemporary methods pertaining to dairy farming. Being situated in such supportive location; this institution guarantees both field and industrial levels of exposure to the students.

The college is following the curriculum and guidelines prescribed by the Indian Council of Agricultural Research (I.C.A.R) for B.Tech (Dairy Technology) programme. As per the curriculum, students would get exposure to the entire spectrum of operations taking place in professionally managed dairy processing units through which they acquire the required skills set and confidence to work as highly motivated professionals. The intake capacity for the B.Tech (Dairy Technology) programme is presently 20 seats owing to the shortage of infrastructure and manpower.

Admission

The candidates are selected through the Common Engineering Entrance Examination conducted by Government of Kerala. The candidates who have passed the qualifying Higher Secondary Examination, Kerala or examinations recognized as equivalent thereto, with 50% marks in Mathematics separately, and 50% marks in Mathematics, Physics and Chemistry put together are eligible for admission.

Course curriculum

The curriculum of B.Tech Dairy Technology programme comprises of 8 semesters and includes various courses of Dairy Technology, Dairy Chemistry, Dairy Engineering, Dairy Microbiology, Dairy Husbandry and Dairy Business Management. The syllabus which is suitably contrived unquestionably ensures the provision of most recent scientific knowledge, technical skill and expertise to the students. The last two semesters entirely set apart for trainings facilitate to impart practical know how and develop the entrepreneurial skills among the candidates. The hands on training cum experiential learning programme scheduled in the seventh semester encourage the students to try out innovative approaches to develop and market value added dairy products. Getting acquainted with the changing trends and technological advancement inspires them to be a job provider rather than a job seeker. Farm training for 35 days included in the 8th semester intends to familiarize the candidates with the modern and high tech farming methodologies being adopted lately. Plant training for 70 days also included in the final

semester equips the students with a sound knowledge in the advanced processing techniques followed in various dairy plants like AMUL, Mother dairy, Schreiber Dynamix, hatsun, milma etc. In addition the course curriculum also incorporates industrial visits for various subjects, an all kerala study tour as well as an all india study tour which adequately provides a nationwide exposure of the dairy sector to the students.

I. ACADEMICS

1.1 Programme Offered

The college is offering four year professional B.Tech Programme. Admission to the UG programme is done based on Entrance Examination conducted by the Commissioner of Entrance Examination, Govt of Kerala (KEAM).

Sl. No.	Title of the Programme	Level	Duration (Yrs)	Year of Starting	Sanctioned annual intake
1	B.Tech (DSc.&Tech.)	UG	4	2015	40 students (2016 September onwards it is 20)

1.2 Departments

The College of Dairy Science and Technology has got the following five departments:

1. Department of Dairy Technology
2. Department of Dairy Engineering
3. Department of Dairy Business Management
4. Department of Dairy Chemistry
5. Department of Dairy Microbiology

1.3 Course Curriculum

UG programme - Department-Wise Distribution of Courses for B.Tech (DSc. & Tech) degree programme

No.	Name of the Department	Credit Hours
1	Dairy Technology	33 (21+12)
2	Dairy Engineering	34(21+13)
3	Dairy Business Management	27 (20+7)
4	Dairy Microbiology	17 (11+6)
5	Dairy Chemistry	17 (11+6)
	Total	128(84+44)

Non-Credit Courses

No.	Catalogue No. of course	Name of the course	Credit Hours
1	SREV 1201	Student READY Exposure Visit I – 7 days (Summer Break)	5 (0+5)
2	SREV 2201	Student READY Exposure Visit -II for 23 days (Summer Break)	5 (0+5)
3	DT 4112	Student READY In- Plant Training	20 (0+20)
4	DT 4113	Student READY Experiential Learning Module	10 (0+10)
		Total	40 (0+40)

1.4 Student Profile

Details	2016	2017	2018	2019	2020
UG					
Students admitted	17	14	19	20	22
Current strength	16	14	16	20	21
Total	87				

1.5 Faculty Strength Details as on 31/03/2021

Sl No	Department	Present Status				
		Asso. Prof	Asst. Prof.	Deputation	TA	Total
1	Dairy Technology	0	0	2	1	3
2	Dairy Engineering	0	1	0	2	3
3	Dairy Chemistry	0	1	0	1	2
4	Dairy Microbiology	0	1	0	1	2
5	Dairy Business Management	0	0	0	1	1
Total						11

1.6 Faculty Profile

Sl.No	NAME	DESIGNATION	Contact No.	E mail ID
1	Dr. Rahila M P	AP & Special officer	9400587443	rahilasona@gmail.com
2	Ms. ArchanaChandran	AP	9744975460	archanac@kvasu.ac.in
3	Ms. Akhila V.	AP	9497315161	akhila.v@kvasu.ac.in
4	Ms. Grace A Thachil	DEO on Deputation	9895636751	gracethachil@gmail.com
5	Ms.AnkithaAnto C	DEO on Deputation	9656846425	ankithaanto@gmail.com

1.7. Non- teaching staff details

SL NO	DEPARTMENT	NAME	DESIGNATION	CONTACT NO.	EMAIL ID
1	OFFICE	NIMESH A S	SECTION OFFICER	9446248207	nimeshalukkal@gmail.com
2	OFFICE	NEETHU THAMBI	ASSISTANT	7994138405	johanajonasjohanajonas@gmail.com
3	OFFICE	ATLANTA GEORGE	STENOGRAPHER	9048851726	atlantajoshy@gmail.com
4	OFFICE	MARIYAM THAYKATTIL	DATA ENTRY OPERATOR	9961154188	mariyamdeo@gmail.com
5	DAIRY MICROBIOLOGY	HARITHA P	LAB ASSISTANT	9605184838	harithapachat@gmail.com
6	DAIRY CHEMISTRY	ABHINA P.V	LAB ASSISTANT	9745661007	abhinakankol@gmail.com

Additional Duties & Responsibilities

Name	Designation	Duties/ Responsibility
Dr. Rahila M P	Assistant Professor	Special Officer, Patron Students Union 19-20,
Mrs. Archana Chandran	Assistant Professor	
Ms. Akhila V	Assistant Professor	Assistant Hostel Warden
Mrs. Grace A Thachil	DEO On Deputation	Academics In Charge, Associate Patron Students Union 19-20
Mrs. Ankitha Anto C	DEO On Deputation	Secretary PTA Library In Charge

II. INFRASTRUCTURE:

The college has excellent infrastructure facilities to support the basic theory and practical sessions prescribed for the first three academic years of B.Tech programme. The Dairy Engineering, Dairy Microbiology, Dairy Technology and Dairy Chemistry laboratories are strengthened with sophisticated equipment to meet the academic/research requirements of concerned departments. A well-equipped dairy Engineering division with drawing hall is arranged in the campus to facilitate the engineering courses prescribed in the B.Tech curricula. An experiential learning lab is newly constructed to meet the academic and extension activities of the college. A Computer Lab with 10 Desktop PCs (Pentium i3-4160 CPU@3.60 GHz processor) with Internet connection is available for students and faculty. The College Library has excellent infrastructure with good collection of books and journals required for the B.Tech (DSc. &Tech.) students. The seminar hall is equipped with LCD projection facility and various electronic systems. The college has made arrangements with the Govt. Engineering College Kozhikode and Manathavady for the conduct of practical sessions prescribed for General Engineering courses in B.Tech curricula. In addition to this the college arrange visits to various dairy processing units in and around Wayanad.

III. STUDENTS' UNION ACTIVITIES

Due to Covid-19 pandemic every programme under CDST Students' Union was conducted through online mode during the academic year 2020-21.

1. M Corner Club inauguration

The club was inaugurated during the announcement of a 21 - day complete lockdown, on 25 March 2020 due to the spread of the corona virus across the country and commenced as a platform for a group of movie loving students to be a part of the reviews and debates related to movies.

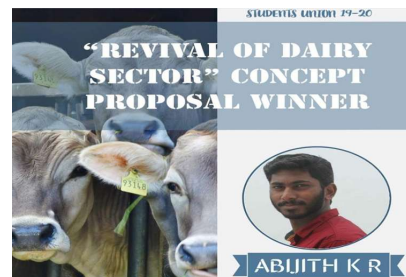
2. **Creative Challenge** :The programme was started on 28 March 2020 with a slogan stayhome #staycreative to awake the creative minds of students during the pandemic period and to enrich the academic curriculum with extra-curricular activities. Each and every student actively participated and the programme extended till 9 April 2020.

3. **Nostalgia Photo Challenge**

The Nostalgia photo challenge was set up with the idea of a campus memory challenge, leaving photos to share our college-related memories in our College official Instagram page. Student's active participation made the programme a successful one and the winner who got the most likes in Instagram was awarded 3GB data.

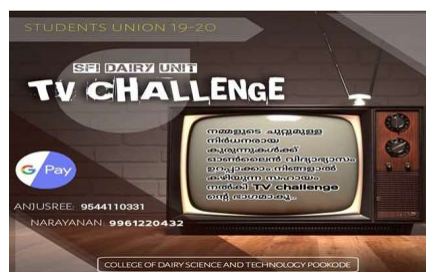
4. **A support for dairy sector**

On the occasion of World Dairy Day, CDST Pookod Students' Union 19-20 invited innovative and practical ideas on "Revival of Dairy Sector" to give a helping hand to the most challenging dairy sector. The one who shares the best idea was awarded a cash prize of Rs.500. The former student Mr.Abhijith K R has won the challenge.



5. **TV Challenge**

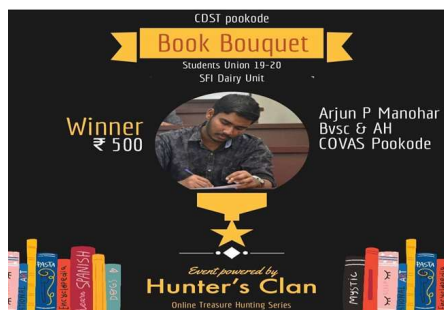
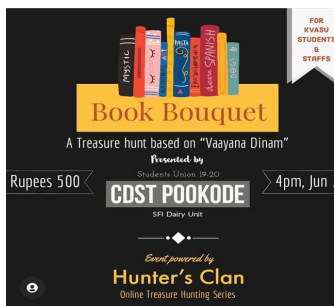
With the aim to help the needy children in our society the SFI Dairy Unit and the Students' Union 19-20 bought a TV by seeking financial help from our students.



6. **Book Bouquet - Reading day treasure hunt**

As a part of reading day, an online treasure hunt was arranged in association with 'The Hunters Clan'. Participation was restricted within our university and the winner Arun P Manohar was

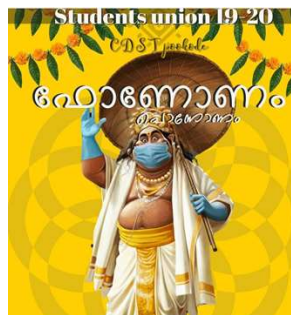
awarded with Rs. 500.



7. Onam programme

Four online games were conducted as a part of Onam Celebration 2020.

- Mr/Miss Malayali
- Athappookalam
- Maveliyudecoronam
- Online anthakashari



8. Keralapiravi celebration

An online quiz competition was conducted through whatsapp related to Keralapiravi on 1st November.

9. National milk day celebration

As a part of National milk day four programmes were conducted online.

- Memories with milk
- Video making competition
- Portrait drawing competition
- Crossword puzzle solving

10. Christmas & New Year programmes

The Christmas day celebration was also through online mode and 3 events were conducted.

- Christmas photography contest
- Christmas special recipes
- Resolution writing.

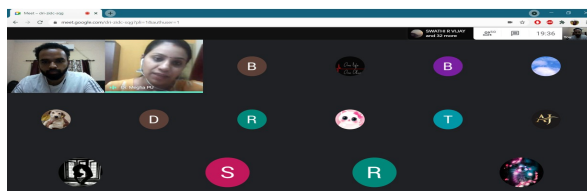
IV. STUDENT SCHOLARSHIPS & GRANTS

Students at College of Dairy Science and Technology receives various scholarships during their degree programme that are KVASU merit scholarship by the university, Merit cum means scholarship, CH Muhammed Koya Scholarship by ministry of minority affairs and E grants by government of Kerala.

V. SPORTS & CO-CURRICULAR ACTIVITIES

1. World water day

The College of Dairy science and Technology ,Pookode celebrated World water day on 22 march 2021 to celebrates water and to raise awareness of the global water crisis occurring in this contemporary era. World Water Day also celebrates and raises awareness of the 2.2 billion people living without access to safe drinking water. The core focus of the observance of this day is to support the achievement of Sustainable Development Goal (SDG) on water and sanitation for all population by 2030. The theme of World Water Day for 2021 is valuing water. The value of water is about much more than its price – water has enormous and complex value for households, food, culture, health, education, economics and the integrity of natural environment. An online webinar program was conducted in association with World water day at 7.30pm in Google meet platform . The Guest Speaker was Dr.Megha PU, AsstProfessor ,Department of Microbiology, S N College ,Kozhikode, Kerala. Dr.Megha P U has extensive research in water and has published many research works relating to it and has won many accolades. She has also worked as a Research Associate in Centre for Water Research development and Management(CWRDM), Kozhikode ,Kerala. The participants of the webinar were students, faculty members of CDST Pookode and other members from academia. The webinar focused on the importance of water ,focusing attention on the importance of freshwater and advocating for the sustainable management of freshwater resources. Water being an essential building block of life is more than just essential to quench thirst or protect health; water is vital for creating jobs and supporting economic, social, and human development. The speaker stressed the importance on usage of water in which the freshwater resources is around 2.5% and seawater is 97.5%. Some of the important takeaways from the seminar is characterization and identification of changes in water quality. Identification of specific existing or emerging water quality problems. Implementation of effective pollution control actions and finally protecting waterways from pollution. This was then followed by questionnaire session in which students and faculty raised their queries regarding water management issues. A detailed discussion then followed regarding the scarcity of water in major cities, depleting water table in North Indian Basin especially in states like Punjab, Rajasthan and Haryana and also the contamination of water by major pollutants like lead, iron, chlorine and other toxic metals and their health hazards. The webinar was finally concluded by the speaker who underscored the importance of public perperspective towards water management and also including policy direction recommendations to decision-makers in the government for effective utilisation of water resources.



VI. Report from the library

The college of Dairy Science and Technology has a Library which possess an excellent collection of scientific books, journals, research papers, publications, annual reports, and electronic media. The library facilities are made available to all the students, trainees, faculty members and non-teaching staff.



VII. ACHIEVEMENTS MADE IN SCIENCE AND TECHNOLOGY

- Developed antidiabetic whey jelly incorporated with Guava leaf extract
- Extended the shelf life of ghee by using pepper extract as natural antioxidant
- Development of natural colour and flavour added antioxidant rich shrikhand
- Development of herbal whey beverage
- Transferred technology for development of value added milk products for entrepreneurs, students and farmers.

X. CONSULTANCY

- Provide consultancy for setting up of Dairy Plant at Pallikunu Wayanad.
- Member of Expert Investigation Agency.

XI. OTHER ACTIVITIES

1. Experiential learning programme

The experiential learning programme for the students of 2016 Batch admission was held for a period of 65 days from 18-02-2020 onwards. During this period the students developed , standardised and profitably sold a wide variety of dairy products.



XII. HOSTEL FACILITIES

Students of 2019 batch admission are accommodated at Thalippuzha outside the institutional campus and the remaining students are accommodated in the campus hostels.

COLLEGE OF DAIRY SCIENCE AND TECHNOLOGY, KAIMANAM, THIRUVANANTHAPURAM

ABOUT THE COLLEGE

The Government of Kerala made a budget provision of Rs. 25 lakhs in the financial year 2013-14 for setting up a new Dairy Science College in Chettachal, Nedumangad Taluk (Thiruvananthapuram district). Accordingly the Kerala Veterinary and Animal Sciences University (KVASU) headquartered at Pookode in Wayanad district decided to start College of Dairy Science and Technology (CDST), Chettachal (Vithura). College of Dairy Science and Technology, Thiruvananthapuram (presently functioning at Academic Block, BSNL - RTTC, Kaimanam, Thiruvananthapuram -695040) under the faculty of Dairy Science and Technology of Kerala Veterinary and Animal Sciences University started functioning on 14.09.2015 to advance, disseminate and foster the developments in the field of Dairy Science and Technology. The College offers 4 year undergraduate B. Tech. (Dairy Technology) degree programme, with intensive training in processing, quality control and engineering of milk and milk products

Objectives of the Institution:

- To undertake appropriate academic programmes at the undergraduate and postgraduate professional levels in various branches of Dairy Sciences and Technology.
 - To create necessary infrastructure to house class rooms, laboratories, library, computer lab, sports amenities and other allied facilities.
 - To set up an Experimental Dairy plant for students with the state of art facilities for undertaking academic, research and training activities related to dairy processing.
 - To provide R&D support to the Dairy and Food processing industry for developing new value added products and to take up problem oriented research based on feedback from different extension agencies and field feedback from dairy farmers.
 - To develop new energy efficient production systems utilizing the emerging technologies in the processing of value added dairy products for minimizing processing cost, energy management etc.
-
- To undertake collaborative research projects with industries and renowned research institutions to develop products and technologies for entrepreneurs. To organize training programmes, farmer-scientist interactions, dairy-clinics, seminars, technology demonstrations and print and visual media programmes for dairy plant personnel, researchers, small entrepreneurs and others in the field of Dairy and Food Processing.
 - To publish books, booklets and popular articles for the dissemination of new technologies to the dairy farming community and dairy processing industry.

Admission:

The candidates admitted to the UG course are selected through the Common Engineering Entrance Examination conducted by the Government of Kerala. The candidates should have completed Class XII or its equivalent examination with Chemistry, Physics and Mathematics as optional subjects and should have secured an aggregate of 50% marks or above in these subjects in the qualifying examination. The candidates can choose their option for this course among other graduate courses in Engineering.

COLLEGE OF DAIRY SCIENCE AND TECHNOLOGY KOLAHALAMEDU, IDUKKI (DIST)

ABOUT THE COLLEGE

College of Dairy Science and Technology, Kolahalamedu has commenced on September 25th, 2017 at the temporary campus of DC School of Management and Technology, Pullikkanam under the aegis of the Faculty of Dairy Science and Technology, Kerala Veterinary and Animal Sciences University, Mannuthy. The College of Dairy Science Technology will give especial thrust in enlightening the young minds to be dynamic and flexible to the opportunities and challenges of Dairy industries.

The candidates admitted to B. Tech (Dairy Technology) programme are selected through the Common Engineering Entrance Examination conducted by Govt. of Kerala and admission is for 20 students per year. The course curriculum for B.Tech (Dairy Technology) is in lines with the pattern specified by the Indian Council of Agricultural Research (ICAR), New Delhi. College comes under Elappara Panchayath and peerumedu Constituency. 100% of the students are hostellers and the Hostel facilities are provided by the DC College, Pullikkanam now.

Objectives of the Institution:

- ☐ To establish world class educational centre in the area of Dairy Science and Technology so as to cater the present demand.
- ☐ To build the graduates acquainted with various facets of professionally managed industries which include production management, raw material purchases, personnel management, sales and marketing by virtue of industrial in-plant training.
- ☐ To undertake consultancy services in the area of Dairy Science, Food Safety and Quality Control.
- ☐ Creating the necessary infrastructure to house class rooms, laboratories, library, computer lab, sports amenities and other allied facilities.
- ☐ Promote entrepreneurial avenues in dairy and food processing
- ☐ Mobilizing sufficient financial resources for the day to day activities and further development of the institution.
- ☐ Publication of books, booklets and popular articles for the dissemination of new technologies to the dairy farming community
- ☐ To establish a Centre of excellence in terms of Food Analytical and Dairy Food Process Industries.
- ☐ To undertake training programmes for small and medium dairy processing enterprises in the organized and unorganized sector.

Admission: The candidates admitted to the UG course are selected through the Common Entrance Examination conducted by the Government of Kerala. The candidates should have completed Class XII or its equivalent examination with Chemistry, Physics and Mathematics as optional subjects and should have secured an aggregate of 50% marks or above in these

subjects in the qualifying examination. The candidates can choose their option for this course among other graduate courses in Engineering.

College of Avian Sciences And Management (CASM) Thiruvazhamkunnu, Palakkad

The College of Avian Sciences and Management is established at Thiruvazhamkunnu, Palakkad District with the aim of providing quality education in all aspects related to poultry science so as to meet the increasing demand of skilled personnel required in the industry. The college is offering B.Sc. (Poultry Production and Business Management), a three year graduate programme from 2014 Academic year onwards. The course is designed with the objectives of crafting human resource management professionals with technical knowledge in poultry production, developing entrepreneurial skills to unemployed youth and equipping youth with different facets of Poultry production and business management. The college also aims at conducting need based research in poultry farming for helping the farmers. An Avian Research station is also located in the campus which comprises of various poultry farms, feed mill, hatchery etc.



Student Position as on March 2021

2017 Batch		2018 Batch		2019 Batch		2020 batch	
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
12	31	20	26	34	14	20	20

Staff Position as on March 2021

Teaching Faculty - 10 including Teaching Assistants

Non Teaching Staff - 12

Infrastructure Facilities available in the campus

- Smart class rooms
- Well-equipped library
- Informatics lab with network facilities
- Centralized Air Conditioned Seminar hall
- Conference Hall
- Academic Cell
- Disease diagnosis Laboratory
- Quality Analysis Laboratory- to ensure the quality of feeds produced in the feed mill. It also carries out the quality checking of feeds from outside farmers.
- Farmers training Centre- It has a facility of accommodating 100 farmers at a time. Its entire can provide facility to farmers, research scholars, and internship trainee students of the university.
- Student hostels
- Playground and recreation facilities
- Canteen
- Fitness Centre for students and faculty
- Technology Business Incubation Centre

Detailsof Scholarships offered

Merit and merit cum means scholarship are offered for the students of BSc PPBM. In the year 2020-21, merit scholarship was awarded to 28 students and merit cum means scholarship was awarded to 5 students.

Details of Projects continuing in 2020-21

- **ICAR National Agricultural Higher Education Project- Innovation Grant**

The college has been granted Rs. 1 Crore as Innovation Grant of the NationalAgricultural Higher Education Project (NAHEP), jointly funded by the World Bank and Government of India. The virtual inauguration of ICAR National Agricultural Higher Education Project- Innovation Grant was conducted at College of Avian Sciences and Management, Thiruvazhamkunnu on 28/07/2020 at 10.30 AM. The project was launched by Adv. K Raju, Hon. Minister of wild life and Animal Husbandry and Pro-chancellor, Kerala Veterinary and Animal Sciences University. The fund will be used for the development of infrastructural facilities which are required for getting accreditation of ICAR.

- **DBT Project**

A DBT funded project entitled “**Genetic up-breeding of duck production to strengthen livelihood security in NER of India by converging conventional and molecular techniques**”

on DUCK IMPROVEMENT FOR NER (North-East Region) IN CONSORTIUM MODE - by Dr.StellaCyriac, Assistant Professor, CASM as Principal investigator and Dr.Vineetha P.G., Assistant Professor, CASM as co-investigator.

- **IEDC funded by Kerala Start-up Mission**

New IEDC (Innovation Entrepreneurship Development Centre) at CASM Thiruvazhamkunnu was started and the funding is done by KSUM (Kerala start-up Mission)

Training programmes attended by students and faculty

- **Training for students at NRC on Meat**

A visit was arranged for 15 students to National Research Centre on Meat, Hyderabad. 9 students among them were sponsored by the college utilising the fund available under the project. The 5 days training at NRC on meat was helpful for the students for learning new skills which are helpful in their career development.

- **Leadership programme for women Scientist of NARES**

10 faculties from KVASU attended the programme organized by NAARM, Hydrabad from 08.03.2021 to 10.03.2021. The participants were able to learn leadership skills which resulted in the improvement of quality of faculty for effective delivery of curriculum.



Dr. Stella Cyriac



Dr. Shamna T.P



**Dr. Vineetha
P.G**



Dr. Beena C Joseph



Dr. Rejitha Joseph



Dr. Aswathi



Dr. Lesna Sahib



Dr. Vidya



Dr. Suja C S



Dr. N Geetha

Short Visits and Trainings

- **Short Visit to NIFTEM, Sonapet, Hariyana**

To learn the technology used in NIFTEM and to make the students aware about the higher education prospects at NIFTEM



- **Visit to the office of National Coordinator, NAHEP IG, Haryana**

For discussing the progress of the implementation and to seek further guidance regarding the rest of the project.



Workshops and seminars

- **Softskill Development Workshop**

A two day workshop on softskill development was organised on 01st and 02nd of March 2021. The session was handled by Mr. Muhammed Ikan, HRD expert. 40 students attended the offline session. The workshop helped to improve the employability of the students and improved the skills of the students.



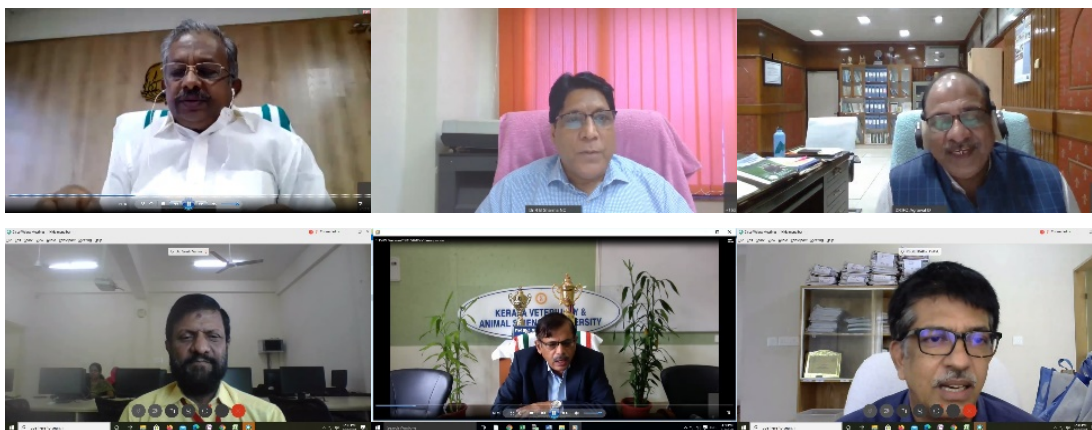
Online and Offline Lecture Series

CASM jointly with the ICAR (NAHEP) organized an online and offline lecture series for improving the employability of the students of BSc PPBM during March 2021. Sessions were handled by Dr. Jinu K John , Mr. Aslam Thenjippalam, Dr. R. Prabhu Dr. P Hariharan, Dr. Himanshu Kumar, Dr. Jalaluddin, Mr. Mohammed Asif, Dr. Vinoth Kumar, Dr. Augustine George, Mr. Vijayakumar PA, Prof. Baby Shari, Dr. Anuraj KS, Dr. Sajeew Kumar, Mr. Shuhaib Alingal, Dr. Sidharth Shankar and Dr. Anupama Panghal on various topics on Pet Birds Management, Be a passionate Entrepreneur, New Developments in Poultry Sector, E-Business Citizen, Advances in layer production with special reference to Automation, Entrepreneurship opportunities in Poultry Sector, Stress Management, Avian Nutrition, Gender Justice, Animal Feed Technology and other relevant topics from Poultry Science and Business Management.



Three Day Webinar on Role of Poultry Sector in boosting the Post-COVID Indian Economy

A Three day webinar series was conducted in connection with the virtual inauguration of ICAR National Agricultural Higher Education Project- Innovation Grant. In the webinar, seven sessions were conducted on different aspects of poultry by experts. Prof. Dr. Veerasamy Sejian, Senior Scientist, Centre for Climate Resilient Animal Adaptation Studies NIANP Dr. Raina Raj, Head of Marketing, Natural Remedies Pvt. Ltd., Mr. Paul Gittins, Senior Business Consultant, Aviagen India, Dr. Renjith Nair, Business Unit Lead –Companion Animals (India) & Commercial Lead (BNS – Distributor Markets), Zoetis Inc, Dr. Mukund Kadam, Assistant Professor, MAFSU, Nagpur, Prof. Dr. Richard Churchill, Directorate of Research, TANUVAS and Dr. Ranjith Ramachandran, Associate Professor, Meat Science, Oklahoma State University presented various topics. The sessions were chaired by Dr. G. Girish Varma, Dr. Joseph Mathew, Dr. A. P. Usha, Dr. P. Anitha, Dr. Leo Joseph, Dr. Thirupathy Venkitachalapathy and Dr. B. Sunil respectively. Around 300 participants from various parts of the country joined the sessions. The webinar ended on 30/07/2020. The valedictory session was inaugurated by Prof. Dr. N Ashok, Registrar, Kerala Veterinary and Animal Sciences University. Various dignitaries from the University joined the programme.



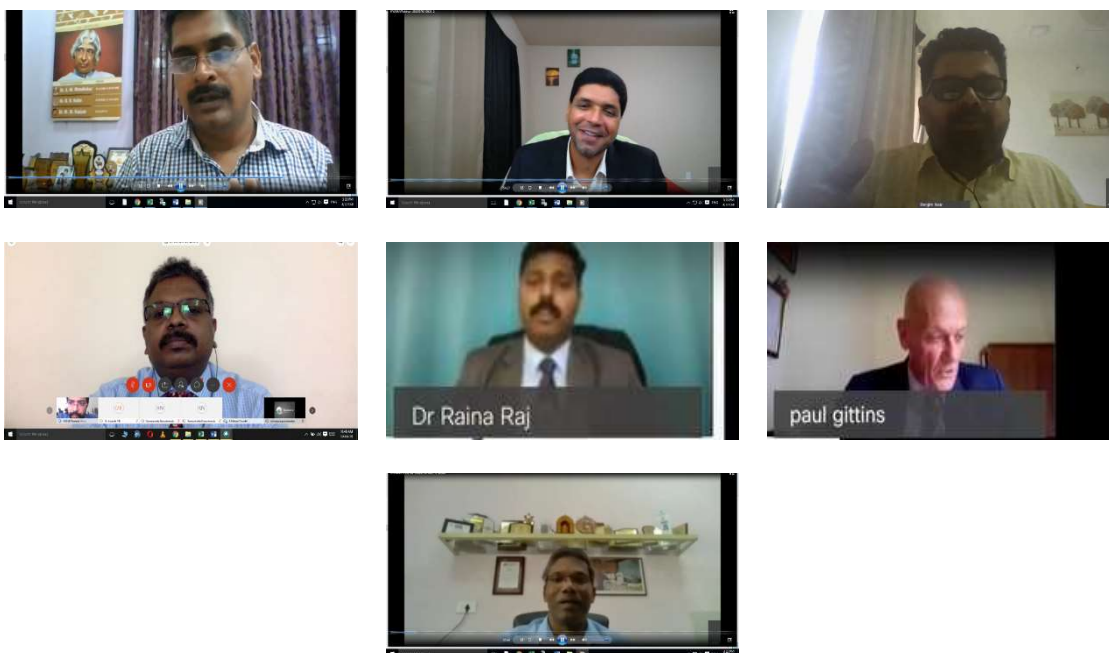
ACTIVITIES ORGANIZED AT COLLEGE

The virtual inauguration of ICAR National Agricultural Higher Education Project (NAHEP) - Innovation Grant at College of Avian Sciences and Management

The virtual inauguration of ICAR National Agricultural Higher Education Project- Innovation Grant was conducted at College of Avian Sciences and Management, Thiruvazhamkunnu on 28/07/2020 at 10.30 AM. The programme was inaugurated by Adv. K Raju Hon. Minister of

wild life and Animal Husbandry and Pro-chancellor, Kerala Veterinary and Animal Sciences University. The official launching of the three day webinar series on Role of Poultry Sector in boosting the Post-COVID Indian Economy was done on the occasion by the Minister.

Prof. Dr. M.R. Saseendranath , Hon. Vice Chancellor, KVASU, Prof. Dr. G. Girish Varma, Faculty Dean (Poultry Science) and Dean i/c College of Avian Sciences and Management, Thiruvazhamkunnu, Adv. N. Shamsudheen, MLA, Mannarkkad , Dr. R.C. Agarwal, Deputy Director General (Edn) ICAR, Dr. R.B. Sharma, National Co-ordinator, IG Projects, ICAR, Prof. Dr. Ajith Jacob George, Director Academics and Research, KVASU, Prof. M.K Narayanan, Director of Entrepreneurship, KVASU, Prof. Dr. P. Sudheer Babu, Dean, faculty of Dairy Science, KVASU, Prof. Dr. N. Ahok, Registrar, KVASU , staff, students and other dignitaries joined the inauguration programme.



Inauguration of Skill Development Workshop and Lecture Series

The Skill Development Workshop and Lecture Series for B.Sc PPBM students of College of Avian Sciences and Management, Thiruvazhamkunnu was inaugurated by Prof. Dr. M. R. Saseendranath, Hon'ble Vice Chancellor, Kerala Veterinary and Animal Sciences University on 01/03/2021. College Dean, Prof. Dr. G. Girish Varma welcomed the gathering. Prof. Dr. N. Ashok, DAR, KVASU and Nodal officer, Innovation Grant Project presided over the programme. Prof. Dr. P. Sudheer Babu, Registrar, KVASU delivered the key note address.



Extension Activities

- Dr. Harikrishnan acted as a resource person for the webinar “Aadayakaramaayi muttakkozhi valartham” organized by Directorate of Entrepreneurship, KVASU on 25/6/2020
- Dr. Stella Cyriac handled a class on quail farming in the “Farmer friendly online lecture series” organised by Kerala Veterinary and Animal Sciences University, from 3rd to 30th June 2020
- Dr. Stella Cyriac handled a class on quail farming for VHSE students organised by NSS, Kozhikode district on 12.11.2020
- Dr. Stella Cyriac handled a class on quail farming organized by LMTC, Kudappanakkunnu on 11.08.2020
- Dr. Stella Cyriac handled a class on quail farming organized by Duck Training Institute and Hatchery, Manjadi, Thiruvalla on 09.12.2020
- Dr. Stella Cyriac and Dr. Prasoon S. handled a class on poultry farming organized by LMTC, Kudappanakkunnu on 30.11.2020 and 01.12.2020
- Dr. Stella Cyriac, Asst. Professor, CASM, Thiruvazhamkunnu co-chaired the session on the topic “Backyard to Frontyard Poultry Farming: Post COVID” on 29-07-2020 in the International Webinar on Role of Poultry Sector in Boosting the Post COVID Indian Economy - organized by College of Avian Sciences and Management, Kerala Veterinary and Animal Sciences University, Thiruvazhamkunnu, Palakkad, Kerala, 678601 and ICAR-NAHEP Innovation Grant from 28-07-2020 to 30-07-2020.
- Dr. Stella Cyriac acted as the resource person for the expert interaction for the VHSE students on Hatchery Management on 21.03.21 organised by GVHSS, Kizhuparamba
- Dr. Stella Cyriac acted as the resource person for the expert interaction for the VHSE students on Waste disposal in poultry farms on 28.03.21 organised by VHSS, Agali

- Dr. Shamna TP taken a session on the topic *kadavalrthal sadhyathakal* on the online facebook training programme of SAMETI ,on 18.12.2020
- Dr. Prasoon S. Assistant Professor, CASM has handled a class on broiler farming organized by LMTC, Thalayolaparambu on 11.11.2020 and 12.11.2020
- Dr. Prasoon S. Assistant Professor, CASM has handled a class on layer poultry farming organized by LMTC, Thalayolaparambu on 19.11.2020 and 20.11.2020.

Student Union Activities

- **Online Onam Celebration**

In the lights of COVID-19 outbreak, the students Union of CASM organized Onam celebration through online platforms. Various events were organized for the students of different colleges under Kerala Veterinary and Animal Sciences University through various social networks and the winners were announced.



- **Distribution of Television for economicay backward students**

As a part of first bell challenge, the students union of CASM distributed Television for economically weaker students of Thiruvazhamkunnu. The programme was inaugurated by Prof. Dr. G.Girish Varma, Dean, CASM.

- **Release of College Magazine**

Hon'ble. Vice Chancellor, KVASU Prof. Dr. M. R. Saseendranath released the first college magazine of CASM "Ezhuthani" on 01/03/2021 by handing over to the Registrar, Prof. Dr.

P.Sudheer Babu. Prof. Dr. C. Latha, Dean, College of Veterinary and Animal Sciences, Mannuthy, Kerala, Prof. Dr. P. Anitha, Director, Centre for Advanced Studies in Poultry Sciences, Mannuthy and Dr. Suraj P. T., Associate Professor & Head, LRS, Thiruvazhamkunnu delivered the felicitations. Staff editor, Dr. Vimal Antony and Student editor, Miss. Binju Sundaran also attended the programme. Dr. Stella Cyriac, Assistant Professor, CASM, Thiruvazhamkunnu proposed the vote of thanks.



Placement cell activities

43 students passed in 2020-21. Out of which, 29 students of 2016 batch have been placed in various organisations inside and outside the State.

Other Activities

i. Strengthened the Avian Disease Diagnostic Laboratory and Avian Nutrition Laboratory at CASM, Thiruvazhamkunnu

For providing exposure to students for conducting various tests for disease diagnosis and extending services to public in evaluating samples whenever needed, the disease diagnostic laboratory functioning under CASM was strengthened by installing various equipment like blood analyser, gel documentation system, deep freezer, analytical balance, thin layer chromatography kit, postmortem kit, etc.

Equipment like aflatoxin kit, feed pulverizer, soxhlet apparatus, etc. were installed at Avian Nutrition Laboratory of CASM for Improving the feed analytical facilities at the college, which will benefit the students, farms and the industries equally

ii. Strengthening of placement cum counselling centre at CASM, Thiruvazhamkunnu

For improving the employability of the students and to maintain a lasting relationship with the leading players in poultry industry the placement cell was updated by installing desktop

computers, printers and UPS. This will help in the conduct of various skill development workshops and various events which will improve the quality of the students and thereby will improve their employability.

iii. Strengthening of Library Facility at CASM, Thiruvazhamkunnu

The automation of library has been in progress. For attaining the complete automation of the library activities, an RFID system was installed for automated checking in and out of the students. Books were purchased from various disciplines of poultry science for enhancing the knowledge of students.

iv. Strengthening of Physical education facilities at CASM, Thiruvazhamkunnu

In order to improve the physical health of the students and faculty various equipment were purchased for setting up of model gym at CASM. Sports utility items were purchased for enhancing the students' competitiveness in inter collegiate games and other sports events.

v. Establishing working space for Technology Business Incubation (TBI) centre at CASM, Thiruvazhamkunnu

Technology Business Incubation (TBI) centre was established under CASM using the fund available under IG Project. The installation of various basic infrastructural requirements was completed. Facilities were arranged for conducting various creative activities for the students for improving the mental and entrepreneurial skills.

vi. Digitization of library

For the smooth functioning of the library, Radio Frequency Identification (RFID) integrated self-check in/ check out and desktop have been installed. This will help for the checking in and out of the students and also facilitate the issue of books without manual effort. The installation of UPS system will be done soon.

Photographs



Academic Block



Informatics Centre



Conference Hall

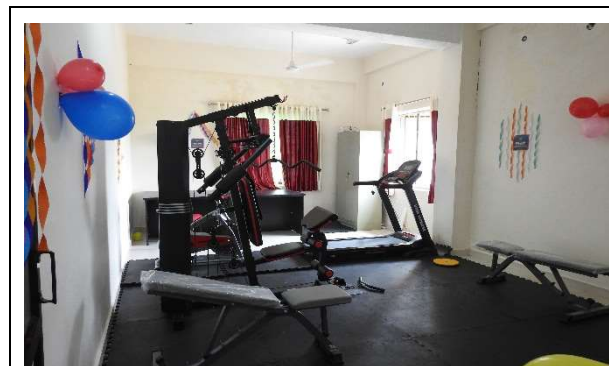


Seminar Hall



Academic Cell

	
<p>Placement cum Counselling Centre</p>	<p>Classroom</p>
	
<p>Mens Hostel</p>	<p>Mens Hostel Annexe</p>
	
<p>Ladies Hostel</p>	<p>Playground</p>
	
<p>Badminton Court</p>	<p>Volleyball Court</p>



Fitness Centre



Library



Disease Diagnostic Laboratory



Avian Nutrition Laboratory



Working Space for Technology Business Incubation Centre



GuestHouse



Canteen



College Bus

COLLEGE OF FOOD TECHNOLOGY, THUMBURMUZHY

DETAILS ABOUT THE COLLEGE

B. Tech (Food Technology) programme started on September 7th, 2015 at College of Food Technology, Thumburmuzhy under the aegis of the Kerala Veterinary and Animal Sciences University. The College of Food Technology will give especial thrust in enlightening the young minds to be dynamic and flexible to the opportunities and challenges of Food industries.

University has three faculties, viz, Faculty of Veterinary and Animal Sciences, Faculty of Dairy Science & Technology and Faculty of Poultry Science. KVASU started College of Food Technology, Thumburmuzhy under the Faculty of Dairy Science & Technology.

The candidates admitted to B.Tech (Food Technology) programme are selected through the Common Engineering Entrance Examination conducted by Govt. of Kerala and admission is for 20 students per year. The course curriculum for B.Tech (Food Technology) is in lines with the pattern specified by the Indian Council of Agricultural Research (ICAR), New Delhi.

College of Food Technology is situated at Thumburmuzhy which is 15km away from Chalakudy Town of Thrissur District. College comes under Pariyaram Panchayath and Chalakudy Constituency. 80% of the students are hostellers, but college has no hostel facility now.

During the month of August, Thumburmuzhy Cattle Breeding Farm adjacent to the college and the college premises were badly affected in the flood mishap and severe landslide and for time being college is now shifted to Mannuthy campus

OBJECTIVES

1. To establish world class educational centre in the area of Food Technology so as to cater the present demand.
2. To build the graduates acquainted with various facets of professionally managed industries which include production management, raw material purchases, personnel management, sales and marketing by virtue of industrial in-plant training.
3. To undertake consultancy services in the area of Food Safety and Quality Control.
4. To establish a Centre of excellence in terms of Food Analytical Capabilities for the Food Process Industries.
5. To undertake training programmes for small and medium food processing enterprises in the organized and unorganized sector.

Admission:

The candidates admitted to the UG course are selected through the Common Entrance Examination conducted by the Government of Kerala. The candidates should have completed Class XII or its equivalent examination with Chemistry, Physics and Mathematics as optional subjects and should have secured an aggregate of 50% marks or above in these subjects in the qualifying examination. The candidates can choose their option for this course among other graduate courses in Engineering.

INSTRUCTIONAL FARMS, KVASU

ULF & FRDS, Mannuthy

No	Particulars		2020-21
1	Year of Establishment		May 1917
2	Total area of the farm		80 Ha
3	(Sanctioned strength/in position as x/y) with designation of each post		
	Scientific staff		
	Professor		1
	Associate Professor		nil
	Assistant Professor		1 (1 on working arrangement)
	Administrative staff		6
	Farm Supervisors		7
	Class IV		2
	Labourers - permanent		99
	Labourers - casual		6
	Others- Specify		
4	Total number of permanent staff		116
	Contract staff		-
	Daily wage employees		2
5	Whether the farm land/part is occupied by any agency/govt. dept in last five years, if yes details with area		1 acre land for KSEB sub-station, Mannuthy
6	Details of Budget allocation and Expenditure		
	Fund released (Non Plan + Plan + EAP)		229 lakhs
	Expenditure (Non Plan + Plan + EAP)		63534425
	Revenue Generated		20157105
	Cost benefit ratio		0.32

7	Objectives of running the farm		To act as a Instructional farm for teaching UG, PG and Diploma students of KVASU To act as a Research and Development centre for scientific cattle & buffalo husbandry, nutrition, genetics, reproduction and other avenues To act as a nodal centre for fodder seed supply and research on fodder cultivation
	Level of achievement of above objectives		Achieved
8	Status of maintenance of mandatory registers in the farm (up to date/pending)		Up to date
9	Suggestions/recommendation of the superior officers who have visited the farm		
10	Details of farm produce		
	Milk/Year		Rs 147468697 + Rs 1636156 generated vide sale of milk @ Rs 43.61 Rs/L for cow milk (Total Production of 338195.3 L) & Rs 45.39 Rs/L for buffalo milk (Total Production of 36046.62 L)
			16384878/-
a	Animals sold/year (Young Stock)		394150/-
	Animals sold/year (Adult Stock)		
	Others (specify)		
	a. Urine @ Rs 8/10 (11823 L)		95890
	b. Vermicompost 8702 @ Rs 15		130530
	c. Raw cow dung 377278 kg @ 1.10		415006
	d. Fodder slips 348557 CO3 & CO5 @ 1.30 & Guinea @ 1		348557
	e. Dry Cow dung Powder 47626 kg @14/kg		666770
	f. Green Grass Sale @4 /kg		698418
	g. Other miscellaneous items		1417056
	Other Benefit From Farm (sum of a to g)		3772227
	Total Benefit		20157105
11	Mechanism adopted for the sale of the farm produce	1 2 3	Milk sold to Dairy Plant Dung sold as dry and fresh as per public demand Fodder slips sold as per public demand

12	Method of purchase of feed		Purchased on credit basis from KVASU Feed mill
	Source of purchase of feed		KVASU Feed mill run by School of Animal Nutrition
A	Cattle pellet feed @ 25/kg for 354152.6 kg		8853815
B	Calf starter @ 32/kg for 6015.25 kg		192488
C	Green grass @ 1453060 kg @2 /kg		2906120
D	Paddy straw @ Rs 7.30/kg for 185897 kg		1357048.1
	Total Cost (a+b+c+d)		13309471.1
A	Buffalo pellet feed @ 25/kg for 111232.45 kg		2780811.25
B	Buffalo Calf starter @ 32/kg for 2678.0 kg		85696
C	Green grass @ 438620 kg @2 /kg		877240
D	Paddy straw @ Rs 7.30/kg for 111232.45kg		811996.9
	Total Cost (a+b+c+d)		4555744.135
	Total Cost		17861215.235
	C: B ratio		0.881
13	Additional facilities created during the year	1	Fodder land expansion with 2 acre new cultivation and 4.5 acre replanting with water tank commissioned on hill top
		2	Facilities for Incinerating waste introduced in Cattle & Buffalo Farm
		3	Chaff Cutting Machine, Hydroponic unit as well as silage making in bags initiated
		4	Refining of Vermicompost with motorized sieve introduced at Cattle Farm
		5	Overhead tank established for farm labourers at Buffalo farm
		6	Surveillance system established at Cattle and Buffalo farm
14	Mechanisms and methods adopted to improve the functioning of the farm (Ten points minimum)		Steps for construction of a milking parlour under full swing Conception rate improvisation by better reproductive management

			<p>Initiated steps for irrigating dry land in the hilly area and to revamp fodder production</p> <p>Fodder Crop Development Army has been established to improvise in house fodder production and conservation</p> <p>A wallowing tank was constructed for improving the welfare of buffaloes and enhancing productivity</p> <p>Foggers and sprinklers were installed in buffalo farm</p> <p>New pond dug to reduce water scarcity during summer was provided with motor facilities</p>
15	Student research during the year		<p>LPM:</p> <p>Effectiveness of illuminated light traps for the control of dipteran biting fly annoyance in dairy farms</p> <p>Animal Reproduction:</p> <ol style="list-style-type: none"> 1. Influence of season on follicular development and oocyte competence in crossbred dairy cattle 2. Intra-uterine ozone treatment for subclinical endometritis in crossbred dairy cows <p>Veterinary Surgery:</p> <p>Autologous platelet rich plasma for treatment of sole lesions in dairy cattle</p> <p>Animal Nutrition:</p> <ol style="list-style-type: none"> 1. Effect of supplementation of rumen protected choline and methionine on early lactating dairy cows 2. Metabolic and productive responses to dietary protein levels in transition cows 3. Improving efficiency of production in early lactating dairy cows through augmentation of rumen biomass production
16	Student training during the year		<p>Farm training for 25 Dairy Diploma students</p> <p>Internship Training Programme for 1 BVSc & AH students</p> <p>OJT programmes for 94 Vocational Higher secondary students</p>
17	Farmers training during the year		<p>Training programme on cattle and buffalo production conducted for 94 rural youth</p>

18	No. of farmers visited the farm during the year		4550
19	Number and type of publications during the year		3 research publications
20	Present stock position of animals/birds category wise		
	Total number of Cattle		
	Milch animals		91
	Dry animals		24
	Pregnant Animals		68
	Heifers		69
	6 months – 1 year		16
	3 -6 months		6+9
	0-3 months		13+10
	Total number of Buffaloes		
	Milch animals		26
	Dry animals		6
	Pregnant Animals		13
	Heifers		31
	6 months – 1 year		7+9
	3 -6 months		4+3
	0-3 months		3+4

CENTER FOR PIG PRODUCTION AND RESEARCH



Stock position as on 31/03/2021:

Age group	CPPR	Megaseed	AICRP	Total
0-2 months	652	105	59	816
2-3 months	112	0	3	115
3-5 months	19	0	4	23
Adults	516	131	101	748
Total	1302	233	167	1702

Age group	CPPR		Megaseed		AICRP	
Gender	Male	Female	Male	Female	Male	Female
0-2 months	369	283	57	48	30	29
2-3 months	29	83	0	0	2	1
3-5 months	7	12	0	0	0	4

Adults	167	352	22	106	13	88
Total	572	730	79	154	45	122

Production and reproduction data:

Trait	Large White Yorkshire	Landrace	Duroc	Indigen ous	Crossbred
Litter size at birth	10.07	9.83	7.46	8.0	10.05
Litter size at weaning	9.64	8.91	6.17	7.5	9.47
Litter weight at birth (kg)	10.96	11.18	10.15	5.60	9.81
Litter weight at weaning (kg)	90.29	88.95	60.09	42.83	84.99
Average individual weight at birth (kg)	1.07	1.12	1.35	0.70	0.97
Average individual weight at weaning (kg)	9.31	9.92	9.95	5.71	8.92
No. of piglets born	788	115	32	16	751
No. of piglets sold	973	95	5	-	1048

Reproduction data:

Sl. No.	Month	No. of piglets born		
		CPPR	Megaseed	AICRP
1	April 2020	277	0	46
2	May 2020	179	0	64
3	June 2020	291	0	85
4	July 2020	171	0	76
5	August 2020	191	0	85
6	September 2020	267	0	57
7	October 2020	299	0	70
8	November 2020	309	0	88
9	December 2020	266	0	36
10	January 2021	304	90	57
11	February 2021	164	68	31

12	March 2021	142	42	28
	Total	2860	200	723

Sl. No.	Month	No. of piglets sold		
		CPPR	Megaseed	AICRP
1	April 2020	50	0	65
2	May 2020	206	0	91
3	June 2020	149	0	60
4	July 2020	183	0	65
5	August 2020	74	0	65
6	September 2020	71	0	60
7	October 2020	74	0	65
8	November 2020	122	0	30
9	December 2020	106	0	42
10	January 2021	99	0	50
11	February 2021	116	46	21
12	March 2021	111	70	30
	Total	1361	116	644

Monthly production data:

Sl. No.	Month	No. of piglets born	No. of piglets sold
1	April 2020	323	115
2	May 2020	243	297
3	June 2020	376	209
4	July 2020	247	248
5	August 2020	276	139
6	September 2020	324	131
7	October 2020	369	139
8	November 2020	397	152
9	December 2020	302	148
10	January 2021	451	149

11	February 2021	263	183
12	March 2021	212	211
	Total	3783	2121

Details of supply of germplasm and other inputs to farmers& institutions:

Sl. No.	Sale category	Number of animals		
		CPPR	Megaseed	AICRP
1	Breeding	474	0	0
2	Culled	411	0	0
3	Fattening	1361	116	644
	Total	2246	116	644

Details on new strains/ varieties/ synthetics developed:

The strategic breeding programmes for more than two decades evolved a new crossbred variety of pig with remarkable disease resistance, heat tolerance, lean meat production and feed conversion efficiency.

Revenue generated by sale of animals:

Sl. No.	Sale category	Revenue (Rs.)		
		CPPR	Megaseed	AICRP
1	Breeding	6605960	0	0
2	Culled	6758455	0	0
3	Fattening	3929126	340950	1856163
	Total	17293541	340950	1856163

The total revenue generated by the sales is Rs.20350000/-

Revenue generated:

Sl. No.	Category	Revenue (Rs.)
1	Sales	20350000

2	Advance booking	171000
3	Others	167030
4	Bank interest received	19617
	Total	20707647.00
	Opening balance as on 01.04.2020	14112.36
	Grand Total	20721759.36

Details of training conducted: No trainings were conducted due to COVID-19 Pandemic and offered online training programmes organised by Directorate of farms.

Consultancy services:

Consultancy services have been provided to around 1000 farmers, during the year 2020-21 through personal and telephonic interactions. The Centre provide technical knowhow to progressive farmers for establishing piggery unit in respect to the construction of shed, health care and management, waste disposal and other problems faced on day to day basis.

Activities

Academic: Due to COVID-19 pandemic, regular classes for both BVSc and MVSc students were suspended and whenever there is reopening of the college, students and junior doctors were offered classes and training programmes. The scientists of CPPR undertake regular theory and practical classes both for students of B.V.Sc& AH and MVSc programmes. In addition, Farm clinics for final year students of CVAS, Mannuthy and Livestock farm practice for third year students were also conducted whenever there is intermittent scheduling of the regular classes. There was also offering of training sessions for Deputy directors of AHD, Kerala during 20-21 period for 3 batches.

Research: The various projects undertaken at CPPR during the current financial year with financial outlay is as given below.

Sl. No.	Name of scheme	Outlay (Lakhs)	Amount released (Lakhs)
Plan projects			
1	Scaling up of piglets production	70.0	5950104
2	Conservation of Ankamali pigs	0	0
3	Evaluation of crossbred pigs(25% AICRP share)	20.0	20.0
4	Strengthening of CPPR	3.0	3.0

5	Whole exome capture and next generation sequencing in Ankamali pigs	6.0	6.0
6	Artificial Insemination for improving reproductive efficiency in pigs	3.0	3.0
7	Waste water management for eco friendly swine production	1.50	1.50
Total		103.5	
EAPs			
1	AICRP on pigs(75% Share)	80.00	80.00
2	Mega seed project	59.0	59.0
Total		139.0	139.0

Year	EXPENDITURE (Lakhs Rs)					REVENUE (Lakhs Rs)	
	AICRP	Mega Seed	Plan	Non Plan	Total Expenditure	Pigs Sold	Revenue Generated
2020-21	7777770	5849037	9299024	25542409	48468240	3006	20350000

List of student projects (MVSc.)

1. Preservability of boar cauda epididymal sperm incubated with specific seminal plasma fractions.
2. Dietary supplementation of selected essential amino acids in Large White Yorkshire piglets
3. A genome made scan for selection signatures in ANkamali black pigs and its genomic comparison with exotic pig breeds.

Extension:

1. The Centre for Pig Production and Research, Mannuthy conducted a sale of piglets to pig farmers whose livelihood was affected due to the COVID-19 pandemic.
2. The Centre for Pig Production and Research could establish piggery units throughout the State of which sizable number of farmers took up this as a full time engagement and this unit is proud to report that it could provide a sustainable income for the families and now many of them totally depends on their pig farm for their income.
3. The centre has been conducting field visits on demand by the farmers to solve their problems.
4. The Centre recommended integrated farming system, centered on pigs to farmers.

5. Every year the Centre is conducting a 'Farm Day'. Many progressive pig farmers have been participating and discuss the prospects and problems of pig rearing in Kerala and many of the pig farmers expressed their success stories.

6. The centre has successfully fulfilled the demand of more than 50 farmers by supplying fattening piglets (75% crossbreds) during the year 2020-21. Crossbred pigs (75%) were produced by inter-se mating. The breeding stock number was increased; health status of farm stock is improved with utmost care and management.

Satellite units:

Sl. No.	Name	Address	Phone
Breeding Units			
1	Mithun M.P.	Muthirithi, kuttyadi	9382660479
2	Sibi Thomas	Muvattupuzha	9797527071
Fattening Units			
1	Sini Jomon	Thodupuzha	7558099057
2	Biju K	Mangalam Dam, Thrissur	9447606237

Successful pig farmer with the animals (Parent stock from CPPR, Mannuthy)



Goat and Sheep Farm, Mannuthy

No	Particulars	2020-21
1	Year of Establishment	1965
2	Total area of the farm	4.10 acres
3	(Sanctioned strength/in position as x/y) with designation of each post	
	Scientific staff	
	Professor	Nil
	Associate Professor	Nil
	Assistant Professor	Nil
	Administrative staff	1
	Farm Supervisors	2
	Class IV	1 (vacant)
	Labourers - permanent	11
	Labourers - casual	0
	Others- Specify	Nil
4	Total number of permanent staff	4
	Contract staff	0

	Daily wage employees		1
5	Whether the farm land/part is occupied by any agency/govt. dept in last five years, if yes details with area		
6	Details of Budget allocation and Expenditure		71.35 LAKHS Rs.5062454/-
	Fund released (Non Plan + Plan + EAP)		Rs.2900000/-
	Expenditure (Non Plan + Plan + EAP)		Rs.7312454/-
	Revenue Generated		Rs.1344126/-
	Cost benefit ratio		
7	Objectives of running the farm		Promote and undertake research all aspects of goat production and health Operate as an instructional farm to students Conduct extension activities as model unit and supply breeding animals to farmers
	Level of achievement of above objectives		
8	Status of maintenance of mandatory registers in the farm (up to date/pending)		Up to date
9	Suggestions/recommendation of the superior officers who have visited the farm		
10	Details of farm produce		
	Total Egg/Year		
	Milk/Year		8564.5L
	Birds sold/year (Chicks)		
	Birds sold/year (Adult)		
	Animals sold/year (Young Stock)		115 NOS
	Animals sold/year (Adult Stock)		93 NOS
	Others (specify)		
	Goat Milk		8564.5L
11	Mechanism adopted for the sale of the farm produce		Direct to farmers, Public and Meat Technology Unit

12	Method of purchase of feed	Direct
	Source of purchase of feed	SANFT, KVASU
13	Additional facilities created during the year	RKVY-Project- New goat shed
14	Mechanisms and methods adopted to improve the functioning of the farm (Ten points minimum)	<ol style="list-style-type: none"> 1. Installed Pressure washer for the effective and fast cleaning of the goat sheds 2. Installed Chaff cutter to reduce fodder wastage 3. Started daily recording of milk (The digital weighing balances purchased for the fast and efficient recording of milk) 4. Transferred 10Lakhs to ID Wing for the repair and maintenance works in the farm 5. Started pregnancy diagnosis in goats by scanning (with the support of OG dept) 6. Installed CCTV cameras for security purpose 7. Regular rotation of bucks to avoid inbreeding 8. Timely culling and replacement 9. Fodder cultivation extended to more area utilizing slurry to attain self sufficiency 10. Regular screening and treatment for ecto and endo parasites
15	Student research during the year	PHD- 4 MVSC-10 MSC-1
16	Student training during the year	NIL
17	Farmers training during the year	NIL
18	No. of farmers visited the farm during the year	182

19	Number and type of publications during the year		NIL
20	Present stock position of animals/birds category wise		
	Malabari Goats		38 NOS
	Attappadi Goats		83 NOS
	Crossbred		139 NOS
	Sheep		58 NOS

AICRP on POULTRY FOR EGGS

The KVASU, Mannuthy centre during 2020-21 has evaluated the S-5 generation of native chicken germplasm up to 40 weeks of age and S-6 generation up to 8 weeks of age. Egg production of native chicken germplasm up to 40 weeks of age in S-5 was 78.95 eggs with average egg weight of 44.08 g. Egg production remained the same whereas 40 weeks egg weight increased by 1.04g in the S-5 generation as compared to the previous generation. Good fertility (91.50%) and hatchability (89.6 and 80.13 % on FES and TES) was observed in S-5 generation. Besides, the centre evaluated IWN and IWP strains up to 64 weeks of age in S-32 generation along with layer control population. In this generation, hen day egg production up to 64 weeks of age increased in both IWN and IWP by 0.2 eggs (267.9) and 4.6 eggs (256.8) respectively on phenotypic scale as compared to the previous generation. The centre has generated a revenue of Rs.18.78 lakhs and has supplied a total of 1,22,876 number of germplasms during the year. The number of farmers benefitted through the germplasm supply from the centre during the current year was 303.

Activities assigned

- Conservation, characterization and improvement of the native chicken germplasm collected from the field.
- The egg production up to 64 weeks will continue to be the selection criterion in IWN and IWP strains.
- The centre will maintain all the surviving birds of first hatch to record egg production till 72 weeks of age.
- Participation in RSPP tests being conducted by Govt. of India each year with IWN x IWP cross
- The centre would supply only a single sex of the pure line parent chicks or the female chicks of IWN X IWP cross for commercial exploitation.

- Development and evaluation of three-way/four-way crosses.

Action taken

- The S-5 generation of native chicken was evaluated up to 40 weeks.
- S-6 generation of native chicken was produced and evaluated up to 8 weeks of age.
- IWN (900 hens) and IWP (879 hens) strains in S-32 generation have completed testing up to 64 weeks of age.
- The body weights recorded at 16, 40 and 64 weeks of age was 961, 1504 and 1558g, respectively for IWN and 926, 1437 and 1471g, respectively for IWP strains.
- The sexual maturity was 141.9 and 140.8 days in IWN and IWP, respectively.
- The hen-housed egg production up to 64 weeks of age was 262.4 in IWN and 249.6 in IWP strain. The values of hen-day and survivors' egg production up to 64 weeks of age were 267.9 and 268.0 respectively in IWN and 256.8 and 257.1, respectively in IWP strain in S-32 generation.
- The egg weight at 64 weeks of age was 51.83 and 51.06g, respectively in IWN and IWP strains.
- IWN X Native (ND) was produced (150 Nos) and the cross of ND male with RIR female (NDR) have been produced and evaluated in farm condition up to 40 weeks.
- The IWN X IWP birds, native chicks and their crosses were supplied to farmers and institutions.

Achievements

A. Development of location specific rural germplasm (egg type)

Production traits of native chickens

A population of native chicken of S-5 generation was evaluated up to 40 weeks of age and its production performance is presented in Table 1. Hen housed egg production up to 40 weeks of age remains the same in S-5 generation when compared to S-4 generation (Table 1).

Table 1. Growth and production performances in S-5 generation of native chicken

Traits	N	Mean \pm SE
Body weight (g)		
Day old	473	28.68 \pm 0.13
4 wks	311	236.0 \pm 2.04
8 wks	217	437.3 \pm 5.08
12 wks	102	736 \pm 11.5
16 wks	611	887 \pm 4.0
40 wks	567	1300\pm7.8
ASM (d)	587	156 \pm 0.4
Egg weight (g)		
28 wks	531	39.15 \pm 0.15
40 wks	449	44.08 \pm 0.18
EP 40 wks (Nos.)		
Hen housed	595	78.95 \pm 0.96
Hen day	-	80.22
Survivors	571	80.40 \pm 0.93

Fertility and hatchability

The S-6 generation of native chickens was produced by pedigree mating and its performance was evaluated up to 8 weeks of age. The number of sires and dams used for breeding to produce the S-6 generation was 50 and 250 (1:5). Fertility slightly reduced while hatchability increased in S-6 generation

as compared to the previous generation (Table 2).

Table 2. Summary of incubation records for last three generations of native chicken

Gens.	No. of hatches	Eggs set (Nos.)	Fertility (%)	Good chicks (Nos.)	Hatchability (%)	
					TES	FES
S-4	3	4196	91.71	3505	84.20	91.81
S-5	2	3473	91.50	2714	80.13	89.60
S-6	3	3058	89.33	2485	82.80	92.75

Juvenile growth traits: Body weights at 8 weeks of age in both male and females increased in S-6 generation over S-5 generation (Table 3).

Table 3. Body weights (g) of native chicken in S-6 generation

Age	Female		Male	
	N	Mean \pm SE	N	Mean \pm SE
Day old	176	31.53 \pm 0.21	385	32.17 \pm 0.14
4 wks	358	254.3 \pm 2.17	404	264.6 \pm 2.16
8 wks	352	549.3 \pm 4.50	255	638.3 \pm 5.43

Growth traits

Results of body weight recorded at various intervals of both male and female birds, ASM and egg weight recorded at 28 and 40 weeks of age is presented in Table 4. The egg weight increased at 28 and 40 weeks in S-5 generation over S-4 generation. Egg production up to 40 weeks of age of previous generation was maintained in the present generation.

Table 4. Summary of growth and production performances of native chickens for last three generations

Traits	Females			Males		
	S-5	S-4	S-3	S-5	S-4	S-3
Body weight (g)						
0 day	28.68	28.47	31.7	28.50	27.37	32.43
4 wks	236.0	168.4	260.4	245.6	171.3	247.92
8 wks	437.3	456.5	408.1	553.4	577.5	504.39
12 wks	886.9	917.3	881.6	1164	1248	1225
ASM (d)	155.9	142.6	154.2	-	-	-
Egg weight (g)						
28 wks	39.15	38.25	39.30	-	-	-
40 wks	44.08	43.04	43.37	-	-	-
EP 40 wks (Nos.)						
Hen Housed	78.95	78.95	79.20	-	-	-
Hen day	80.22	82.30	82.33	-	-	-
Survivors	80.40	83.10	84.90	-	-	-

Mortality in native birds

The mortality during 17-40 weeks in S-5 generation was within the permissible level. Less mortality was observed during 0-8 weeks of age in S-6 generation. (Table 5).

Table 5. Mortality records of native birds for last three generations

Gens.	0-8 wks			9-16 wks			17-40 wks		
	No. Housed	No. Died	Mortality (%)	No. Housed	No. Died	Mortality (%)	No. Housed	No. Died	Mortality (%)
S-4	1559	14	0.89	1319	17	1.28	622	21	3.38
S-5	1215	30	2.47	1185	54	4.56	611	31	5.07
S-6	1565	37	2.36	-	-	-	-	-	-

Performance evaluation of three way cross (NDR)

During the current year the cross of ND male (IWN X Native) with RIR female (NDR) was produced and evaluated in farm conditions up to 40 weeks of age and results are given in Table 6.

Table 6. The performance of three way cross (NDR) at farm condition

Traits	Female		Male	
Body weight (g)	N		N	
0 day	372	35.07±0.19	246	35.71±0.24
4 wks	382	271.4±1.87	159	301.4±2.99
8 wks	343	549.2±4.28	188	682±6.16
12wks	347	976±6.3	164	1292±11.0
16 wks	578	1127±6.2	154	1654±15.9
28 wks	500	1581±8.2	149	2425±17.6
40 wks	433	1666±7.9	142	2441±19.3
ASM (d)	503	155.8±0.6	-	
Egg weight (g)				
28 wk	469	47.51±0.17		
40 wk	316	50.46±0.25		
EP to 40 wks (Nos)				
Hen Housed	478	84.76±1.05		
Hen day	-	94.68		
Survivors	425	87.80±0.97		

B. Improvement of IWN and IWP strains of White Leghorn

The centre evaluated the S-32 generation of IWN and IWP strains up to 64 weeks of age.

Selection records: The summary of selection records for last five generations is presented in

Table 7.

Table 7. Summary of selection records of IWN and IWP strains for last five generations

Strains	Gens.	Sires	Dams	Ne (Contributed)	SD in females	SI (σ)
IWN	S-28	50	278	169.5	14.40	0.58
	S-29	50	277	169.4	14.39	0.32
	S-30	50	298	171.3	10.55	0.27
	S-31	50	280	169.7	8.46	0.42
IWP	S-28	50	275	169.2	17.90	0.49
	S-29	50	263	165.2	16.66	0.33
	S-30	50	297	171.2	10.26	0.29
	S-31	50	282	169.9	11.58	0.58

Incubation records

Fertility in S-32 generation of IWN and IWP strains was more or less equal to previous generation. Hatchability on total and fertile egg set basis in IWN and IWP populations were higher as compared to previous generation (Table 8).

Table 8. Incubation records in last five generations

Gens.	Strains	No. of hatches	No. of eggs set	Fertility (%)	No. of good chicks	Hatchability (%)	
						TES	FES
S-30	IWN	3	6156	88.55	4865	79.60	89.83
	IWP	3	7017	83.64	<u>5110</u>	<u>73.34</u>	<u>87.69</u>
	Control	1	590	84.74	I. 470	II. 90.60	III. 98.75
S-31	IWN	3	6980	88.86	4903	70.94	86.66
	IWP	3	6404	85.09	4073	64.27	85.58
	Control	1	595	90.42	490	84.03	92.93
S-32	IWN	2	5091	89.13	4038	79.32	87.17
	IWP	2	4631	84.30	3258	70.35	85.65
	Control	1	605	29.09	174	28.76	51.03

Mortality

The mortality of IWN and IWP birds of S-32 generation during 17-40 weeks and 17-64 weeks of age was 2.29 %, 5.45% and 3.67%, 12.67% respectively (Table 9). Mortality in IWN strain during 17-64 weeks of age was **slightly higher than the maximum expected level of 1% mortality per month.**

Table 9. Mortality percentage at different ages in last five generations

Gens.	Strains	0-8 wks	9-16 wks	17-40 wks	17-64 wks
S-30	IWN	4.89	1.45	6.75	16.08
	IWP	2.09	2.35	7.70	17.84
	Control	1.20	4.40	5.40	8.84
S-31	IWN	6.57	4.05	3.43	4.27
	IWP	6.04	3.35	5.87	7.87
	Control	2.65	0	3.75	8.75
S-32	IWN	3.97	0.97	2.29	5.45
	IWP	5.82	1.41	3.67	12.67
	Control	4.59	0.00	5.48	4.35

Production performance

Least square means for different economic traits up to 64 weeks of age in both selected strains (IWN and IWP) and in control population during the S-32 generation is presented in Table 10. The hen day egg production up to 64 weeks of age in S-32 generation increased by 0.2 eggs and 4.2 eggs in IWN in IWP strains, respectively. The survivors' egg production up to 64 weeks of age marginally decreased in both the strains in S-32 generation when compared to previous generation.

Table 10. Egg production up to 64 weeks of age over last five generations in different strains

Gens	IWN			IWP			Control		
	HH64	HD64	Sur64	HH64	HD64	Sur64	HH64	HD64	Sur64
S-28	256.7	261.2	263.8	261.3	266.7	268.2	177.6	192.1	194.0
S-29	254.9	260.2	261.6	261.2	267.9	268.8	174.1	184.9	187.9
S-30	245.7	263.2	268.8	247.8	262.9	267.8	176.8	185.4	186.0
S-31	263.1	267.7	268.7	247.7	252.2	259.2	174.5	180.7	184.5
S-32	262.4	267.9	268.0	249.6	256.8	257.1	172.2	179.6	180.7

Egg number

The birds in S-32 generation have completed the performance evaluation up to 64 weeks of age during the reporting period (Table 11). In this generation, hen day egg production up to 64 weeks of age increased in both IWN and IWP by 0.2 eggs (267.9) and 4.6 eggs (256.8) respectively on phenotypic scale as compared to the previous generation.

Table 11. Growth and production performances in S-32 generation of IWN and IWP strains and control layer population

Traits	IWN		IWP		Control	
	N	Mean \pm SE	N	Mean \pm SE	N	Mean \pm SE
Body weight (g)						
16 wks	900	960.8 \pm 2.5	879	926.4 \pm 2.63	73	916.4 \pm 10.99
40 wks	788	1504 \pm 5.49	843	1437 \pm 6.11	69	1316 \pm 17.28
64 wks	723	1558 \pm 6.56	729	1471 \pm 6.67	66	1306 \pm 25.61

ASM (d)	895	142.0±0.27	879	140.8±0.29	72	147.8±1.21
EP 40 wks (Nos.)						
Hen housed	893	127.9±0.50	879	125.52±0.63	73	92.74±3.45
Survivors'	883	128.8±0.41	867	126.27±0.58	69	96.16±3.08
Hen day	-	128.6		126.0		92.74
EP 64 wks (Nos.)						
Hen housed	893	262.4±1.28	879	249.6±1.5	73	172.1±7.04
Survivors'	811	268.0±0.94	727	257.1±1.22	67	180.7±6.21
Hen day	-	267.8		256.8		179.6
Egg weight (g)						
28 wks	885	49.47±0.10	859	48.91±0.1	69	46.28±0.40
40 wks	872	51.61±0.11	849	51.61±0.11	57	50.79±0.53
64 wks	708	51.83±0.17	571	51.76±0.21	46	51.32±0.64

ASM and body weights

The sexual maturity for IWN and IWP strains of S32 generation was 141.9 and 140.8 days respectively which in phenotypic response was -2.39 and 1.24 days when compared with the previous generation.

The body weights recorded at 16, 40 and 64 weeks of age was 961, 1504 and 1558g, respectively for IWN and 926, 1437 and 1471g, respectively for IWP strains

Table 12. ASM and body weights at 64 weeks of age in last five generations in different strains

Gens.	IWN		IWP		Control	
	ASM (d)	BW64 (g)	ASM (d)	BW64 (g)	ASM (d)	BW64 (d)
S-28	144.5	1544	139.6	1585	153.1	1580
S-29	141.4	1498	139.9	1486	154.6	1484
S-30	139.6	1501	135.4	1543	156.2	1521
S-31	144.3	1501	139.5	1497	147.4	1495
S-32	141.9	1558	140.8	1471	147.8	1306

Frequency distribution

The frequency of egg production up to 64 weeks of age in IWN and IWP strains in S-32 generation was maximum in the class interval of 261-280 while in control population it was maximum in the class interval of 221-240 (Table 13). The trend was similar to that of earlier generation.

Table 13. Frequency distribution of egg production up to 64 weeks of age (S-32 generation)

Class interval	IWN	IWP	Control
<100	0.017	0.025	0.097
101 - 120	0.001	0.008	0.083
121 - 140	0.003	0.007	0.056

141 - 160	0.006	0.014	0.083
161 - 180	0.008	0.014	0.153
181 - 200	0.013	0.026	0.139
201 - 220	0.026	0.043	0.153
221 - 240	0.039	0.087	0.181
241 - 260	0.187	0.259	0.028
261 - 280	0.412	0.367	0.028
281 - 300	0.281	0.150	0.00
>300	0.007	0.001	0.00

Egg weight

The egg weight at 40 weeks of age increased by 0.62 and 1.17g in IWN and IWP strains in S-32 generation compared to last generation. However, egg weight at 40 and 64 weeks of age marginally decreased in IWN and IWP strains in S-32 generation compared to last generation (Table 14).

Table 14. Mean egg weights at various ages in last five generations in different strains

Strains	Gens.	Egg weight (g)		
		28 wks	40 wks	64 wks
IWN	S-28	48.00±0.10	52.16±0.10	54.16±0.37
	S-29	47.33±0.10	52.15±0.10	53.19±0.11
	S-30	48.11±0.13	52.03±0.16	52.56±0.17
	S-31	50.29±0.11	50.99±0.11	51.89±0.13
	S-32	49.47±0.10	51.61±0.11	51.83±0.17
IWP	S-28	48.22±0.09	51.46±0.11	55.3±0.13
	S-29	48.39±0.09	52.13±0.09	53.58±0.11
	S-30	48.62±0.11	52.11±0.15	53.80±0.18
	S-31	50.05±0.12	50.44±0.13	53.73±0.16
	S-32	48.91±0.1	51.61±0.11	51.06±0.21
Control	S-28	48.11±0.28	52.21±0.31	51.11±0.47
	S-29	44.40±0.85	51.01±0.47	53.92±0.57
	S-30	49.05±0.27	53.01±0.29	56.28±0.48
	S-31	46.64±0.28	50.78±0.31	55.59±0.45
	S-32	46.28±0.40	50.79±0.53	51.32±0.64

Heritability estimates

In IWN strain, heritability estimate (S+D) of egg production up to 40 and 64 weeks was high in magnitude (Table 15). The heritability estimate (S+D) was high in magnitude for ASM, EW28, EW40 and EW64. In egg weight trait, the heritability estimates from dam components was high than sire component. The heritability estimates (S+D) were high in magnitude for BW16, BW40 and BW64.

In IWP strain, heritability estimate (S+D) of ASM, egg production up to 40 weeks and 64 weeks were low in magnitude. The heritability estimates (S+D) were high in magnitude for BW16, BW40 and BW64 in IWP line.

Table 15. Heritability estimates of different traits in IWN and IWP strains (S-32 gen.)

Strains	Traits	Sire	Dam	Sire+Dam
IWN	ASM	0.35±0.12	0.32±0.14	0.34±0.07
	BW16	0.34±0.12	0.75±0.15	0.55±0.08
	BW40	0.59±0.17	0.53±0.16	0.56±0.08
	BW64	0.36±0.12	0.32±0.14	0.34±0.07
	EW28	0.25±0.10	0.55±0.14	0.40±0.07
	EW40	0.39±0.13	0.25±0.14	0.32±0.07
	EW64	0.28±0.11	0.37±0.15	0.37±0.08
	EP40	0.27±0.11	0.14±0.13	0.21±0.06
	EP64	0.03±0.06	0.41±0.14	0.22±0.06
IWP	ASM	0.14±0.08	0.02±0.13	0.08±0.05
	BW16	0.52±0.15	0.31±0.14	0.41±0.07
	BW40	0.39±0.13	0.31±0.14	0.35±0.07
	BW64	0.44±0.14	0.42±0.16	0.43±0.05
	EW28	0.32±0.12	0.24±0.14	0.28±0.07
	EW40	0.24±0.10	0.41±0.15	0.32±0.07
	EW64	0.20±0.13	0.17±0.16	0.21±0.07
	EP40	0.11±0.08	0.00±0.00	0.05±0.05
	EP64	0.13±0.08	0.00±0.00	0.06±0.05

Phenotypic and Genetic response

The phenotypic response realized in S-32 generation when compared with the previous generation for hen-housed, hen-day and survivors egg production up to 64 weeks of age were -0.06, 0.05 and -0.7 eggs in IWN strain (Response was positive for hen day and negative for hen housed and survivors). The respective values for IWP strain were 1.95, 4.6 and -2.15 eggs (Table 16).

The genetic response for egg weight at 64 weeks and hen housed, hen day and survivor egg production up to 40 weeks was positive in both IWN and IWP strains in S-32 generation. The hen housed, hen day and survivor egg production up to 64 weeks was positive in IWP strain whereas it remained positive only for survivor egg production in IWN strain in S-32 generation. (Table 16).

Table 16. Phenotypic and genetic response (gain) in primary and various correlated traits in S-32 generation

Traits	Phenotypic		Genetic	
	IWN	IWP	IWN	IWP
AFE (d)	-2.39	1.24	-2.76	0.86
Body weight (g)				
16 wks	-87.2	-155.8	68.56	-101.6
40 wks	72.42	41.09	31.33	121.91
64 wks	56.14	-26.01	82.15	163.27
Egg weight (g)				
28 wks	-0.82	-1.14	-0.46	-0.78
40 wks	0.62	1.17	-0.55	1.16

64 wks	-0.06	-1.97	1.91	2.3
EP 40 wks				
Hen Housed	6.74	1.09	5.65	3.26
Hen Day	6.48	2.99	3.49	6.12
Survivors'	6.21	2.18	4.03	2.86
EP 64 wks				
Hen Housed	-0.66	1.95	-2.61	4.3
Hen Day	0.05	4.6	-4.55	5.64
Survivors'	-0.7	-2.15	1.45	1.62

Supply of germplasm

Total germplasm supply from the centre was 1, 22,876 and 303 farmers were benefitted through the supply of germplasm during 2020-21.

Revenue generation

The centre has generated the revenue of Rs.18.78 lakhs during 2020-21 which is 94.32 % of the recurring expenditure.

Important Event

A layer unit comprising of 20 NDR (Three-way cross) birds were gifted to Honourable Governor of Kerala and Chancellor of Kerala Veterinary and Animal Science University Sri. Arif Mohammed Khan.



AWARDS

- Dr. Suja C.S (Farm Manager) received the ‘ Second Best paper award ’ for the paper ‘Evaluation of production performance of Tellichery chicken of Kerala under intensive system’ authored by C.S Suja, Beena C Joseph, Binoj Chacko, P. Anitha and S. Harikrishnan in the 12th Kerala Veterinary Science Congress held on online platform during November 14-15, 2020.
- Dr. Suja C.S (Farm Manager) received the ‘Best Research Article award for the paper ‘Effect on egg yolk pigmentation in Tellichery and Athulya layers by dietary supplementation of Marigold petals, Red Amaranth leaves, Curry leaves and Turmeric powder’ authored by C.S Suja, Beena C Joseph, Binoj Chacko and P. Anitha at World Egg Day Programmes (National Level) jointly organized by the Association of Food Scientists and Technologists Thrissur chapter, Meat

Technology Unit, Mannuthy, KVASU and Indian Veterinary Association, CVAS Mannuthy unit on 9th October 2020.

PUBLICATION

- C.S Suja, Beena C Joseph, Binoj Chacko, P. Anitha and S. Harikrishnan – Evaluation of production performance of Tellichery chicken of Kerala under intensive system’ Compendium of 12th Kerala Veterinary Science Congress, Page 349-350.

Avian Research Station Thiruvazhamkunnu

No	Particulars	2020-21
1	Year of Establishment	2014
2	Total area of the farm	
3	(Sanctioned strength/in position as x/y) with designation of each post	
	Scientific staff	Nil
	Professor	Nil
	Associate Professor	Nil
	Assistant Professor	Nil
	Administrative staff	2
	Farm Supervisors	2
	Class IV	1
	Labourers - permanent	Nil
	Labourers - casual	18
	Others- Specify	
4	Total number of permanent staff	5
	Contract staff	Nil
	Daily wage employees	1 under plan
5	Whether the farm land/part is occupied by any agency/govt. dept in last five years, if yes details with area	NA

6	Details of Budget allocation and Expenditure	
	<u>Fund released</u> <ul style="list-style-type: none"> • Non Plan • Plan • EAP 	<ul style="list-style-type: none"> • 1,88,00,000 • 30 lakhs (e-LAMS 2020-21) & 24.22 Lakhs (2020-21 State plan) • 4.10 Lakhs (RKVY)
	<u>Expenditure</u> <ul style="list-style-type: none"> • Non Plan • Plan • EAP 	<ul style="list-style-type: none"> • 1,33,11,915 • 54.22 Lakhs • 4.10 Lakhs
	Revenue Generated	Rs. 64,99,035/-
7	Objectives of running the farm	<ol style="list-style-type: none"> 1. Input supply to farmers 2. Conducting farmer and industry based research 3. For supporting various academic programmes of KVASU
	Level of achievement of above objectives	<ul style="list-style-type: none"> • Supplied Day old chicks, eggs, grown up birds and manure to farmers. (Sl No 10). • Associated with academic activities of BSc PPBM students. • Provided facilities for DBT project on Kuttanad duck.
8	Status of maintenance of mandatory registers in the farm (up to date/pending)	Up to date
9	Suggestions/recommendation of the superior officers who have visited the farm	Nil
10	Details of farm produce	
	Total Egg/Year 1. Chicken 2. Duck 3. Quail	217112 64984 286852
	Milk/Year	

	Birds sold/year(Adult) 1. Chicken 2.Duck 3.Quail	1928 1288 2261
	Birds sold/year (Chicks) 1. Chicken 2. Duck 3. Quail	107239 11038 76285
	Grown up Birds sold/year 1. Chicken 2. Duck 3. Quail	5921 435 806
	Animals sold/year (Young Stock)	
	Animals sold/year (Adult Stock)	
	Others (specify)	
	Mannur	30008.6 Kg
11	Mechanism adopted for the sale of the farm produce	Sales at Farm Gate
12	Method of purchase of feed	Direct purchase from Feedmill, ARS
	Source of purchase of feed	Revolving Fund Feedmill, ARS
13	Additional facilities created during the year	<ul style="list-style-type: none"> • Experiment shed for Ducks in cage system -1 • Chicken Breeder shed – 1 • Water filtration system • Automatic vaccinator • Trolley Mounted Generator
14	Mechanisms and methods adopted to improve the functioning of the farm (Ten points minimum)	1.Regular hatchery operations 2. Proper farm Management 3. Advertisement through print media 4. Sales of farm produces at farm gate
15	Student research during the year	Nil
16	Student training during the year	1. ETR training for 2017 batch BSc.PPBM 2. Farm training for 2018 Bsc.PPBM students

17	Farmers training during the year		1. Three months Obligatory training programme conducted by KVASU for Assistant Directors of Animal Husbandary Department. (one day in ARS) for Two batches.
18	No. of farmers visited the farm during the year		Farmer's counselling conducted for 1200 farmers over phone and WhatsApp.
19	Number and type of publications during the year		Brochures for Farmers using RKVY fund.
20	Present stock position of animals/birds category wise		
	chicken		5116
	quail		4826
	Ducks		1392

Name of Unit: ILFC, POOKODE

No	Particulars	:	2020-21
1	Year of Establishment	:	2005
2	Total area of the farm	:	850sq.m
3	(Sanctioned strength/in position as x/y) with designation of each post	:	
	Scientific staff		
	Professor	:	0
	Associate Professor	:	0
	Assistant Professor	:	2
	Administrative staff		
	Assistant Registrar	:	1
	Assistants	:	3
	Computer assistant	:	1

	Senior Farm Supervisor	:	1
	Farm Supervisors	:	1
	Class IV	:	1 (in position Daily wage)
	Labourers - permanent	:	132
	Labourers - casual	:	Nil
	Others- Specify	:	Farm Assistant – 4 (daily wages)
4	Total number of permanent staff	:	141
	Contract staff	:	Nil
	Daily wage employees	:	5
5	Whether the farm land/part is occupied by any agency/govt. dept in last five years, if yes details with area	:	Nil
6	Details of Budget allocation and Expenditure	:	650.30 lakhs
	Fund released (Non Plan + Plan + EAP)	:	Rs.1,94,05,554/-
	Expenditure (Non Plan + Plan + EAP)	:	Rs.5,18,03,780/-
	Revenue Generated	:	Rs. 66,44,249/-
7	Objectives of running the farm	:	1. Instructional purpose – Teaching, research and training for UG and PG students. 2. Conservation -A unit of indigenous cattle, goat, poultry are reared for conservation purpose 3. Income generation-from sale farm products
	Level of achievement of above objectives	:	All the objectives are achieved
8	Status of maintenance of mandatory registers in the farm (up to date/pending)	:	Up-to date
9	Suggestions/recommendation of the superior officers who have visited the farm	:	Suggestions to improve income generation were received
10	Details of farm produce		
	Total Egg/Year	:	82207
	Milk/Year	:	72518.1 Ltrs.
	Birds sold/year (Chicks)	:	26192 nos
	Birds sold/year (Adult)	:	3257 nos
	Animals sold/year (Young Stock)	:	245
	Animals sold/year (Adult Stock)	:	43
	Others (specify)	:	
	Manure	:	1,33,624
	Urine	:	31968 litres

	Panchagavyam	:	Nil
11	Mechanism adopted for the sale of the farm produce	:	Direct sale to customers and through sales centers
12	Method of purchase of feed	:	Direct purchase as per requirement as per norms
	Source of purchase of feed	:	University Institutions
13	Additional facilities created during the year	:	<ol style="list-style-type: none"> 1. Chain linked fencing for the fodder plots 2. Two- storey building for pigs was constructed (Ground floor-227.00 m² and First floor-.227.0 m² under RKV project on “Improvement on rural livelihood security by Establishment of satellite piggery unit in Wayanad district” 3. 42 breeding nucleus stock has been established at pig farm 4. Goat Nursery was established under ICAR SC SP 20-21 (13 adult Malabari goat were housed under this project). 5. Chain link fencing of paddock completed. 6. Modern Model Goat shed was constructed under State Plan Project
14	Mechanisms and methods adopted to improve the functioning of the farm	:	<ol style="list-style-type: none"> 1. Improved fodder cultivation by providing irrigation facilities in the fodder plots 2. Reconditioning of ostrich shed and construction of grazing yard for ostrich completed. 3. Provided drainage facility in the poultry shed 4. Maintenance work done in the hatchery 5. Purchased milking machine and PVC slurry tank 6. Repair and maintenance of labour waiting room done 7. Automatic drinking water facility installed in the buffalo shed 8. Culling of unproductive animal and birds 9. Pursuing research activities
15	Student research during the year	:	M.V.Sc.: 7 Ph.D.: 1
16	Student training during the year	:	Internship training, farm clinics, entrepreneurship training for BVSc and AH students
17	Farmers training during the year	:	Nil
18	No. of farmers visited the farm during the year	:	Nil
19	Number and type of publications during the year	:	Nil
20	Stock position of animals/birds category wise as on March 31st, 2021		

Goat and Sheep	Malabari	:	46
	Sheep	:	12
LIVESTOCK FARM	Cross Breed cattle	:	107
	Buffalo	:	24
	Vechur	:	69
	Desi	:	12
POULTRY FARM	Chicken - layer	:	670
	Duck - layer	:	0
	Turkey	:	4
	Quail	:	0
	Guinea fowl	:	1
	Ostrich	:	4
PIG FARM	Large White Yorkshire	:	16
	Landrace	:	6
	Duroc	:	2
	Cross breed Pig	:	119
	Pigs under RKVY project	:	99

MEAT TECHNOLOGY UNIT MANNUTHY

Introduction

Considering the importance of meat in human nutrition, the Kerala Agricultural University had conceived the idea of developing a modern Meat Plant capable of undertaking the responsibilities of teaching, research and extension, almost two decades ago. However, the dream came true in 1992, when infrastructure facilities were created for a multi species abattoir, meat processing unit and necessary laboratories. The unit soon developed modern facilities, which were fully utilized for providing practical hands on training to veterinary students, unemployed youth, entrepreneurs and veterinary officers under Continuing Education Programme. Several externally aided projects were undertaken by the unit including the establishment of a Carcass Utilization Plant with financial support from Ministry of

Agriculture, Government of India.

Regular production, processing and marketing of meat and meat products lead to interaction with the public, State Agricultural Universities, Veterinary Officers, Local body authorities and Animal Husbandry Department. The Meat Technology Unit, Mannuthy was later recognized as Department of Livestock Products Technology in 1994. Several HRD training programmes were developed and implemented which attracted the attention of several universities, State Animal Husbandry Departments, NGO's and private agencies. Several important research activities are undertaken by the scientists of this centre, the results of which are extremely useful to the Indian Meat Industry. The facilities and manpower developed were the first of its kind under universities in India leading to the ICAR recognizing this unit as **Centre of Excellence in Meat Science and Technology in 2001**. Department of Livestock Products Technology and Meat Technology Unit started offering the MVSc programme in 2004 and PhD programme in 2011.

Vision, Mission & Core Values of Meat Technology Unit

VISION:We envision the transformation of the organization into a global training and knowledge hub in meat science and technology

MISSION:Catalyze holistic development of meat sector in the country through sustainable technologies, professional training, entrepreneurship facilitation and knowledge dissemination.

CORE VALUES

1. Maintain high standards in education and training with focus on employability, entrepreneurship and skill acquisition
2. Relentless pursuit towards scalable and sustainable technologies, products and solutions through research and development
3. Operate as a model which consistently delivers superior quality fresh and processed meat products and exemplify the potentials and constraints of the sector
4. Reinforce backward linkages with farmers by direct procurement of the livestock and poultry for meat production

Mandate of Department of Livestock Products Technology and Meat Technology Unit

- Teaching
- Research
- Extension
- Training and entrepreneurship
- Meat and Meat products production
- By- products utilization

Major Activities

1. The regular mandate of the Meat Technology Unit and Department of Livestock Products Technology includes undergraduate and post-graduate teaching, research and extension on various aspects of meat production and processing

2. Development of quality management programmes in the area of hygienic animal slaughter and processing of meat
3. Evolving suitable methodologies for improving the organoleptic qualities of meat and meat products
4. Development of Eco-friendly slaughter house and meat processing unit waste utilization methods
5. Development of adaptable processing technologies and formulations for value addition of livestock products
6. Standardization of packaging technique for fresh and processed meat and poultry for medium scale entrepreneurial adoption
7. Identification, promotion and validation of indigenous knowledge of local butchers and workers in meat sector
8. Regular production, processing and marketing of meat and meat products and byproducts and close interaction with State Agricultural Universities, Veterinary Officers, Local Self Government authorities, Industries Department, Suchitwa Mission, Health professionals, FSSAI, Animal Husbandry Departments etc.
9. Technical advice to entrepreneurs, Food Safety Commissionerate
10. Conducting classes to Nursing, Pharmacy, MBBS, BAMS and Food Technology students
11. Hands-on training on slaughter practices and meat inspection to Vet. Officers and on meat processing to Self Help Groups. The meat species identification laboratory developed at this centre is being utilized by judiciary, forest authorities, wild animal protection agencies, and consumer redressal forums, Government Departments, Veterinary Surgeons, entrepreneurs and the public

Facilities available

Multispecies abattoir, well equipped quality control labs. Carcass utilization plant of European standards for the dry rendering of inedible by products to yield feed-grade meat-cum-bone meal/organic fertilizer. Gamma Chamber 5000 for gamma irradiation of meat and meat products

UNIVERSITY DAIRY PLANT, MANNUTHY

The University dairy plant was commissioned in 1992. It is a student experimental Dairy processing unit where graduate and post graduate academic programs of dairy and veterinary faculties are supported. Moreover research work is carried out by post graduate students from other universities. Dairy plant is offering different training programs like stipendiary training, sponsored training and hands on trainings. Consultancy is offered to entrepreneurs in different aspects of dairy processing. Large number of visitors especially school children are exposed to different technical activities.

Revolving fund scheme operating in this unit process cow and buffalo milks received from University farms into fluid milk and a range of value added milk products. University Dairy plant has developed and standardized some dairy products. All these commodities are sold out through sales counter, University Sales Counter, Mannuthy and some supermarkets in Thrissur Town.

ORGANISATIONAL SETUP

University dairy plant is constituent unit under KVASU. It has got academic, research and extension mandates. Plant is utilized by under graduate students of dairy and veterinary faculties of university for practical training. Post graduate research for students of Dairy Technology, Dairy Science Department and students from other universities are conducted here. Research project is under operation.

EDUCATIONAL COURSES

Dairy and Food Technology offers a promising option for value addition and resource mobilization in terms of availability of Food for the consumers and simultaneously providing more earnings at farmers and industry level. There is large scope for Dairy and Food industry to grow in view of the globalization and increasing purchasing power of consumers. This will further increase the requirement of Dairy Technologists and researchers.

CONFERENCES/SEMINARS/TRAININGS

Topic	No. of Trainees	Institution	Venue	Date
Plant visit and briefing the Plant activities	32 visitors	Farmer's Groups	University Dairy Plant	From 01.04.2020 to 30.03.2021

Research Projects and Extension Activities undertaken:

State Plan Projects

Four Plan Projects entitled (i) Study of Mechanization in manufacture of Traditional Indian Milk Products, (ii) Renovation of Processing / Utility Sections in KVASU Dairy Plant, (iii) Strengthening of Quality Assurance Laboratory of KVASU Dairy Plant and (iv) Electrical Energy Conservation in Dairy Plant, having a Total outlay of Rs. 68 Lakhs were allotted to University Dairy Plant, KVASU, Mannuthy

HUMAN RESOURCES: Teaching Faculty

Cadre	Name of the Scientist	Sanctioned Posts	In position	Vacant	Contact No.
Professor& Head	Dr S N Rajakumar	1	1	Nil	9495882953
Associate Professor	Nil	Nil	Nil	Nil	
Assistant Professor	Mr.Aswin S Warriar	3	1	2	7559067959

1.5.2 Non Teaching

Cadre	Name of the staff	Sanctioned posts	In position	Vacant
Technical Supervisor	Mr. Rajesh V S	1	1	Nil
Farm Supervisor Gr.I	Smt. Mini.P.A	1	1	Nil
Assistant Section Officer	Smt.Salfa Raj	1	1	Nil
Computer Assistant Gr.II	Smt. Vinitha N P	1	1	Nil
Clerical Assistant	Sri. Byjuraj C S	1	1	Nil
Technician(Dairy Mechanic)	Nil	3	0	3
Class IV	Nil	2	0	2
Labourer	Sri. Shabershan V S Sri.Sarath M S	3	2	1

Daily wages/Employment Hands

Cadre	Name	No. appointed
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Technician	Sri. Vivekraj C.V. Sri. Glimson Varghese	2
Class IV	Sri. Amaldev K R	1
Lady Labourer	Smt. Jinitha Anilkumar	1

UVH & TVCC, MANNUTHY

The University Veterinary Hospital and Teaching Veterinary Clinical Complex (UVH & TVCC), Mannuthy congregates the services of all clinical departments viz. Veterinary Clinical Medicine, Ethics and Jurisprudence, Veterinary Epidemiology and Preventive Medicine, Veterinary Surgery and Radiology and Animal Reproduction, Gynaecology and Obstetrics under one umbrella providing integrated tertiary veterinary healthcare, disease investigation aid, ambulatory facility and consultancy services to the public.

1. Funds and Grants

Sl no	Scheme code	Name of scheme	Plan Outlay	Total allotment	Expenditure	Refund
1.	RSP/20-21/V-1	Establishment of Veterinary Referral Molecular diagnostic Laboratory	7 lakhs	7 lakhs	699213	787
2.	RSP/20-21/VI-11	Doorstep Veterinary Services to the Rural Farmers of selected villages through Ambulatory clinic	2.5 lakhs	2.5 lakhs	249985	15
3.	RSP/20-21/XIV-15	Universal veterinary health coverage for optimizing productivity of livestock	14 lakhs	14 lakhs	1400000	Nil
4.	RSP/20-21/XIV-16	Development of new teaching veterinary clinical complex to impart advanced veterinary health service to farmers in Kerala	8 lakhs	8 lakhs	799953	47

2. Details of facilities/ services/programme

UVH & TVCC is the distinctive platform imparting quality training on clinical practice to the undergraduate, post graduate and doctoral students of the college along with conducting scientific research in the field of veterinary clinical sciences. This unit also provides advanced trainings on the diagnostics to veterinarians and the disease control measures in profitable livestock farming to entrepreneurs and farmers. It is also offering a stipendiary training to VHSE pass outs in “Animal handling, veterinary laboratory techniques, pharmacy and nursing”, which equips the selected candidates in all supportive para-veterinary duties enabling them to secure jobs in veterinary hospitals/ farms in public as well as private sector.

a) **Academic activities:** Veterinary Clinical Practices, Tracking program, Veterinarian in Society etc for UG students. Several PG and PhD courses are being offered by other departments and training is given at TVCC.

b) **Continuing Veterinary Education:** Trainings/webinars were conducted for field Veterinarians, Additional Directors of AHD

c) **Dermatology:** Clinical investigations and therapy for all type of skin ailments. About 250 cases is being handled per month.

d) **Vaccination details:** Around 250 vaccination per month

e) **Pharmacy:** Hospital pharmacy dispenses common drugs and other emergency medicines free of cost. The revolving fund pharmacy attached to the hospital dispenses all medicines and disposables at a subsidized rate.

f) **Operation Theatre:** Month-wise report of minor & major surgeries conducted

Sl No	Item	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Total
1.	Minor Surgery (Rs. 300)	2	6	0	6	11	6	16	17	11	8	6	10	99
2.	Minor Surgery (Rs. 500)	1	1	3	4	4	1	3	4	4	2	2	1	30
3.	Major Surgery (Rs. 1000)	0	0	0	0	2	3	2	2	5	1	2	2	19
4.	Major Surgery	0	0	0	1	0	0	1	0	0	1	0	0	3

	(Rs. 1200)													
5.	Major Surgery (Rs. 1500)	0	0	0	1	0	0	1	4	6	2	4	2	20
Total		3	7	3	12	17	10	23	27	26	14	14	15	171

g) **Emergency and critical care:** Casualty and emergency services are provided in the critical care unit attached to the TVCC. Average 8-10 cases/day is being attended.

h) **Mobile Veterinary Service:** Ambulatory clinic is functioning at selected rural milk societies (Cherumkuzhy and Malamukku) in the ambulatory vehicles engaged solely for this purpose. The experienced faculty extends their service to the farmers of Cherumkuzhy and Malamukku on routine basis, conducting infertility camps and awareness programmes. Average of 250 cases/month is attended. Field farm visits for special expert diagnostic aid is also provided on request from the Animal Husbandry Department.

i) **Case Studies:** Around 50 clinical cases were studied and presented by the students and faculty at various conferences/webinars.

j) **Veterinary Record:** Monthly reports and disease reports are being submitted to the university on monthly basis.

k) **Consultancy services:** About 30 consultancy services per month is conducted

l) **Laboratory Services:** A molecular biology lab and a veterinary diagnostic clinical laboratory are functioning in this TVCC. Following diagnostic services are routinely carried out in these labs.

1. Molecular diagnostics for hemoparasites
2. Routine faecal sample examination
3. Urinalysis
4. Complete blood count and hematological evaluation, Blood smear examination
5. Skin scrapings and impression smear examination
6. Serum biochemistry (ALP, ALT, AST, Total protein, Albumin, Bilirubin, Blood Urea Nitrogen, Creatinine, Calcium, Phosphorus, Magnesium)
7. Microbiology (culture and sensitivity examination of bacterial pathogens)
8. Cytopathology of fine needle aspirate and biopsy samples.

m) Summary of cases handled

Sl No	Item	Apr il 202 0	Ma y 202 0	Jun e 202 0	Jul y 202 0	Au g 202 0	Sep t 202 0	Oct 202 0	No v 202 0	Dec 202 0	Jan 202 1	Feb 202 1	Ma r 202 1	Tota l
1.	Bovine	82	143	172	289	197	177	210	334	272	187	196	230	2489
2.	Caprine	159	249	269	249	382	263	336	410	448	386	361	374	3886
3.	Small animals (Canine & Feline)	615	811	637	581	606	610	743	950	1037	1095	1045	1261	9991
4.	Birds	47	86	70	53	81	81	104	95	108	100	107	102	1034
5.	Others	10	16	18	25	23	27	92	51	47	40	27	46	422
Total		913	1305	1166	1197	1289	1158	1485	1840	1912	1808	1736	2013	17822

3) Staff details

Professor and Head (i/c)

Dr. Usha Narayana Pillai

Assistant Professors

- Dr. Soumya Ramankutty, Assistant Professor, Department of Veterinary Surgery and Radiology (on working arrangement) 01/04/2020 to 24/07/2020.
- Dr. Shyma V.H., Assistant Professor, Department of Veterinary Epidemiology and Preventive Medicine (on working arrangement) 01/04/2020 to 30/12/2020.
- Dr. Varuna P. Panicker, Assistant Professor, Department of Veterinary Biochemistry (on working arrangement) 01/04/2020 to ongoing.
- Dr. Reji Varghese, Assistant Professor, Teaching Veterinary Clinical Complex, 01/07/2020 to ongoing.
- Dr. Preena P., Assistant Professor, Department of Veterinary Epidemiology and Preventive Medicine (on working arrangement) 08/01/2021 to ongoing.

- vi. Dr. Ajith Y., Department of Clinical Veterinary Medicine, Ethics and Jurisprudence (on working arrangement) 17/03/2021 to ongoing.

4) Revenue Generated

Sl. No.	Item	Amount
1.	Registration	294000
2.	Ultra sound scanning	260600
3.	Major surgery	53700
4.	Minor surgery	43600
5.	Exfoliative vaginal cytology	41760
6.	Clinical laboratory investigation	1364503
7.	House Visit	1000
8.	Emergency charge/treatment charge	49500
9.	ECG	8300
10.	Oxygen Therapy	2500
11.	Dystocia	47000
12.	Blood transfusion and blood bag	7500
13.	Semen Collection& evaluation	4000
14.	Antivenom	35000
15.	Echocardiography	55400
16.	IP charges	6700
17.	Essential Therapy	400
18.	Hemodialysis	7500
19.	Parvo/Distemper/Leptospira kit	52000
20.	AI (Frozen semen cost)	8010
21.	Blood gas analysis	43400
22.	Caesarean	64000
23.	Immunoglobulins	15500
24.	Ketone body kit	450
25.	Total	24,66,323

TEACHING VETERINARY CLINICAL COMPLEX, POOKODE

1. Name of the Unit: Teaching Veterinary Clinical Complex, Pookode

2. About :

- a. Origin & History: TVCC, Pookode started under College of Veterinary and Animal Sciences, Pookode under Kerala Agricultural University during 2005 as state of the art veterinary clinical service, complying to the stipulations laid down by VCI with all modern diagnostic and clinical facilities. The present building was built under the RIDF of NABARD. Later the hospital was upgraded to the

status of a station under KVASU from 2011 onwards. Presently TVCC, Pookode is functioning as a referral clinical centre for Wayanad, other northern districts of Kerala as well as neighbouring states. Apart from the main hospital as Pookode campus, a peripheral hospital at Kakkavayal and a farm clinic at Sugandhagiri are also functioning under this station.

- b. **Mandate:** The station envisages ensuring advanced diagnostic, clinical and surgical facilities to address all animals and birds sufferings, ensuring productivity and optimum reproduction performance of livestock, supporting rural livelihood through sustainable livestock and poultry farming, conducting research programme for advancements in clinical services and wildlife disease control, engaging in preventive healthcare practices, conducting rural health camps, imparting quality veterinary clinical training to equip students with global competence, conducting training, camps and consultancy services and ensuring knowledge dissemination to farmers, public, professionals, children and entrepreneurs
- c. **Funding:** Station is mainly funded by the Plan and Non-Plan allocations of KVASU budget received from Govt. of Kerala. ICAR has funded 75 lakhs rupees during 2011-12 for establishing a centre experiential learning on critical care. Also projects for receiving funds from other sources like Development Grants of ICAR, NABARD-RIDF, RKVY are on processing. KVASU has funded Rs. 30.00 lakhs from Chancellors Award fund during 2018-19 for upgrading critical care unit, establishing a transfusion medicine unit and furnishing training centre. Routine operations of hospitals are carried out through revolving fund projects.
- d. **General functioning:** TVCC, Pookode is functioning with the support of faculty from all clinical and para-clinical departments of CVAS, Pookode. Two major revolving fund projects are running in the station, one for the healthcare, diagnostic and surgical services while the other one is for running a margin free medical store at the hospital. In addition, a six months stipendiary training on veterinary nursing, laboratory and pharmacy practices for students completed VHSC is ongoing at this station
- e. **Staff structure:**

Post	b. of sanctioned posts	In position
------	------------------------	-------------

Professor and Head	ie	. Bipin K. C. (in charge)
Associate Professor	ie	cant
Assistant Professors	ve ork arrangement from CVAS, Pookode)	. Rathish R. L. . Remya V. . Umesh C. G. n work arrangement from CVAS,Pookode)
Pharmacist	ie	cant
Endiographer	ie	cant
Form Assistant	ie	daily wages
Laboratory Technician	ie	nder Revolving Fund Project
Office Assistant	ie	. Faisal
Class IV	ie	daily wages
Driver	ie	cant
Labourers	ur	work arrangement from ILFC, Pookode

3. Details of livestock/ facilities available: TVCC, Pookode is functioning with following units:

- Outpatient units of Medicine, Surgery and Gynaecology
- Inpatient facility for small animals
- Critical care unit
- Ultrasound scanning and ECG unit
- Clinical Laboratory
- Large animal and small animal operation theatres
- Ophthalmic, orthopaedic and dental surgical intervention facilities
- Small and large animal anaesthesia facilities
- Assisted reproduction/ obstetrics theatre
- Video endoscopy and laparoscopy unit
- Physiotherapy and laser treatment unit
- Neonatal incubation facility
- Computerized radiology unit
- Transfusion medicine unit
- Wellness clinic for pet animals
- Pharmacy

4. Details of cases attended and treated at TVCC, Pookode during 2020-21

Sl. No.	Cases attended	Number
1	Bovine	885
2	Caprine	2215
3	Small animals (Canine & Feline)	5581
4	Birds	310

5	Others	155
	Total	9643
6	Ultra sound scan	417
7	Endoscopy/otoscopy	0
8	Major Surgery I	201
9	Minor Surgery	61
10	Intramedullary pinning	34
11	Obstetric cases	102
12	Pregnancy Diagnosis	425
13	Exfoliative vaginal cytology	136
14	Infertility cases	117

5. Details of Revenue Collected at TVCC, Pookode during 2020-21

Sl. No.	Cases attended	Number
1	Registration	1,38,360
2	Ultra sound scanning	91,520
3	Exfoliative vaginal cytology	16,570
4	Clinical laboratory investigation	5,22,458
5	Minor surgery	29,800
6	Major surgery	2,99,000
7	Emergency charge/treatment charge	22,300
8	Vaccination	1,93,990
9	X-ray	1,73,550
	Total	15,26,108

6. Projects (EAPs, State Plan)

State Plan Projects on strengthening the veterinary healthcare and diagnostic services through TVCC, Pookode

2019-20

1. Extension of clinical services through peripheral hospital and rural veterinary health camps Rs. 12.00 Lakhs
2. Experiential learning in veterinary emergency and critical care Rs. 10.00 Lakhs

2020-21

1. Empowering Clinical Veterinary Services For Comprehensive Livestock Health Coverage In Wayanad And Neighbouring Districts Rs. 15.00 Lakhs

Revolving Fund Projects

1. Revolving Fund Project on Comprehensive Animal Health Management Through TVCC, Pookode
2. Revolving Fund Project for Margin Less “Karshakamithra” medical store at TVCC, Pookode

Other funds received during this period

1. Chancellors award fund for best emerging university
 - a. For purchase of educational institution bus for clinical training of students
Rs. 25.00 Lakhs
 - b. For strengthening/ establishing critical care and transfusion medicine units in TVCC, Pookode
Rs. 15.00 Lakhs
 - c. For establishing a farmers training centre
Rs. 15.00 Lakhs
 - d. For strengthening laboratory and diagnostic facilities
Rs. 15.00 Lakhs
7. Submitted proposals
 - a. Multispecialty referral hospital with diagnostic laboratory
Rs. 210,0.00 Lakhs
 - b. NABARD RIDF proposal for upgrading infrastructure facilities
Rs. 5,58.00 Lakhs
8. Accomplishments:
 - Surgeons of TVCC, Pookode has successfully tele-guided a complicated thoracic surgery for correction of vascular ring anomaly and a rarest condition of cricopharyngeal dysphagia in dogs through online platforms for doctors stationed at Malaysia during 2020
 - Scientists, undergraduate and post graduate students presented various clinical papers of cases presented at TVCC, Pookode in national and international seminars and secured significant achievements
 - Many publications in national and international peer reviewed journals about the clinical cases presented at the hospital, their diagnosis and treatment studies by the scientists, undergraduate and post graduate students
 - ICAR fund for experiential learning in critical care for 75.00 lakhs
 - KVASU allotted Rs. 25.00 lakhs for purchase of a bus for transportation of students for clinical exposure during 2017-18, Rs. 30.00 lakhs for infrastructure improvement during 2018-19 and Rs. 30.00 lakhs for improvement of veterinary laboratory facilities
9. Research activities
 - Providing research support for post-graduate and doctoral students of clinical and para-clinical subjects by permitting them to attend the wards, collect samples,

sample processing, providing laboratory services and also for conducting treatment trials.

10. Academic activities

Courses offered at TVCC, Pookode:

- a. For BVSc & AH:
 - VCP 411, VCP 421, VCP 511 (MSVE 2009)
 - Veterinary Clinical Practice I and II (MSVE 2016)
- b. Stipendiary training on Veterinary Laboratory techniques, Pharmacy and Nursing

11. Extension activities

Extending clinical services to the rural areas, conducting clinical consultancy services, conducting health/ infertility/ immunization camps and awareness classes, organizing and associating with various training programmes for professionals, farmers, students and public.

12. Publications of faculty of TVCC, Pookode

Amithy S Nair, **Umesh C. G.**, Biju. P. Habeeb, Vinu David. P and Reghu Ravindran. 2019. Comparative efficacy of deep skin scrapings test, hair pluck method and tape impression method employed for diagnosing demodicosis in dogs. *IJIRSET*, 7699-7703
Anjali Ramesh, Vinu David P., Biju P. Habeeb, **Umesh C. G.**, Dinesh P.T., 2019. Efficacy of Fourier Transform Infrared Spectroscopy for the Analysis of Urinary Stones in Canines. *IJIRSET*, 7787-7791

Aswathy S., Biju P. Habeeb, Chintu Ravishankar, **Umesh C. G.**, Vinu David P and George Chandy, 2019. Screening of Tuberculosis in Wild Boars in Kerala, *JWR*, 07: 47-49.

- V. Nagashree, S. Sooryadas, V.N. Vasudevan, P.T. Dinesh, N.S. Jineshkumar, **C.G. Umesh** and K.D. John Martin, 2020. Processed human amniotic membrane grafting for treatment of corneal ulcers in dogs, *Indian J. Vet. Surg.* 41(1): 38-42

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Detection of Salmonella in exotic pigeons of North Kerala and its antibiogram J. Vet. Anim. Sci. 52(3) 228-233

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Xavier, M., Anees, R., Vijayakumar, K., & **Rathish, R. L.** (2020). Management of a case of acute equine colic in Wayanad district, Kerala. *Journal of Indian Veterinary Association, Kerala (JIVA)*, 18(2), 70-73.

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Dr. Remya: Mesenchymal stem cell tailored bioengineered scaffold derived from bubaline diaphragm and aortic matrices for reconstruction of abdominal wall defects. *Journal of Tissue Engineering and Regenerative Medicine*. 2020.

Dec;14(12):17631778. doi:10.1002/term.3132. (Wiley Online Library)

Dr. Remya: Selection of biological prosthesis for abdominal wall repair on the basis of in vitro biocompatibility determination. *Journal of Tissue Engineering and Regenerative Medicine*. 2020 Jul;14(7): 955963.doi:10.1002/term.3055. (Wiley Online Library)

Dr. Remya: Healing potency of bone marrow derived mesenchymal stem cells from rat and dog for wound healing in rat model. *Trends in Biomaterials and Artificial Organs*. Sep2019 33(2), 30-46. (Society for Biomaterials and Artificial Organs, India)

Dr. Remya: Studies to Evaluate the Safety of Constant Rate Infusions of Dexmedetomidine, Ketamine and Lidocaine Alone or in Combination during Isoflurane Anesthesia in Horses. *Indian Journal of Animal Research*. 2021. April. doi. 10.18805/IJAR.B-4401. (Agricultural Research Communication Centre)

Dr. Remya: Polypropylene mesh seeded with fibroblasts; A new approach for repair of abdominal wall defects in rats. *Tissue and Cell*. 2017. Jun; 49(3):383-392. doi: 10.1016/j.tice.2017.04.004. (Elsevier)

13. Awards and Honours received by faculty of TVCC, Pookode

Dr. Umesh C. G.: Third place in poster presentation in 38th Annual convention of Indian Society for Veterinary Medicine & National symposium on “Advancement in Veterinary Medicine in Mitigating challenges to Animal Health “held at veterinary college, Hebbal, Bangaluru during 5 th to 7 th February, 2020 (Student Advisor)

Dr. Rathish R. L.: Third Prize, Oral Presentation (2018): First Annual convention of Veterinary Internal and Preventive Medicine Society, held at Mathura, UP

UNIVERSITY VETERINARY HOSPITAL, KOKKALAI

1. BACKGROUND INFORMATION OF THE DEPARTMENT

University Veterinary Hospital, Kokkalai, initially known as Cochin State Veterinary Hospital established in 1904, currently functioning as an independent station under Kerala Veterinary and Animal Sciences University. The hospital occupies an area of 1.19 acres. The outpatient clinic of the hospital (OP Clinic) works from 8.00A.M to 12.00 noon (OP registration up to 11.30 AM) and there after casualty service is being provided up to 4.00 P.M. on all working days and from 9 A.M to 12.00 noon on all holidays. Hospital handles about 100 to 120

cases daily with an annual increment of about 10%.

Major Mandates of the Station

1. Providing expert treatment, health checkup and preventive vaccinations and breeding management to animals, supported by modern diagnostic facilities
2. Clinical teaching of undergraduates, post graduates and doctoral students.
3. Facilitating postgraduate and doctoral research and under taking External Aided Research Projects
4. Referral services and emergency clinical cases referred by veterinarians and providing treatment
5. Providing training to VHSE (Dairying and Animal Husbandry) Certificate holders and farmers, conduct of continuing veterinary education programme
6. Consultancy services to govt. and private agencies

Major Facilities:

Video endoscopy, Ultrasonography, Computed Radiography with networking to units, Operation theatre with gaseous anaesthesia, digital monitoring, ventilator, oxygen administration, facility for soft tissue, orthopaedic, gynaecological and ophthalmic surgeries. ECG, emergency and critical care with defibrillator, breeding advice with EVC, gynaecological operation theater, Laboratory with autohaematology analyser, semi-automatic serum chemistry analyser, Dark field microscope, Fluorescent antibody microscope, automated progesterone analyser, facilities for routine hematological and microscopical examination, blood transfusion, Vaccinations for pets and birds on discounted rates, pharmacy with common drugs, emergency medicines and i/v fluids.

Details of Service Rendered

No. of cases attended – (species wise)

:	Canine:	19043
	Bovine :	3853
	Caprine:	2905
	Feline :	2638
	Avian :	1286
	Others :	331
	TOTAL:	30056

In-patient facilities	:	NIL
No. of cases admitted and quarantined	:	NIL

Vaccination

▪ Multi component Vaccine in dogs	:	2402
▪ Anti-rabies Vaccination	:	2134
▪ Cat Vaccination	:	230
▪ Ranikhet Disease Vaccine	:	0

Referral units (No. of cases attended) : 3574

- Operation Theatre services : Major: 386 Minor :274
- Emergency and critical care service : 264
- Mobile veterinary service : NA
- Veterinary Medical Record System : Manually maintained through a nominal register and case sheets. Registration valid for two months
- Case studies carried out / published through : Nil (Researches and publications through concerned departments)
- Details of project works carried out by outside students : NIL
- Revenue generated (Only the amount remitted to Finance Officer's Account up to 31.3.2021)
 - Non-Plan : Rs. 8, 500.00
 - Revolving Fund: Rs. 9, 00, 000.00

2. EDUCATIONAL COURSES

Undergraduate/ Post graduate/PhD/Diploma/any other

- Supports clinical courses of BVSC &AH pertaining to Department of Surgery and Radiology, Animal Reproduction, Gynecology and Obstetrics, Clinical Medicine, Ethics and Jurisprudence and Epidemiology and Preventive Medicine and clinical practice of M.V.Sc and PhD courses pertaining to the above subjects are also being conducted here.
- Stipendiary training program on Veterinary Nursing, Pharmacy and Laboratory Techniques for students completed Vocational higher secondary course.

3. CONFERENCES/SEMINARS/TRAININGS/VISIT OF INTERNATIONAL FACULTY

:

A. Conference/Seminars/Trainings/Workshops conducted: NIL

B. Visit of International Faculty

NIL

C. Conference/Seminars/Trainings attended :

Name of the Incumbent	CONFERENCES/SEMINARS/TRAININGS ATTENDED
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Dr. Syam K. Venugopal Professor and Head	Conference/Seminars/Trainings/Workshops attended: <ul style="list-style-type: none"> Attended 12th Kerala Veterinary Science Congress, organized by Indian Veterinary Association, Kerala, held at IVA Buildings, Thiruvananthapuram during 14th and 15th November, 2020
Dr. Radhika, R Assistant Professor	<u>Papers presented at seminars:</u> <p>NIL</p> <u>Conference/Seminars/Trainings/Workshops attended</u> <ul style="list-style-type: none"> IVA Training programme (online) on environment and audit on 19.4.2020 IVA Training programme (online) Artificial intelligence and its application in veterinary medicine on 1.5.2020.

4. RESEARCH / INFRASTRUCTURE PROJECTS

a. Funded

Sl. No.	Name of the Project	Outlay (Lakh)	Amount Received (Lakh)	Amount Utilized (Lakh)	Source
1	Strengthening of Veterinary Hospital	30.0	0.0	0.0	State Plan Projects 2020-21
2.	Empowering Farm Animal Health Care Services for Enhancing production	12.0	11, 99864	11, 99, 822	-do-
3.	Breeding and Reproductive Services for Optimising Fertility of Companion Animals.	15.0	15.0	14, 99, 991	-do-
4.	Developing a protocol for evaluation and management of veterinary trauma patients and establishment of Veterinary Trauma Care Centre	10.0	10.0	9, 99, 921	-do-
5.	Detection of epidemiological pattern of mastitis pathogen and validation of management strategies for control of mastitis	8.0	8.0	7, 98, 983	-do-
6.	Strengthening of sales of Sales Outlet at UVH, Kokkalai	4.0	0.0	0.0	

b. Departmental projects : NIL

5. PUBLICATIONS (mention publications in recent 3 years)

a. Journals

Name of the Incumbent	Details of Article Published
Dr. Syam K. Venugopal Professor and Head	<ul style="list-style-type: none"> Prabhukumar, M. D., Dileepkumar, K. M., Devanand, C. B., Syam K. Venugopal, Indu V. Raj, Anoop, S., Sudheesh S. Nair and Laiju M. Philip (2020). Elastic Stable Intramedullary Nailing for Fixation of Distal Diaphyseal Fracture of Radius in Two Dogs. <i>Indian J Vet Surg.</i> 41(2): 134 - 136. (IF-0.02, NAAS Rating-4.7). Anoop, S., Venugopal, S. K., Jinu John, Jaikumar, V. S., Sarangom S. B. and Devanand, C. B (2020). Surgical Management of Intestinal Evisceration in a Spectacled Cobra (<i>Naja naja</i>). <i>Indian J Vet Surg.</i> 41(2): 146. (IF-0.02, NAAS Rating-4.7).
Radhika.R. Assistant professor, Clinical lab, UVH, Kokkalai	<ul style="list-style-type: none"> L. M. Thamilbharathi, R. Radhika, M. N. Priya, Binu K. Mani, K. Anbarasu and K. Devada. Molecular identification of <i>Haemonchus contortus</i> in goats <i>J. Vet. Anim Sci.</i> 52.2: 2582-0605.

b. **Books**

:

Sl. No.	Title	Authors / Department	Language
1.	Practical manual for the Stipendiary Training on Veterinary Nursing, Pharmacy and Laboratory Techniques - 2021	Dr. Syam K. Venugopal Professor and Head, Dr. Laiju M Philip, Dr. Reji Varghese Dr. R. Radhika and Dr. Javed Jameel Assistant Professors	English

6. **AWARDS/ HONOURS AND OTHER PERSONAL ACHIEVEMENTS**

Dr. Syam K. Venugopal

Functioned as a Jury and chair for **12th Kerala Veterinary Science Congress**, organized by Indian Veterinary Association, Kerala, held at IVA Buildings, Thiruvananthapuram during 14th and 15th November, 2020

7. **EXTENSION ACTIVITIES**

By the Institution

1. Free Anti rabies Vaccination camp
2. Advice to public on animal husbandry and welfare issues.

3. Sales outlet of KVASU Products started from 02/05/2016 and is still continuing.

By Incumbents

Name of Incumbent	Extension activity
Dr. Radhika, R Asst. Professor	<ul style="list-style-type: none"> Handled classes to farmers under NSS programme Training class for the senior officers of Animal Husbandry Department.
Dr. Syam K. Venugopal Professor and Head	<ul style="list-style-type: none"> Consultancy Service for the Thrissur Zoological Park Consultancy Service for the Department of Forests and Wildlife Department. Consultancy Service for the Department of Kerala Police Dog Squad. Training class for the senior officers of Animal Husbandry Department.

8. ADMINISTRATIVE, EDUCATIONAL, RESEARCH AND OTHER ASSIGNMENTS

- Biomedical waste management is being carried out in affiliation with IMAGE-IMA
- Member in the Special Purpose Vehicle for the implementation of Thrissur Zoological Park.

9. SIGNIFICANT EVENTS IN THE DEPARTMENT

Hospital functioning following Covid – 19 protocol.

10. STAFF DETAILS:

Sl.no	Name	Designation
Head of station		
1	Dr. Syam K. Venugopal	Professor and head
Teaching faculty		
2.	Dr. Radhika, R	Assistant Professor
Technical staff		
3.	Smt. Manjith Kumar T.R	Farm Supervisor, Gr. I
4.	Mrs. Divya	Pharmacist (Daily Wage appointment)
5.	Smt. Preethimol M	Radiographer (Daily Wage appointment)
Administrative Staff		
6.	Sri. Bijiyh Baby	Section Officer
7.	Sri. Mridul, M	Assistant

8.	Sri. Joy, A. K	Class IV
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CENTRE FOR ANIMAL ADAPTATION TO ENVIRONMENT AND CLIMATE CHANGE STUDIES(CAADECCS)

BACKGROUND (CAADECCS)

Climate change has become a buzz word. The alterations in climate are creating havoc globally, gathering attention from multiple fields of science. Agriculture being the back bone of economic development, is getting adversely affected with the variations in climatic events. Livestock sector, being the engine of agricultural growth, acts as the major source of income for the poor and marginal farmers of developed as well as emerging nations. Indeed, the sector is unique for both contributing to climate change and also for being affected by the same. The surging levels of greenhouse gases provide the scope for the phenomena called global warming, making livestock production at stake. There are evidences to prove the increased concentration of greenhouse gases over the last century. These effects are of serious concern for its projected impact on dairy sector, the major livelihood of the poor underprivileged farmers. The present scenario of global warming is expected to affect the breed composition, nutritional security, emergence as well as re-emergence of pests and diseases.

The Kerala Veterinary & Animal Sciences University (KVASU) has established the “Centre for Animal Adaptation to Environment and Climate Change Studies (CAADECCS)” to excel in climate change education, research and extension in the field of Animal Agriculture under the Directorate of Academics and Research as per the University Proceedings No. KVASU/DAR/R2/3579/2011 (1) Pookode dated 27.04.2012 with ICAR special grant during XI Plan.

The CAADECCS serves as the nodal agency dealing with research and capacity building on all the aspects of climate risk management in relation to animal agriculture including weather insurance and provide information to the planners/ policy makers for implementing strategies to

mitigate the ill effects of climate change/variability so as to sustain and enhance the rural livelihoods through livestock production and management.

The centre aims to have Livestock Advisory Field Units (LAFUs) at all livestock farms to cater to the location specific issues on climate change adaptation and mitigation and prepare Livestock Advisory based on medium Range Weather Forecasting for the benefit of livestock farmers. The outcomes of the Centre will have local and regional as well as national and global relevance on climate change adaptation and mitigation strategies in the field of Animal Agriculture under the Humid Tropics. A multidisciplinary team have been identified comprising of Veterinary Physiology, Livestock production management, Animal Nutrition, Preventive Medicine and epidemiology, Animal reproduction, Biotechnology and public health as a part of capacity building and human resources development to meet the objectives of the Centre.

Faculty Position:

1. Implementing Officer- **Dr V. Beena** (Associate Professor, Dept. of Veterinary Physiology)
2. Assistant Professor- **Dr S. Harikumar**(Assistant Professor Dept. of LPM on additional duty)

1. Education

1.1 P.G. Diploma in Climate Services

Two P.G. Diploma Programs have been launched in Climate Services. No student enrolment in the academic year 2020-21

1.2 Ph.D. Climate Change and Animal Agriculture

No students enrolled to PhD programme in the academic year 2020-21

1.3 CAADECCS-ACCER BSc.-MSc Climate Change Adaptation

Three students of B.Sc.-M.Sc. (Integrated) Climate Change Adaptation, ACCER, KAU completed their six months electives from CAADECCS. The details of the students are as follows:-

1	Reshma Nair M R	2015-20-008
2	DivyaSasi	2015-20-015
3	Amrutha M S	2015-20-006

1.4 Continuing

Education

1.4.1. Training offered to AHD Officers:

Officers of the Animal Husbandry Department attended classes in CAADECCS on climate change and Animal Husbandry as a part of their three months training programme.

2. Research

- 2.1 One student from Kerala Agricultural University did Masters' research under the supervision of Dr S Harikumar and Dr V Beena on **“Predicting heat load inside the cattle shelter by analyzing abiotic and biotic factors in tropical humid zone”**.

Abstract

The study was conducted to predict the influence of various biotic and abiotic factors on the microclimate of the cattle shelter and develop a meteorological model specifically for the Kerala climate. Data collected from three higher THI zones and one lower THI zone of Kerala during the summer months in February and March of 2020. Macroclimatic and microclimatic data of the cattle sheds were collected using electronic loggers. Details of farms, topographical information of locations, structural characters of cattle sheds and physiological responses of animals were collected and analysed. Heat Load Index (HLI) was calculated to quantify the thermal stress factors for analysing stress responses of animals and for developing meteorological model. Biotic factors such as respiration rate, head, flank and udder temperature and abiotic factors such as altitude, ambient temperature interior, roof temperature, floor temperature, light intensity and percentage of shade had shown a significant correlation with HLI. Multiple regression analysis was performed on the basis of this and developed following three mathematical models that reliably predicted heat load. $HLI = -3.37 + 2.42 \times \text{Head temperature } (^{\circ}\text{C}) - 0.17 \times \text{Respiration rate (beats/ min)}$, $HLI = 58.47 + 0.77 \times \text{Floor temperature } (^{\circ}\text{C}) + 0.263 \times \text{Roof temperature } (^{\circ}\text{C}) - 0.007 \times \text{Altitude (m)}$ and $HLI = 25.79 + 1.56 \times \text{Head temperature } (^{\circ}\text{C}) + 0.20 \times \text{Respiration rate (beats/ min)} - 0.006 \times \text{Altitude (m)}$. These models will be useful for adopting thermal stress alleviating measures and designing dairy farm in the climate change scenario.

- 2.2 One student from CVAS, Mannuthy did MVSc research on “Association of Temperature Humidity Index with Physiological, Biochemical and Behavioural Responses in Native and Crossbred Goats”, under the supervision of Dr V Beena

3 State Plan Projects

"Livestock Advisory Based on weather Forewarning" (RSP/20-2L/XIV-6) with a total

financial outlay of Rs 7 lakhs (seven lakhs only) under the state Plan Schemes for the year 2020-2021 e-LAMS'

The released amount was effectively utilized for the conduct of CAADECCS. A conference table was brought by utilizing amount from state plan for the smooth running of CAADECCS. Also, the repaired observatory equipments were replaced. The amount was also spent for improving the facilities of the Centre for effective dissemination of information to the farmers. In collaboration with KAU weekly bulletins containing tips on animal husbandry practices being distributed to farmers of Thrissur, Palakkad and Ernakulum districts using messengers, online services like email and Whatsapp. From 2019 onwards CAADECCS has been successful in recording all the important weather parameters from the surface observatory established in CVAS Mannuthy Campus in collaboration with the Indian Meteorological Department (IMD). And also we are routinely providing weather information to various newspapers, online and television Medias. Furthermore, hourly/daily/monthly/yearly data recorded from automatic weather station is effectively utilized for various research works.

4 External Aided Projects

1. The RKVY project (2019-20) with a financial outlay of 170 lakhs has been sanctioned to CAADECCS. Ref: G.O. (Ms) No. 112/2019/AD dated 31/08/2019. The process has been initiated for tendering.

5 Publications

2.3.1. Articles Published in Research Journals

- Swathy., S. Ajithkumar., N. Madhavan Unny., Usha Narayana Pillai., V. Beena and C. Sunanda Arterial blood gas analysis in Labrador retriever dogs with upper and lower respiratory tract diseases. 2019.S. *J.Vet.Anim.Sci.* 51(1):75-78
- N.V. Jisha., G. Girish Varma., V. Beena., A. Prasad., V.L. Gleeja., K. Karthiayini and V. Sejian Response of crossbred cattle in terms of respiration rate and rectal temperature to maximum and minimum THI period of Kerala. 2020.. *J.Vet.Anim.Sci.* 51 (2): 214 – 216
- Sasi, D., Harikumar, S., Prasad, A., Beena, V., Gleeja, V.L. and Nameer, P.O (2021). Structural and microclimatic characteristics of dairy cattle shelters in Kerala. *J Indian Vet Assoc.* 19(1): pp-33-42

2.3.2. Details of Presentations Participation in National Seminars

- Participated in 12th **Kerala Veterinary Science Congress** with a paper entitled “**Models to predict heat load inside the cattle shelter based on biotic and abiotic variables in Kerala**” on 14th – 15th November 2020, at Mannuthy, Thrissur, Kerala. Participated in **33rd Kerala Science Congress** with a Poster entitled “**Influence of Structural Components of Cattle Shelter on the Welfare of Dairy Cattle in Kerala**” on 25th – 30th January 2021.

6 Extension Activities

CAADECCS and NSS unit of College of Veterinary and Animal Sciences, Mannuthy jointly organized the “World Environment Day” celebration at CVAS, Mannuthy on 10.06.2020.

Organized a Photography Competition for the faculty and students of KVASU in connection with the World Environment Day celebration 2020 based on the theme “Nature heals during lockdown”.

Organized a Cartoon Competition for the students of KVASU in connection with the World Environment Day celebration 2020 based on the theme “Animals reclaiming the planet”.

11. INTRODUCTION

12. COURSES OFFERED BY COHEART

The Centre offered three courses for the year 2020-21, which included PG Diploma in One Health, PG Cert. in One Health Surveillance and PG Cert. in Community Based Disaster Management.

13. PROJECTS

- Occurrence and characterization of major antimicrobial resistant and zoonotic entero-pathogens at man-animal-environment interface. *Funded by Kerala Govt. State Plan 2019-20*

14. ACTIVITIES AND RECOGNITION (2020-21)

- **Awards:** PGDOH Dissertation work of Dr. Annie Navomi Phillip received Second prize in the Oral presentation at the National Online Conference organized by Environment and Social Development Association (ESDA), Delhi held on 5-6 June 2020
- **Capacity building:** Organized awareness class on 2019-Novel Coronavirus– An Update” at Pookode Campus on 31.01.2020 and at Mannuthy Campus on 02.02.2020. Released educational videos
- **TV Talk:** Dr. Jess Vergis, Co-ordinator, COHEART delivered an Awareness TV Talk on Avian Influenza on Malanadu Channel “Talk to doctor program” telecasted on March 24. Dr. Jess spoke on Avian influenza and its mitigation, prevention and control
- **Knowledge Survey:** Conducted nation-wide knowledge Survey on “Understanding COVID 19 Pandemic.
- **"One Health" Awareness drive:** - An awareness drive using questionnaire based approach: The One Health concept that has gained maximum momentum following World Veterinary Day- April 25, 2020. This questionnaire survey is to help human and animal health practitioners, researchers and policy makers to clearly understand the One Health concept which will in-turn help us to take One Health approach to a next level of implementation.
- **Radio Talk:** Awareness Radio Talk on COVID-19 on RED FM radio channel by Dr. Jess Vergis, Co-ordinator, COHEART
- Involved in KFD control activities of the district
- **Public Awareness:** Awareness video on COVID-19, Kyassanur Forest Disease and Avian Influenza on the Dr. COHEART youtube channel
- As a part of One Health day an event on “Building Next Generation Student One Health Leaders for Healthier Planet was launched on November 3rd, 2020. A total of 564 registered student members from India and other neighbouring countries. The event started at 11 am.. The Hon’ble Vice Chancellor of KVASU, Prof. (Dr.) M. R. Saseendranath inaugurated the event. One health day awareness video in Indian sign language done by the students (<https://youtu.be/6BqmokUREVw>)

was released. Dr. Gyanendra Gongal, Regional Advisor (Food safety), WHO Regional Office for South East Asia sensitized on One Health. He gave an enthusiastic talk on zoonoses at the human-animal interface, one health as a solution based approach, how international movements should be developed for one health.

- Webinar on “One Health approach to emerging zoonosis with special reference to COVID -19”. The objective of the webinar was to sensitize students on COVID-19 pandemic and how to adopt One Health approach to control the pandemic and future outbreaks of emerging zoonoses. Nearly 500 registrations from all over the country were anticipated. **Speaker Dr. Kinley Penjor**, Technical Advisor Group member of COVID-19 and Sr. Regulatory and quarantine officer, gave a clear idea about the topic COVID-19 management in Bhutan. He started with an introduction of Bhutan, then he talked about the successful management of COVID-19 with the help of One Health approach in the country. **Speaker Dr. Savan Sara Mathew**, District surveillance officer, Wayanad and in-charge of communicable diseases, Department of Health Services, Government of Kerala delivered a talk on the topic ‘COVID-19 management in Kerala and the one health approach’. She gave us an idea about COVID-19, its epidemiology, pathophysiology, along with management and prevention strategies. And finally, about how important one health approach is in battling a pandemic. **Speaker Prof. (Dr.) M. Sekar**, Veterinary consultant, Integrated disease surveillance, Directorate of public health and preventive medicine of Govt. of Tamilnadu talked about ‘COVID-19 management in India and the one health approach’. His talk started with the microbiology of the Sars CoV-2 and focused on its host-environment relationship. He later talked about the one health approach and how it’s the need of the hour along with briefly discussing about COVID-19 in animals and prevention measures
- A One Health educational documentary was made in the local language (Malayalam). The 2- minute documentary was done in such a manner that even a 10-year-old child can understand the concept of One Health. The documentary aired on a popular local channel called KITES VICTERS channel run by the government of Kerala aimed at education of the students across the state. The script was written in the simplest way possible by Serinmary and Nisha. Serinmary provided the voice over for the script. The documentary contained illustrations that highlighted the importance of One Health and at the same time attracted the student’s attention.
- One Health Mentorship programme: “Building next generation student leaders through One Health Mentorship programme” was exclusively for students in relevant professions in the One Health sectors. The aim of this program is to recognize One Health approach in addressing the emerging public health threats, to engage students in gaining in-depth knowledge about a specific public health threat and addressing it in a One Health manner, to provide a suitable platform for student interaction with One Health leaders and to engage

students in developing info graphic material for social media advocacy on specific theme of One Health. A total of 40 students joined the programme. They were categorized to five groups (A-COVID 19, B- Rabies, C- Nipah, D- Kyasannur Forest Disease and E- Avian Influenza) and were paired to five mentors. All the mentors completed PG Diploma in One Health offered by COHEART. The students were given weekly targets as detailed under:

- Week 1: Introduction about One Health and learn about the threat
- Week 2: Know about the stakeholder response and control towards the threat
- Week 3: Design strategy for One Health Interventions
- Week 4: Presentation, report submission, evaluation and e-certificate distribution

The presentation was held on November 25 and all the students have submitted their report on November 28 and e-certificate was distributed on Nov. 30th. A total of 40 students from north, south, east and west regions of India were given intensive one month mentoring about a specific public health threat and how to address it in a One Health manner.

- **Awareness Classes for School Children:** One Health sensitization webinar (at school level) in 6 schools over a span of 2 weeks ranging from November 4th to November 15th

Aysha Safrin and Amruthasree VM, introduced the students on One Health concept to AMLPS Karinganad South, Vivekananda Vidyaniketan Kolathur and GHSS Chaliserry. They explained how the health and well-being of our pets and domestic animals are important and emphasized the necessity of vaccination and proper hygiene. They took Rabies as the model and taught the children how one health can be used to successfully control rabies. Franco PS, was the one to put forth the idea of One Health to students from GVHSS Ambalavayal, NHSS Kolathur, and Marthoma Girls HSS Thrissur. He took Leptospirosis, a disease that has been occurring in Kerala during the monsoon season, to teach the students about how the one health approach works. Leptospirosis being a potential zoonotic risk at hand, he discussed the need for personal protection measures and hygiene along with proper vaccination. The idea of how nature has a role in the spread of diseases and how as humans we can prevent them to build a healthier world together was conveyed.

- **Panel Discussion on Antimicrobial Resistance (AMR) and One Health:** The objective was to conduct a panel discussion with panelists from multiple disciplines and to release the discussion as short videos throughout World Antimicrobial Awareness Week to generate public awareness. The panel discussion was held on November 13th and 14th prior to the WAAW to ensure that we would be able to release the videos on time.
 - Dr. Laura Kahn: Co-founder of one health initiative and research scholar at Princeton University, USA. The discussion mainly focused on Antimicrobial Resistance and One Health approach. She emphasized the importance of alliance of multiple sectors in tackling AMR and use of bacteriophages instead of antimicrobials as an alternative.

- Dr Anuj Sharma: Technical focal point for AMR, IPC AND LABS, WHO Country office, India. The discussion mainly focused on AMR action plans and strategies. He pointed out the need of each state implemented projects to tackle AMR, state action plans (WHO launched three state action plans in Kerala (KARSAP), Madhya Pradesh (MPSAPKAR) and in Delhi).
 - Dr Philip Mathew: Consultant ReAct Asia Pacific, CMC Vellore India: Dr Philip focused on the environmental perspective of Antimicrobial Resistance. The discussion went on to analyze Environmental Impact Assessment Draft 2020 with reference to the pharmaceutical industries, significance of proposing antibiotic residue limit in pharmaceutical industry effluents. The discussion also focused on sewage treatment plants, whether they are capable of handling antibiotic residues.
 - Dr Jayesh V: Veterinary surgeon, Wayanad, India: The discussion was about ‘Antimicrobial Resistance from a Veterinarian’s perspective’ . Dr. Jayesh elaborated on the veterinarians’ responsibility in tackling AMR. He also advocated for the judicious antimicrobial usage.
 - Dr. Ardra R. Menon: Associate Professor of Department of Microbiology, Govt. Medical College, Thrissur. The discussion was focused on effect of AMR in humans. Dr.Ardra carefully laid out the impact of AMR on public health, the preventive methods taken at an institution and the strategies that to make people aware of AMR. She also described the mechanisms by which the pathogens are getting resistant.
 - Dr. Robin J. Paul: Veterinary Surgeon, Key member of Kerala Antimicrobial Resistance Strategic Action Plan (KARSAP). He mainly focused how antimicrobial residues pose a threat to one health. He explained about the methods to detect antibiotic residues in meat products and how fisheries industry is affected the menace of AMR. He also talked about KARSAP in brief so that we may get an understanding of its workings.
 - Dr. Jess Vergis: Assistant Professor, Dept. of Veterinary Public Health, College of Veterinary and Animal Sciences Pookode. The discussion focused on AMR from a research perspective. He talked about his previous works on antimicrobial effects of *Lactobacillus* spp. and multi- drug resistant enteroaggregative *E. coli*.
- **Competitions:**
 - **Quiz Competition:** The objective was to promote awareness about the role environment plays in one health. A participation of 50 students from all aspects of one health was anticipated. The competition was held on the Topic – Ecology, environmental health and pollution. The competition held on November 15th at 4 pm Indian Standard Time. It was open to students from all aspects of One Health. There were 84 students from all the aspects of one health who participated in the E quiz competition.
- Winners**
- First prize: Shambhavi I Meti, Veterinary College Hassan

- Second prize: Niranjana Davis, Medical Student, Jubilee Mission Medical College Thrissur
- Third prize: Zubair Vali P, Veterinary College Tirupati
- **Essay writing Competition:** The objective was to promote awareness about the role environment plays in one health. A participation of 20 students from all aspects of one health was anticipated. The competition was held on the topic - Environmental health, the most neglected aspect of the one health. The entries were open from November 3rd to November 10th. It was open to students from all aspects of one health. There were 25 participants who carefully studied and linked environmental health to one health.

Winners

- First prize: Anisha Mol M, BSc Biotechnology student AJK College of Arts and Science, Coimbatore
- Second prize: Dr Srinivas Kandhan, PhD Scholar, Department of Veterinary Public Health, Indian Veterinary Research Institute, Bareilly
- Third prize: Dr Debajyoti Sarkar, PhD Scholar, Animal Reproduction, Gynecology, and Obstetrics, National Dairy Research Institute, Karnal
- **E-Poster Competition:** The objective was to promote awareness about the role environment plays in one health. A participation of 20 students from all aspects of one health was anticipated. The competition was held on the topic- Wildlife disease ecology and spill-over of pathogens. The entries were open from November 3rd to November 10th. It was open to students from all aspects of one health There were 22 participants from various disciplines and the judgement was done by experts in the field.

Winners

- First prize: Dr. Karthik K.V., MVSc Scholar, Department of Veterinary Gynecology and Obstetrics, Veterinary College Hebbal Bangalore
- Second prize: Payal Kar, BVSc & AH student, College of Veterinary Sciences and Animal Husbandry R.K Nagpur West Tripura
- Third prize: Yallappa M. Somagond, Ph.D. Scholar Animal Physiology, National Dairy Research Institute, Haryana
- Dr. Prejit, Officer-in-Charge, COHEART delivered a webinar talk on “Overview on emerging viral zoonoses” under webinar series organized by School of Public Health and Zoonoses, GADVASU, Ludhiana on 27/01/2021

- International Veterinary Students Association (IVSA) Pookode in association with COHEART, KVASU organized a webinar on “Small Animal Practice in US, a typical day and common case presentations and lessons learned” by the renowned small animal veterinarian and creator of @thevetitude; Dr. Lauren Smith. The session was held on February 23rd 2021 and was very informative and received good feedback from students who participated.
- Dr. Prejit, Officer-in-Charge, COHEART acted as the invited speaker for one-day national seminar on One Health Initiative in Addressing Public Health issues in the present pandemic situation” held on February 13, 2021. He handled a session on “Emerging Viral Zoonoses and its control using One Health Approach”. The seminar was organized by Society for Bioinformatics and Biological Sciences (SBBS), Uttar Pradesh in collaboration with Applied Research and Development Organization (ARDO), Jammu.
- COHEART associated with four-day networking workshop organized by Aceso & INDOHUN (Indonesia One Health University Network) that was held at Jakarta, Indonesia from Feb. 4-7, 2020 to discuss on One health approach to Childhood Infection and Pollution (CHIP) project at urban slums in Indonesia. Dr. Prejit, Officer-in-Charge, COHEART, the CHIP technical expert (Animal Health and AMR) had participated. The workshop was organized to review and refine methodology for pilot cohort Childhood Infection and Pollution study in Jakarta that incorporates household survey, human, animal & environmental sampling & metagenomics & technology enabled citizen science tools, including strategies to rationalize CHIP Consortia structure and communication. The deliberation helped to publish an article on “Operationalising a One Health approach to reduce the infection and antimicrobial resistance (AMR) burden in under-5-year-old urban slum dwellers: The Childhood Infections and Pollution (CHIP) Consortium”. See article link here: <https://doi.org/10.1016/j.onehlt.2020.100144>
- **World Wildlife Day-Webinar on “Wildlife medicine- opportunities and challenges:** World wildlife day was celebrated on March 03rd and is an opportunity to raise awareness of the wild flora and fauna. On this occasion, International Veterinary Students Association (IVSA) Pookode in association with COHEART, KVASU conducted a webinar on “Wildlife Medicine- Opportunities and challenges”. The session was handled by Dr. Aswathy Sathi who is budding wildlife and exotic medicine expert and a recipient of the AAZV Murray Fowler award. The session was inspiring for all the wildlife aspirants. Various student members from different countries could participate in the event.
- **Animal Welfare Week – March 22- 28:** Animal welfare week was well celebrated by the students from March 22 to 28, for raising awareness on animal welfare issues worldwide. IVSA Pookode (in collaboration with COHEART, KVASU) with the efforts of members from the Standing Committee on Animal Welfare, pookode planned and conducted a series of programs. Abhina K S, Ambassador

for IVSA Global's standing committee on animal welfare led the team. The event consisted of, "Adopt Don't Shop" where a short video-making competition with an animal that has been rescued was conducted. A **photography contest** themed Unconditional Love was held and the best photographs were featured on social media platforms. **Reel with Your Pet**, a fun-oriented program where students were encouraged to create reels with their pet animals. An **awareness video** related to tail docking and ear cropping- Is it really necessary? was developed by IVSA to spread a valuable message regarding tail docking and ear cropping procedures that are being performed on certain dogs across the world. This was followed by a **cartoon drawing** competition that allowed the participants to showcase their talents. The topic for the competition was "End Violence Against Animals". The event also witnessed a **crossword puzzle** contest including intriguing questions about the animal world. Details of the program are available at the Instagram page https://www.instagram.com/ivsa_pookode/

- **Rabies Vaccination Camp:** As a part of Animal welfare week IVSA Pookode, in collaboration with COHEART, KVASU, and Vengappally Veterinary Dispensary participated in a rabies vaccination camp. The camp was held for animals in and around Vengappally Veterinary Dispensary, Wayanad district. Around 60 animals were vaccinated (for free). Dr. Dileep, Dr. Meenuja guided the students in the camp.
- Dr. Prejit, Officer-in-Charge, COHEART acted as the expert panel for ReAct Asia Pacific and World Animal Protection-India panel discussion on "Antibiotic use in farming affecting consumer rights and animal welfare" held on March 15th for Commemorating World Consumer Rights Day 2021
- Dr. Prejit, Officer-in-Charge, COHEART acted as the panel expert for the "Meeting of State Level Zoonosis Committee in Kerala" on 17th March 2021 organized by the South Regional Coordinator, ICAR -National Institute of Veterinary Epidemiology and Disease Informatics, Yelahanka, Bengaluru under the aegis of the Inter-sectoral Coordination Programme (ISCP) for Prevention and Control of Zoonotic Diseases, of National Centre for Disease Control, Ministry of Health and Family Welfare, Government of India, Delhi
- On the occasion of National Science Day and in conjunction with World Veterinary Day, the Faculty of Veterinary Sciences & Animal Husbandry (BVSc & AH), Shuhama, Kashmir organized a webinar on the topic related to "One Health Approach for Control of Emerging Health Threats" on 24th of March 2021. The resource person and speaker was Dr. Prejit, Officer-in-Charge, COHEART

CENTRE FOR ADVANCED STUDIES IN POULTRY SCIENCE

Centre for Advanced Studies in Poultry Science (CASPS) was established in 1985 as recognition for its contribution in various fields of activities. Establishment of ICAR Revolving Fund poultry project, implementation of NATP on productivity enhancement of Ducks and successful conduct of IV World Water Fowl conference etc. are the significant milestones of the Centre.



PROJECTS CONTINUING THROUGH THE YEAR

- Revolving Fund Poultry Project

This is a successful model of Revolving Fund Project operating in KVASU which is under the administrative control of CASPS, which was started in 1998 with Rs. 25 lakhs as one time grant from ICAR. During 2020-21, major activity under the Revolving Fund Poultry Project is production and supply of balanced poultry and livestock feeds to cater the requirements of farms under the University and Animal Husbandry Department of Government of Kerala. **In 2020-21, 2209.45 MT of feed was produced and supplied to various farms.** Apart from this, poultry feed in 5 kg and 50Kg packets were also supplied to farmers to promote backyard poultry production. **In 2020-21, 44.25T of Chicken breeder, 18.05T of Chicken grower, 12.60T of Chick mash, 21.30T of Duck Breeder, 6.00T of Duck Grower & 0.30T of Duck Starter** retailed to farmers through Revolving Fund Poultry Project, CASPS, Mannuthy.

Sl No	Title of the Scheme	Name of the funding agency	Name of the PIs and Co-PIs	Outlay
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1	Revolving Fund Poultry Project	Funded by ICAR initially and after complete repayment of corpus amount, operating in revolving fund mode	PI Dr.P.Anitha Co-PIs Dr.Binoj Chacko Dr.Harikrishnan S Dr.Sankaralingam Dr.Suja C.S	25 lakhs (Corpus Fund) from ICAR
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State Plan Projects 2020-21 (continuing)

- Conservation and popularization and of native chicken varieties in Kerala – 18.00 lakhs (Rs.1.53 lakhs only received)
- Advanced Studies mycotoxin testing facilities for Poultry Feed – 6.5 lakhs (Rs.1.3 lakhs only received)

Mycotoxin Lab

All ingredients purchased for feed production and the compounded feed produced in the feed mill under CASPS were screened for aflatoxin level using ELISA reader. In 2020-21, 74 samples were screened for Aflatoxin level. In 2019-20, an amount of Rs.19,500/- remitted to FO as internal revenue.

- Hatchery waste disposal and its effective utilization – 6 lakhs (Rs. 1,00,000/- only received)

As per the conditions laid in MoU between KVASU & KAU, standardization procedures for preparation of reagents and conversion of hatchery waste to a fertilizer product by fortification with the reagents prepared by Dept.of Soil Science, College of Agriculture, Vellayani is finished. The protocol is adapted using the equipments installed in this project for the proper utilization of hatchery waste in the poultry farms of KVASU. From January 2019, the solar power plant has generated a power of 555 Kwh of solar energy. The equivalent amount of the power generated will be deducted from the KSEB bill of the hatchery of CASPS. The project is a game changer which not only solves the waste issue but also benefits the agricultural industries which are relying more on chemical fertilizers in the most energy efficient way.



1. Solar panels
2. Site of installation
3. Machinery
4. Packed manure

SUPPORT SERVICES

Consultancy

Type of consultancy	Client details	Revenue generated
Counseling	Farmers	Nil

Research Articles

1. Cyriac, S., Joseph, L., Anitha, P. and George, G.T. (2020). Effect of Individual Selection on Growth and Carcass Characteristics in Kuttanad Ducks (*Anas platyrhynchos domesticus*). Indian Journal of Animal Research. Submitted: 21-08-2019 Accepted: 01-04-2020 Published:
2. S. Maya, P. Anitha, T.V. Aravindakshan, C. Sunanda, V.R. Indu, A.R. Sreeranjini, N.S. Sunilkumar and K.B. Sumena. 2020. Study of the anomalies in unhatched chicken eggs. *Journal of veterinary and animal sciences* Volume 51 Issue 1 (January-June):70-74
3. Azhaguraja Manoharan, S Sankaralingam, P Anitha, Binoj Chacko and TV Aravindakshan. 2020. Genotypic confirmation of non-broody behaviour of white leghorn by 24bp indel(s) polymorphism at the promoter region of prolactin gene. *International Journal of Chemical Studies*; 8(2): 2491-2493

4. Azhaguraja Manoharan*, S. Sankaralingam, P. Anitha, Binoj Chacko, and T. V. Aravindakshan. 2020. Single Nucleotide Polymorphism C-2161G in Promoter Region of Prolactin Gene in 'N' Strain of White Leghorn. *Int.J.Curr.Microbiol.App.Sci*(2020) 9(4): 1996-1999
5. S. Cyriac*, I. Joseph, P. Anitha, S. Antony and P. Vineetha. 2020. Estimation of genetic parameters and response to selection for eighth week body weight in Kuttanad ducks (*Anas platyrhynchos domesticus*). *Indian Journal of Poultry Science* 55(1): 11-15
6. Binoj Chacko* and Anitha, P. 2021. Production Response of Athulya Layer Chicken to Dietary Energy Concentration and Feed Particle Size. *International Journal of Livestock Research*, Vol. 11 (1) 97-102.

FACULTY DETAILS

Sl. No.	Name and designation of the Teaching Staff	Discipline	Residential address	Email ID	Contact No.	
					Land line (Residence)	Mobile
1	Dr. P. Anitha, Director	Poultry Science	Nandanam, Koorkanchery, Thrissur-7	anitha@kvasu.ac.in		9447006663 (official)

CENTRE FOR WILD LIFE STUDIES

Selected members of “Gothra” and “Moksha” collectives were provided specialized training in scientific and humane means for human-monkey conflict mitigation and organized into a Vanara Prathirodha Sena /Community Wildlife Guards team in June 2020.



An online training programme was conducted in CSIR/NET Exam for Master of Science (Wildlife Studies) students from 21-01-2021 to 05-03-2021.

An online short course on “Biostatistics and Research Methodology” was conducted for Master of Science (Wildlife Studies) students from 02-02-2021 to 10-02-2021.

Training in traditional handicrafts making training and counselling sessions were organized for the empowerment of children and youth of Narangakandy Paniya Tribal Colony during February and March, 2021.



“Gothra Sabha”, a tribal training facility was fabricated under “Gothra Mission” in March 2021



ICAR SC-SP project titled “Field trial of a protected farming method in human wildlife conflict prone areas for trained SC BPL youth of Wayanad district” was implemented in March 2021.

ICAR TSP project titled “Field trial of a protected farming method in human wildlife conflict prone areas for trained tribal youth of Wayanad district” was implemented in March 2021.

Financial Statement 2020-21

I. Course Fund

Total Receipt – Rs. 80,16,429.00

Expenditure – Rs. 65,09,880.00

Internal Receipt to FO, KVASU (30% of Tuition Fees) – Rs. 10,08,000.00

II. Non-Plan

Total Receipt – Rs. 13,10,000.00

Total Expenditure – Rs. 13,35,356.00

III. Plan Fund

Total Receipt – Rs. 8,00,000.00

Total Expenditure – Rs. 8,00,000.00

BIOSCIENCE RESEARCH AND TRAINING CENTRE, THONNAKKAL, THIRUVANANTHAPURAM

I. Major activities

- Implemented external funded project under RKVY “Establishment of molecular virology laboratory at Bioscience Research and Training Centre, Thonnakkal, Thiruvananthapuram”.
- Implemented the State Plan projects ‘Isolation and characterization of antibiotic resistance pathogens from chicken and raw milk samples of Thiruvananthapuram District’, ‘Studies on Infectious Bursal Disease virus-host interaction’, ‘Strengthening of Bioscience Research and Training Centre Thiruvananthapuram’ and ‘Laboratory at BRTC, Thiruvananthapuram’
- Implementation of external funded project entitled ‘Pilot study on the seroprevalence of SARS-COV-2 antibodies in cats in Thiruvananthapuram District’ funded by Department of Animal Husbandry, Government of Kerala

II. Staff Details

Sl. No:	Designation	Number of positions
1	Co-ordinator (i/c) (Assistant Professor on working arrangement)	1
2	Technical Assistant (Daily wages)	1
3	Office Assistant (on working arrangement)	1
4	Security (Daily wages)	1
5	Sweeper (Daily wages)	1

