Department of Agriculture Technology, Animal Production Division, Technological Educational Institution of Epirus, 2015

Administrative Data

<table>
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<tr>
<th>Organisation Legal Name and Short Name</th>
<th>Main Activity</th>
<th>Participant Number</th>
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<tr>
<td>Division of Animal Production, School of Agriculture Technology, Food Technology and Nutrition, Technological Educational Institution of Epirus</td>
<td>Educational &amp; Research Institution</td>
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<table>
<thead>
<tr>
<th>Name of Main Organisation which the participant is part of</th>
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<tr>
<td>Technological Educational Institution of Epirus</td>
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<p>| Legal Address- Participant Organisation (if different from Main Organisation) |
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<th>Personnel Data Animal Production Division</th>
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Presentation of the Division

1 The Animal Production Division covers the cognitive object of Animal Science and relevant sectors, with an emphasis on the research and application of modern technology in production, nutrition, improvement, reproduction, welfare and health of domestic,
companion, exotic and laboratory animals. It also involves production methods, processing and standardization of animal food products.

The Division of Animal Production:

a) Applies modern technological and scientific methods, as well as managerial practices, in animal production, in the processing of products of animal origin as well as the control of their quality and safety.
b) Applies methods of hygiene in farm facilities, in the packing-processing plants and applies health management programs in the farm, biosecurity programs and preventive measurements in the farm sector.
c) Applies modern technological and scientific methods enhancing productivity and reproductive performance.
d) Develops rationalistic methods of feeding formulation from an economic and scientific perspective.
e) Undertakes the environmental and legal problems of stock-breeding businesses and enterprises.
f) Participates in the technological research, education and development and application of innovations in the sector of Animal Production.
g) Innovative production of functional foods, mainly concerning goat, sheep milk, cheese and poultry and pig meat.
h) Designs and supervises the application of agricultural-animal production studies and organizes the establishment and the production phases of animal production farms.

The Department is involved in postgraduate studies such as Agrochemistry and Organic Farming, Agriculture and Environment, Production of Animal and Plant originated Quality Products in a Mediterranean Environment and the last one started in 2014 in Aquacultures, all of them in collaboration with the University of Ioannina and the University of Thessaly. The scientific interests of the scientific personnel involve objectives focusing on animal health, with particular interest in small ruminants’ mastitis in relation to sheep and goat behavior, or to disease resistance in local breeds. An increase number of publications relevant to the present proposal prove that our assortment with indigenous breeds and animal welfare coming from the local production, lights a modern and crucial part of our scientific perspective.

Environmental friendly animal production is an interesting task and also the in vitro and in vivo actions in specific cell lines and animal models of native natural volatile aromatic compounds, which can play a possible role in preventing human health. Functional food is also a part of our present scientific work, related with pork and poultry production, furthermore proteomic and lipidomic analysis of rare breeds of sheep and goats and food products from indigenous breeds and production of biomaterials and tissue engineering from productive animals are our key work for the future.

The factors show our progress in the scientific field is the collaboration with well known Institutes and Universities worldwide, the increase numbers of papers published in
International scientific periodicals and the recent expenses regarding scientific and laboratory equipment, expanding in that way our expertise in modern technologies.

The scientific staff is consisted by Athina Tzora Professor Ph.D in Veterinary, Parasitology-Microbiology, D.V.M in Veterinary Medicine, Sotirios Kandrelis Professor Ph.D Range Ecology M.Sc in Range Science, B.Sc in Forestry, Ioannis Skoufos Professor Ph.D in Physiology and Animal Health, M.Sc in Animal Health, D.V.M. in Veterinary Medicine, Anastasios Tsinas Professor Ph.D in Animal Medicine and Pharmacology, D.V.M. in Veterinary Medicine, and Chatzizisis Lambros, Lecturer B.Sc in Animal Science. In addition, 13 part time scientific personnel undertaken post graduate degrees, assist as lectures and research fellows in the Department studies and in research and technology activity areas. Finally, 3 expert technicians working full time in three different laboratories, (Microbiology – Parasitology and Molecular Biology, Animal Nutrition and Nutrition Technology and Milk and Meat Technology) and 2 employees working at the administrative office.

Basic target of the Animal Production Division is to prepare Animal Production Scientists able to support successfully the introduction of specialized scientific and technological knowledge of Animal Science to all Animal Production sectors. To achieve this, Dept. infrastructure mainly includes: (a) Units taken from the Science and Technology of Animal Husbandry, where emphasis is laid not only on the basic principles of genetics and domestic animal improvement and feeding, but also on the administrative practices of animal husbandry, which one must follow in order to achieve effective production of animal products, as well as on the control of the quality of these products | units taken from the Science of Animal Health and Welfare, where emphasis is put on the application of methods for the prevention of diseases, on the hygiene of animal housing and on the quality control and safety of animal and dairy products, and (b) Units taken from Sciences relating to the Protection of Environment, where stress is laid on the general principles of ecological exploitation of livestock production as well as on the production of organic animal and dairy products.

Study and research objects cover the following areas: (a) Animal Production and Management - Lab of Animal Anatomy and Physiology (Farm animal breeds, comparative anatomy of domestic animals, physiology of growth and development of domestic animals, Livestock production methods, housing design and housing equipment, organization of farm enterprises performance and financial control of their efficiency productivity), (b) Animal Nutrition and Feeding - Lab of Animal Nutrition and Range Technology (General principles of animal nutrition, physiology of nutrition and metabolism of nutrients, nutritional requirements of productive farm animals, applied animal nutrition, feedstuff technology, common methods of analysis for nutrients and feedstuffs, general principles of ratio formulation, computing domestic animal diets, feeding systems and techniques, feed preparation and processing, Nutritional disorders, feed safety, applications of biotechnology in the feeding industry), (c) Genetics and Domestic Animal Improvement and Reproduction - Lab of Animal Reproduction, Genetics and Molecular Biology (Qualitative and quantitative genetics, estimation of breeding values and performance testing - Mating systems -Selection methods, Genetic and domestic
animal improvement and preservation of genetic material, genetic material management and technology, Reproductive physiology - Endocrinology and application to animal production, artificial insemination, reproductive biotechnology), (d) Animal Health and hygienic procedures - Lab of Animal Microbiology and Parasitology and Laboratory of Animal Hygiene and Infectious Diseases (Food Safety and Public Health, animal health and infectious diseases, applied methods for disease prevention, animal ethology and behavior, principles of applied veterinary pharmacology, nursing of companion animals and pets, safety and quality control on meat, milk and egg production systems, farm biosecurity, animal microbiology and immunology, animal parasitology), (e) Animal production and Protection of Natural Environment - Lab of Animal Husbandry and Agricultural Environment (Introduction to ecology and principles of ecological exploitation of livestock production, environment and extensive, semi-intensive animal production systems, gaseous waste, animal waste management, exploitation of abattoir sub products, organic animal production, environmental microbiology, farm waste management and environmental protection, welfare of domestic animals), and, (f) Technology of Animal Food Products - Lab of Meat and Milk Technology (Milk technology and dairy products, meat science and technology, organization and operation of industrial abattoirs, food Safety and quality control, certification of farm animal food products).

**Scientific interests, publications**

3. The scientific interests of our team involve objectives focusing on animal health, with particular interest in small ruminants' mastitis in relation to sheep and goat behavior, or to disease resistance in local breeds. An increase number of publications prove that our assortment with indigenous breeds and functional foods coming from the local production, lights a modern and crucial part of our scientific perspective. Environmental friendly animal production is an interesting task and also the in vitro and in vivo actions in specific cell lines and animal models of native natural volatile aromatic compounds, which can play a possible role in preventing human health. During the last 7 years, a number of papers have been published, in collaboration with well known Institutes and Universities worldwide. Some of these are presented below:


3. Rosmarinic acid failed to suppress hydrogen peroxide-mediated apoptosis but induced apoptosis of Jurkat cells which was suppressed by Bcl-2 (2006). Kolettas E, Thomas Ch,


14. Performance and antioxidant status of broiler chickens supplemented with dried mushrooms (Agaricus bisporus) in their diet. Giannenas, I., Pappas, I.S., Mavridis, S., Kontopidis, G., Skoufos, J., Kyriazakis, I. Laboratory of Animal Nutrition and Husbandry, Veterinary Faculty, University of Thessaly, 43100 Karditsa, Greece, Laboratory of Pharmacology and Toxicology, Veterinary Faculty, University of Thessaly, 43100 Karditsa, Greece, Laboratory of Biochemistry, Veterinary Faculty, University of Thessaly, 43100 Karditsa, Greece, Department of Animal Production, TEI Epirus, 47100 Arta, Greece, Poultry Science, Volume 89, Issue 2, February 2010, Pages 303-311.

15. Transmission of Mannheimia haemolytica from the tonsils of lambs to the teat of ewes during sucking. Fragkou, I.A., Gougoulis, D.A., Billinis, C., Mavrogianni, V.S., Bushnell, M.J., Cripps, P.J., Tzora, A., Fthenakis, G.C. Veterinary Faculty, University of Thessaly, P.O. Box 199, 43100 Karditsa, Greece, The Royal Veterinary College, University of London, North Mymms AL9 7TA, United Kingdom, Faculty of Veterinary Science, University of Liverpool, Neston, South Wirral CH64 7TE, United Kingdom, TEI Epirus, 48100 Arta, Greece, Veterinary Microbiology, 148 (1), pp. 66-74.


Our department and the scientific personnel have been involved as coordinators or members of the main scientific team in several projects and international scientific programs such as Archimedes I and II scientific projects, in Operational Programmes “Competitiveness & Entrepreneurship” Cooperation 2009 Large scale projects, INTERREG II, III programs, FP6, “Competitiveness & Entrepreneurship” Cooperation 2011, Greece-China 2012-2014, where it was the only academic department succeeded in its proposal, Word Health Organization program and programs funded by large scale pharmaceutical companies as TAD GmbH., Alltec inc, Fort-Dodge Animal Health, Mallinckrodt Veterinary, Elanco Animal Health, Geihellas S.A.,. In the short time form its establishment the members of the academic staff have been published 59 papers in peer reviewed scientific journals, have 6 participations in book chapters and scientific books, and 220 presentations in international conferences and full paper or abstracts in conference proceedings, also refereed four scientific journals.

The following systems, exist in our Dept., can be used for the proposes of the project: Environmental Sampling Instruments; PCR and real-time PCR Instruments; Electrophoresis Apparatus; Automated Systems for the Isolation, Enumeration, Identification and Characterization of Microorganisms; Milk Chemical Analyzer Milcoscan; Blood Analyzer; Biochemical Analyzer; ELISA Reader, Mini Api., Riboprinter, Foodscan, Tempo, Vitec 2 compact, AutoBax, Immunofluorescence apparatus.

Brief CVs of the staff members

Professor Athina Tzora
Professor in Animal Microbiology-Immunology and Parasitology in the department of Animal Production in the Technological Educational Institute of Epirus since 1996. She has studied in the Veterinary School of the Aristotelian University of Thessaloniki, Greece, in Institute Pasteur and in Institut de Chimie des Substances Naturelles - Centre Nationale de la recherche Scientifique – Paris, France (her Ph.D degree). She has coordinated and participated in International Scientific research projects (23), in a variety of areas in environmental microbiology, microbial biodiversity, animal health and mastitis, proteomics and functional food. She has 48 papers in peer-referred international journals and 145 papers and presentations in international and Greek conference proceedings. The published scientific work has been cited in 245 peer reviewed scientific papers. Author h index=9. She has very good experience in research projects since so far has participated in 19 national and European research projects. Reviewer of articles in refereed scientific journals. She is teaching in the postgraduate programs: 1. Agriculture and environment, 2. Agricultural Chemistry and Organic Agriculture.

Professor Ioannis Skoufos
Professor, Technological Educational Institute of Epirus, Department of Animal Production, Arta, Greece. Doctor Veterinary Medicine in the Veterinary School, Aristotelian University of
Professor Sotirios Kandrelis
Professor, Technological Educational Institute of Epirus, Department of Animal Production, Arta, Greece. BS in Forestry, (S.P.D.) Specialist Post Graduate Diploma, Master of Science (M.Sc.) in Range Science, Ph.D. in Range Ecology. His main research interests concern ecology, also he has been used as referee in scientific journals, as member of the three-member advisory committees of Ph.D. candidates. Superintendent of several M.Sc. Theses. Scientifically in charge of two research programs and he has been participated in several research programs. Institutional representative in the research schemes “Archimidis” I and III. Director of the Technological Research Center of Epirus and Ionian Islands. He is teaching in the postgraduate programs: 1. Agriculture and environment, 2. Agricultural Chemistry and Organic Agriculture. The total numbers of publications are over 20.

Professor Anastasios Tsinas
Professor in Animal Pathology and Pharmacology, member of the scientific stuff of the Department of Animal Production, School of Agriculture Technology, Technological Educational Institute of Epirus. Doctor Veterinary Medicine and Ph.D., in Animal Pathology, in the Veterinary School, Aristotelian University of Thessaloniki, and his publications are 14 papers in International Refereed Journals, and conference proceedings/abstracts: 53. The published scientific work has been cited in 228 peer reviewed scientific papers. h index=8. He has very good experience in research projects since so far has participated or coordinated 12 national and European research projects in a variety of areas in environmental friendly pig and poultry production, animal health and mastitis, proteomics and functional food.

Lecturer Chatzizisis Lambros
Lecturer at the Department of Animal Production, School of Agriculture Technology, Technological Educational Institute of Epirus. B.Sc. and M.Sc. in Animal Production from the Department of Agricultural Sciences, Aristotle University of Thessaloniki, Greece, 3 peer reviewed articles, 12 presentations in Scientific Conferences. Contribution in scientific projects
Konstantina Fotou
B.Sc. in Animal Production, in 1994, M.Sc. in Food Chemistry University of Ioannina, (2007) and Ph.D student, Laboratory Teaching Staff in the Laboratories of Microbiology and Parasitology with large experience in scientific projects (Archimedes I, Archimedes II, III, Interreg III, Cooperation) in the field of Microbiology. Scientific contribution: 8 peer reviewed articles, 23 presentations in Scientific Conferences.

Charalampos Koutsoukis
B.Sc. in Animal Production in 1993, M.Sc. in Biological Cultivation, University of Ioannina, 2009 and Ph.D student. Laboratory Teaching Staff in the Laboratories of Forage Plants & Pastures Technology, Animal Nutrition, and Agroecology. Scientific contribution: 2 peer reviewed articles, 8 presentations in Scientific Conferences, He has significant contribution in scientific projects (Archimedes, Nea Gnosi, Cooperation).

Georgios Maglaras