

KERALA VETERINARY AND ANIMAL SCIENCES UNIVERSITY

PROCEEDINGS

KVASU – DAR –Research- Research Policy of the University- Revised- Orders issued.

DIRECTORATE OF ACADEMICS AND RESEARCH

No. KVASU/DAR/R1/34850/2022(i)

Pookode, Dated:08/12/2022

- Read: 1) Minutes of 3rd meeting of the Research Council held on 16/12/2021.
2) This office proceedings no. KVASU/DAR/R1/993/2012, dtd. 16/08/2022.
3) Minutes of the fourth meeting of Research Council held on 14/10/2022 (RC.4.1)

ORDER

As per the reference (1) above, the third meeting of Research Council had decided to make modification in the existing research policy of Kerala Veterinary and Animal Sciences University and directed to place the draft of modified research policy as an agenda in the next Research council meeting.

As per the reference (2) above, a committee was constituted for updating the Research Policy of the University and the draft of the revised Research Policy prepared by the committee was placed in 4th meeting of Research Council and the council has discussed and approved the modifications of the policy and suggested certain additional modifications.

In these circumstances, the Research Policy of the University is hereby revised and is enclosed as Annexure incorporating modifications suggested by the Research Council.

//By the order of Research Council//

Sd/-

Director of Academics and Research

Annexure: Revised Research Policy of the University

- To:** 1) All the Deans/ Special Officers/ Heads of stations, KVASU
2) Professor (FRC), KVASU
3) All faculty (through Deans/ Special Officers/ Head of stations)

Copy to: PS to VC/ PA to Registrar/Stock File.

//Forwarded by Order//


Section Officer

KERALA VETERINARY AND ANIMAL SCIENCES UNIVERSITY

RESEARCH POLICY

1.0 PURPOSE

This policy sets the framework to spearhead research at the Kerala Veterinary and Animal Sciences University (KVASU) consistent with its policy on research. The research policy shall help to –

- a. Identify core areas of research
- b. Give direction to research activities carried out in different disciplines of basic science, veterinary science, animal science, poultry science, dairy science and food science
- c. Promote multi-disciplinary and multi-institutional research
- d. Instill quality in research through healthy competition among faculty members for seeking research funds
- e. Act as the lead guide with a clear-cut policy on research and extension
- f. Envisage programs for human resource development

2.0 ORGANISATIONAL SCOPE

This is a University-wide policy and exceptions are to be accepted only with due approval by the Research Council.

3.0 VISION

The University aspires to be recognised nationally and internationally as the University of choice, in nurturing meritorious/ renowned veterinarians, dairy/poultry/livestock product technologists, professionals and students in related disciplines by entrenching a strong research culture. The research undertaken shall (a) promote sustainable and profitable animal production systems (b) provide quality care and veterinary services (c) assure food safety, quality and security of the State (d) disseminate modern scientific knowledge and skill (e) foster professionalism in animal welfare and ethics (f) promote One Health approach (g) aim to alleviate adverse effects of climate change and (h) help the government modify/formulate policies based on scientific information and data.

4.0 MISSION

Sustainable animal production and development through -

- a. Scientific breeding and production of superior quality stock and germplasm
- b. Model livestock and poultry enterprises and integrated farming systems
- c. Cost-effective interventions in feeds and feeding
- d. State-of-the-art hospitals, accredited laboratories, advanced diagnostics and superior vaccines for better diagnosis, treatment and control of animal diseases, food-borne diseases and management of infertility

- e. Production and standardisation of value added food products
- f. Internationally competent graduates/professionals who can foster and promote veterinary, animal science, poultry and dairy research
- g. Control and prevention of zoonotic diseases
- h. Effective livestock waste management
- i. Conservation and utilisation of animal biodiversity
- j. Animal welfare measures in veterinary and animal science research
- k. Conduct of research ethically and preventing research misconduct
- l. Mitigation of adverse effects of climate change

5.0 CORE AREAS OF RESEARCH

5.1 Animal Production and Management

- a. Conservation, characterisation, evaluation and improvement of livestock and poultry
- b. Development of new strains of livestock and poultry suitable for local climatic conditions and for disease resistance
- c. Application of biotechnological tools for improvement of livestock and poultry production
- d. Model housing systems for optimum utilisation of genetic potential of animals through micro-environmental interventions in different ecological zones
- e. Adoption of scientific management practices and less labour intensive technologies in routine farm operations
- f. Developing of feeds and fodders and its preservation strategies; cost-effective feeding schedules/feed formulations appropriate for small, medium and large animals/poultry based on the availability of feed ingredients, fodder, other raw materials and unconventional feedstuffs to make animal farming sustainable and economically viable
- g. Interventions to reduce antimicrobial residues in the human food chain and mitigation measures for antimicrobial resistance
- h. Alternative feed additives to enhance nutritive value and nutrient utilisation in animals and poultry
- i. Integration of bio-fuel technologies, value addition of farm wastes and utilisation of renewable energy sources for higher net farm income
- j. Impact of climate change on animal production
- k. Mitigation of greenhouse gas emissions and their effect on climate change
- l. Development of reproductive technologies for augmenting fertility and production in livestock and companion animals
- m. Area specific mineral mixture

5.2 Animal Health

- a. Development of diagnostics, vaccines and vaccination protocols, for detection and control of diseases of farm and companion animals

- b. Advanced techniques for diagnosis of viral, bacterial, rickettsial, fungal, algal, protozoan and metazoan diseases and diseases due to prions and commercialisation of technology including vaccines
- c. Impact of climate change on animal health, surveillance/seromonitoring of diseases in animals and birds and developing disease outbreak forecasting models for emergency preparedness
- d. Improved strategies for treatment and control of diseases of livestock, companion animals and poultry
- e. Optimise reproductive health in farm and companion animals by modern diagnostic and treatment strategies
- f. Exploring the transmission dynamics of zoonotic diseases and its effective control through One Health approach
- g. Investigations on diseases of livestock, companion animals and poultry
- h. Investigations on the use of drugs, hormones and other chemicals in food animals to ensure food safety and mitigation strategies to avoid their imprudent use
- i. Design, development and commercialisation of health food for supporting and promoting health of companion animals
- j. Biosecurity as a means to prevent introduction of infectious agents to farms and other facilities

5.3 Improvement in Veterinary Care/ Support Service

- a. Research, development and refinement of medical / surgical treatment and advanced diagnostic approaches to sustain and improve health of farm, companion and wild animals in captivity
- b. Research and development of newer drugs and molecules including ethno veterinary products for animal health care
- c. Field / problem oriented research in veterinary care and treatment
- d. Development of standard protocols for prophylactic and therapeutic procedures in veterinary practise
- e. Biomedical research including development and use of biomaterials; development of medical and surgical animal models for human diseases
- f. Collaborative regenerative medicine and instrumentation research

5.4 Biotechnology

- a. Molecular characterisation of domestic animal diversity and marker assisted selection
- b. Genome sequencing and application of bioinformatic tools for genetic improvement of livestock and poultry
- c. Artificial intelligence and machine learning approaches in animal and veterinary sciences
- d. Development of diagnostic kits and biomarkers
- e. Multi-omic approaches in improving health and productivity in livestock and poultry

- f. Research on embryo transfer technology, oestrous synchronisation and assisted reproductive technologies
- g. Biotechnological interventions for manipulating rumen ecosystem and improving productivity
- h. Use of nanotechnology in animal health, production and reproduction
- i. Pharmacogenomics for drug discovery and development

5.5 Livestock Products and Value Addition

- a. Food safety and quality assurance
- b. Starter culture technology and fermentation for novel dairy products
- c. Physico-chemical modification of food components for the development of designer foods
- d. Consumer-friendly packaging techniques for customer confidence - including freshness indicators
- e. Rapid food diagnostics and safety assessment of meat, milk, eggs and other food matrices
- f. Methods to assess, forecast and prevent microbiological and chemical hazards and unethical practices in animal products
- g. Functional foods/probiotics/post-biotics /diabetic/dietetic/fortified foods
- h. Process standardisation of Ayurveda based dairy products
- i. Plant-based meat alternatives and cultured meat/vegan foods/convenient foods
- j. Sustainable/alternative/green technologies for meat/milk/food processing and packaging
- k. Farmer-friendly animal and carcass grading systems for different species in collaboration with national agencies
- l. Development of blueprints for long distance transport of frozen/chilled carcasses and meat cuts
- m. Enriching the nutritional value of animal products through soil enrichment, alternate feeding regimes and post-harvest interventions
- n. Valorisation of waste from abattoir, dairy and food enterprises into high end products including biomaterials, pet foods and industrially relevant products
- o. Development of animal, poultry and aqua feed formulations using rendered products
- p. Alternate, and green technologies for animal transport, slaughter houses, waste disposal, carcass handling and storage
- q. Climate adaptation of animals and its effect on meat quality

5.6 Extension and Economics

- a. Facilitating multidimensional, qualitative and quantitative research in technology transfer in the animal production, health care, composite pet management post production processing and marketing of animal products
- b. Multi component and multi-dimensional researches on coping up strategies of the stakeholders for climate smart animal agriculture
- c. Methodologies to manage disasters for sustainable animal husbandry
- d. Fostering entrepreneurial skills in the student community through participatory research

- e. Applied and action research to augment the livelihood status of the stakeholders
- f. Capacity building of various groups of people involved in the animal husbandry and allied sector
- g. Effective use of media including Mobile App for technology and information delivery in animal husbandry sector
- h. Planning and development of strategies, policies and procedures to augment the animal husbandry sector
- i. Economics of animal farming, companion animal management and post-harvest technologies
- j. Marketing and pricing strategies of animals or their products
- k. Human resources planning management and development in the animal husbandry and associated sectors
- l. Facilitation of intellectual property rights in animal husbandry research, production sector and its management
- m. Assessment of consumer trends with respect to novel products, extended storage life, healthy tag (low fat, low calorie, healthy fats and functional food) and development of such products
- n. Trends in consumer behaviors and aspirations and market analysis

5.7 Other Core Areas

- a. Need-based/ Problem-oriented research and adaptive research to address the demands of farming community and general public of Kerala State with special emphasis on emerging and re-emerging diseases and human, animal and environmental health
- b. Animal welfare
- c. Livestock waste management and recycling
- d. Rearing of pet animals and birds as livelihood
- e. Organic farming systems, integrated farming models, nutrient cycling, vector borne disease control
- f. Laboratory animal breeding and development of animal models
- g. Research on wildlife
- h. Human-wildlife interactions with special reference to sustainable equitable development and human health
- h. Veterinary forensics
- i. Establishment of translational research platforms

6.0 OUTCOME

- a. Growth and development of animal production systems in the State of Kerala
- b. Food security and safe and hygienic food production for the state
- c. Self-sufficiency in production inputs and animal products
- d. Early detection and prevention of diseases leading to a healthy animal population
- e. Availability of state of art animal care and treatment modalities

- f. Improving farmers' income through interventions in animal production systems
- g. Establishment of research collaboration with national and international organisations of repute
- h. Clean, green and ethical animal production

7.0 SUMMARY

The Kerala Veterinary and Animal Sciences University research policy is framed with an emphasis on research leading to sustainable, environment friendly development in animal production, thereby assuring food safety and security. It focuses on animal welfare and health by embracing cutting edge technologies in the field of animal health care and treatment. It also envisages to build entrepreneurial capabilities, extend its reach to emerging fields of science and technology and to foster collaboration with external agencies to bring about the best in both realms. The ultimate aim of the policy is to improve the livelihood security of the farmers of the State.

(Approved in the 4th Research Council meeting held on 14.10.2022)