

Animal Production

Code: 102624
ECTS Credits: 5

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OB	3	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers

Elena Albanell Trullas
Ana Cristina Barroeta Lajusticia
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Josep Gasà Gasó
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Antoni Graupera García
Maria Dolors Izquierdo Tugas
Jordi Bartolomé Filella
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Ricard Pares Casanova
Lorena Castillejos Velázquez
Pol Llonch Obiols

Prerequisites

There are no established official prerequisites, but the student must use the knowledge acquired in Bases of Animal Production and Management, Ethnology and Ethology, Agronomy and Agricultural Economics and Animal Nutrition.

Objectives and Contextualisation

The training objectives of Integrated Animal Production II are:

- To know the key factors that mark, now and in the future, the produc

- To know the milk, meat and eggs production sector, as well as its location
 - To know the needs and the impact of the facilities and the environment
 - To know the determining factors of the relationship between animal production and the environment
 - To know the key factors of the organization and operation of the agricultural sector
 - To quantify the costs and indicators of economic profitability of the different production systems
- This subject participates in the Pilot Test of Teaching in English that is carried out in the following subjects:

(demonstrate knowledge of English to communicate orally and in writing in academic and professional contexts).

Competences

- Analyse, synthesise and resolve problems and make decisions.
- Demonstrate knowledge and understanding of structural and functional disorders of the animal organism.
- Demonstrate knowledge and understanding of the aspects of organisation, finance and management in all fields of the veterinary profession.
- Handle the correct protocols and technologies used to modify and optimise different animal production systems.
- Properly evaluate the nutritional status of animals and know how to advise others on breeding and feeding principles.

Learning Outcomes

1. Analyse, synthesise and resolve problems and make decisions.
2. Apply physiological knowledge to production objectives.
3. Describe the basic principles of pasture and animal fodder.
4. Evaluate feeding programs: Know how to assess the main methods of animal fodder preparation, conservation and administration.
5. Evaluate the quality of products of animal origin.
6. Evaluate the technical and economic indexes of a farm: recognise problems and offer solutions.
7. Formulate rations for animals in the most conventional situations.
8. Identify and evaluate the factors that affect the production of products of animal origin.
9. Identify cost calculation systems, the different entries and their practical uses.
10. Identify the different stages of livestock production cycles.
11. Identify the different types of business organisation.
12. Identify the production systems of different domestic species, integrating physiological and economic knowledge.
13. Locate and identify the main producers of foodstuffs of animal origin, as well as their economic dimension.
14. Recognise the basic characteristics of the different stages of livestock production cycles and how they function.
15. Use correct and suitable financial terminology.
16. Use current feeding systems: Know how to obtain the nutritious value of foodstuffs and calculate animals nutrition requirements.

Content

THEORY (26 h)

INTRODUCTION:

The role of animal products in human nutrition:

The role of animal products in the omnivorous diet. Differential nutritional profile of products of animal origin. Impact of the consumption of products of animal origin on health. Recommendations.

Needs, production and production forecasts of food of animal origin in the world:

Forecast of needs for products of animal origin 2050. World production, in the EU, Spain and Catalonia. Global balance and product flow: import-export.

CHALLENGES FOR LIVESTOCK PRODUCTION IN THE 21ST CENTURY

General concept of sustainability:

Concept. Nutrient flow. Food sovereignty.

Economic and social sustainability of animal production

The production unit. The management of economic resources. Income statement and profitability.

Environmental sustainability of animal production

Interaction between animal production and the environment. Livestock waste and its treatment. Sustainable environmental strategies.

IMPROVEMENTS OF THE PRODUCTIVE PROCESS

Improvement of animal welfare from facilities and management

Environment and facility needs in animal production, welfare and health. Evaluation of the indicators of comfort and animal welfare. Environmental comfort. Productive and economic impact of facilities and well-being.

Hygiene in animal production processes

Good hygiene practices in the production process from the "one health" perspective. Control and prevention strategies.

Application of new technologies in animal production

New technologies for precision farming. Potential impact on productivity, health, well-being, environment and herd management.

PRACTICES (18 h)

- Seminar on the Sustainable Development Goals (Seminar)
- Environmental impact according to the type of food and the level of production. Life cycle calculation. (Computer room)
- Development of a stool plan (Computer room).
- Alternative production: extensive - ecological / intensive. Productive indices. Economic impact. Impact on well-being. Impact on product quality. Environmental impact. Reflections on sustainability (Seminar - Workshop).
- Well-being assessment (Farm).
- Costs and profitability of agricultural companies (Seminar).
- Financial management of agricultural companies (Seminar).
- Financial evaluation of agricultural investments (Seminar).

SELF-TEACHING

- Assessment of facilities and well-being (10 h).

- Analysis of the sustainability of a farm (10 h).
- Economic analysis of a farm (10 h)

Methodology

The center of the learning process is the student's work. The student learns by working, while the mission of the teaching staff will be to help students in this task (1) by providing information or showing them the sources where information can be obtained and (2) directing students steps so that the learning process can be carried out effectively.

In line with these ideas, and in accordance with the objectives of the subject, the development of the course is based on the following activities:

1. Master classes:

The student acquires the knowledge of the subject by attending the master classes and complementing them with personal study of the topics explained. The master classes are conceived as a fundamentally one-way method of transmitting knowledge from the teacher to the student, but it stimulates the expansion of information through the provision of bibliographic references and Internet addresses.

2. Practical training:

There will be several practices with different environments: farm, and computer applications. Each of them will be used to raise awareness of a specific concept of Animal Production and allows working in different environments. Some of these practices will be related to the self-study work that must be done.

3. Seminars:

The seminars will allow the presentation and discussion of some aspects not covered in the master classes, and will have a format that allows interaction between students.

4. Self-learning work:

The student must solve the practical cases and rations proposed in each of the blocks (economic sustainability, environmental sustainability, well-being, hygiene in the production process and application of technology to animal production).

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Computer classroom practices	4.5	0.18	7, 16
Farm practice	2	0.08	2
Master classes	26	1.04	2, 4, 3, 11, 9, 12, 8, 10, 13, 14, 15, 5
Seminars	11.5	0.46	11, 9, 15
Type: Autonomous			
Self-learning work	30	1.2	1, 2, 6, 4, 7, 11, 9, 16, 15
study	49	1.96	2, 3, 11, 9, 12, 8, 10, 13, 14, 15, 5

Assessment

The evaluation of the subject will be done as follows:

- Exam of the theoretical (40% final grade) and practical (10% final grade) content of the subject at the end of the course. In the part of the exam corresponding to the theory, you must obtain a grade equal to or greater than 4 to be able to average the remaining grades.
- The works assigned to the practical training/seminars will have a combined value of 35%
- The resolution of the cases will represent 15% of the final grade.

To pass the course, it is required to solve the self-learning cases raised and to achieve, with the set of all the evaluation activities, a final grade equal to or greater than 5. At the end of the semester there will be a recovery exam.

The student who does not take the exam will be considered not presented

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Exam of practical contents	10%	0.5	0.02	1, 6, 11, 9, 8, 14, 16, 15
Exam of theoretical contents	40%	1.5	0.06	2, 6, 4, 3, 11, 9, 12, 8, 10, 13, 14, 15, 5
Resolution of cases	15%	0	0	1, 6, 7, 11, 9, 16, 15
Workshops/seminars	35%	0	0	1, 2, 6, 4, 3, 11, 9, 10, 14, 15

Bibliography

Environmental Management

CAMPOS E., ILLA J., MAGRÍ A., PALATSI J., SOLÉ F., FLOTATS X. (2004). Guia dels Tractaments de les Dejeccions Ramaderes. ARC. http://www.arc-cat.net/es/altres/purins/guia/pdf/guia_dejeccions.pdf.

TEIRA M.R. (2008). Informe para la Mejora de la Gestión de los Purines Porcinos en Catalunya. Informes del CADS, 5. Generalitat de Catalunya. Barcelona. ISBN: 978-84-393-7712-2.
http://www15.gencat.net/cads/AppPHP/images/stories/publicacions/informesespecials/2008/gesti_de_purins__ca

Economy

Alonso Sebastián R., Serrano Bermejo A. 2008. Economía de la empresa Agroalimentaria. 3ª Ed. Mundi-Prensa

Alonso Sebastián, R. 1991. Los costes en los procesos de producción agraria. Mundi-Prensa.

Ballestero, E. (2000). Economía de la empresa agraria i alimentaria. 2ª Ed. Mundi-Prensa Libros.

Juliá J.F., Server R.J. 1996. Dirección contable y financiera de empresas agroalimentarias. Ed. Pirámide

Romero C. 1998. Evaluación financiera de inversiones agrarias. Mundi-Prensa Libros

Journals

Animal

British Poultry Science

INRA Productions Animales
Journal of Animal Science
Journal of Dairy Research
Journal of Dairy Science
Meat Science
Mundo Ganadero
Producción Animal
Poultry Science

WEBS

www.agrodigital.com
www.mapya.es
www.ruralcat.net