



Universitat de Lleida

GUIA DOCENT
PRODUCCIÓ PORCINA

Coordinació: ÁLVAREZ RODRÍGUEZ, JAVIER

Any acadèmic 2017-18

Informació general de l'assignatura

Denominació	PRODUCCIÓ PORCINA			
Codi	102555			
Semestre d'impartició	2N Q(SEMESTRE) AVALUACIÓ CONTINUADA			
Caràcter	Grau/Màster	Curs	Caràcter	Modalitat
	Grau en Enginyeria Agrària i Alimentària	3	OBLIGATÒRIA	Presencial
	Màster Universitari en Enginyeria Agronòmica		COMPLEMENTES DE FORMACIÓ	Presencial
Nombre de crèdits ECTS	6			
Grups	1GG			
Crèdits teòrics	3			
Crèdits pràctics	2			
Coordinació	ÁLVAREZ RODRÍGUEZ, JAVIER			
Departament/s	CIÈNCIA ANIMAL			
Distribució càrrega docent entre la classe presencial i el treball autònom de l'estudiant	Horas presenciales: 60 Horas no presenciales: 90			
Informació important sobre tractament de dades	Consulteu aquest enllaç per a més informació.			
Idioma/es d'impartició	English: 100%			
Horari de tutoria/lloc	Javier Álvarez: Despacho: E1.2.19/ Horario con cita previa/ 973 706458 Gerardo Blanco: Despacho: E1.2.09/ Horario con cita previa/ 973 702568 Daniel Babot: Despacho: E1.2.08/ Horario con cita previa/ 973 702568 Marc Tor: Despacho E1.2.15/ Horario con cita previa/ 973 702890			

Professor/a (s/es)	Adreça electrònica professor/a (s/es)	Crèdits impartits pel professorat	Horari de tutoria/lloc
ÁLVAREZ RODRÍGUEZ, JAVIER	jalvarez@ca.udl.cat	7,2	

Objectius acadèmics de l'assignatura

This course belongs to the third year of the Degree in Agriculture and Food Engineering. The student will carry out an integrated approach to earlier knowledge in animal science (2nd year course on introductory animal science) to swine farming.

Objectives and learning outcomes

- Importance and characteristics of the different swine breeds and crossbreds.
- Physiological basis and the guidelines of handling of the animals in each production phase.
- Design and planning of swine farms.
- Nutritional and housing requirements according to physiological phase and genetics.
- Feed formulation and design of nutritional strategies to improve carcass and meat quality.
- Evaluation of the environmental and welfare requirements of the animals.
- Assessment of the technical, economic and social implications released by the different swine production systems.

Competències

General scope

At least the following core competencies shall be ensured:

CG1: Students have demonstrated to possess and to understand knowledge from the base of the general secondary education to a level that, although it relies on advanced textbooks, also includes some aspects that imply knowledge from the vanguard of that area.

CG2: Students know how to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and presentation of arguments and problem solving within their area of study.

CG3: Students have the ability to gather and interpret relevant data to make judgments that include a reflection on relevant social, scientific or ethical issues.

CG4: Students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience.

CG5: Students have developed learning skills necessary to undertake further studies with a high degree of autonomy.

In addition, the graduate must be able to:

CG6: Analyse specific situations, define problems, make decisions and implement action plans to solve them.

CG9: Use the existing computer and communication tools as support for the development of their professional activity (strategic scope of the University of Lleida).

CG11: Understand and express yourself with the appropriate terminology.

CG12: Present oral and written information (strategic scope of the University of Lleida).

Specific scope

The graduate in Agricultural and Food Engineering will have acquired the following knowledge and skills after completing his/her studies:

EAEC 1. Animal husbandry. Animal physiology. Animal production systems. Animal welfare. Animal genetics and breeding.

EAEC3. Animal housing engineering. Facilities to ensure animal health and welfare.

Continguts fonamentals de l'assignatura

Lesson 1. Production framework. Pig farming in the world, European Union, Spain and Catalonia. Swine breeds and husbandry systems. Types of swine production enterprises. Selecting breeding stock and sires.

Lesson 2. Reproduction management. Swine handling. Breeding sow and boar management. Breeding systems. Farrowing management. Processing Procedures for neonatal piglets.

Lesson 3. Nutrition. Nutrient assessment. Feed mixing strategies. Nursery pig nutrition. Finishing nutrition. Pregnant and lactating sow nutrition. Body condition scoring.

Lesson 4. Carcass and meat quality. Transportation and slaughter procedure. Killing-out proportion and carcass grading systems. Wholesale cuts. Factors affecting carcass and meat value. Assessment of basic technological pork meat attributes.

Lesson 5. Swine housing requirements. Minimum standards for the protection of pigs (European Union regulations). Swine production equipment. Managing manure from swine operations. Mortality management. Best available techniques reference document (BREF).

Lesson 6. Technical performance herd data. Case studies in sow farms and finishing farms. Benchmarking. Cost of production assessment.

Practice activity

- Discussion of the pig farming sector statistical portrait by Eurostat: Main statistical findings, Structure of the swine farms, Components of the pig herd, Changes and trends, Production of pork meat, Market prices (2 hours).
- Case scenario from a farm stud. Semen evaluation and breeding dose elaboration (2 hours).
- Least cost feed formulation by linear programming through Winfeed software. Case scenarios in sows and growing pigs (4 hours).
- Case studies to drive societal issues of pig production (2 hours).
- On-farm factors affecting dry-cured ham production (2 hours).
- Dry-cured ham sensory training (1 hour).
- Field trips to analyse sow and growing-finishing pig farms, and industrial processing technologies for death animal and slaughterhouse by-products (9 hours).
- Design of swine farms. Batch constraints and accommodation requirements (4 hours).
- Environmental compliance. Case study from farm visits (2 hours).
- Calculation and analysis of technical performance data (2 hours).

Eixos metodològics de l'assignatura

Learning activities

Type	Description	Attending time	Homework time	Total	
		Hours	Hours	Hours	ECTS
Lecture	Flipped classroom, case study	30	50	80	3,0
Practice assignments	Seminar, computer tools, problem-based learning, oral discussion	30	40	70	3,0
TOTAL		60	90	150	6

Each ECTS credit equals to 25 hours.

Sistema d'avaluació

Type of activity

Assessment		Mark weight (%)	
Procedures	Number		
Lectures and case studies	Exams dealing with lesson contents and/or practice activity.	2	60
Problem-based learning reports	Reports of allocated case studies (one individual and one in groups).	2	30
Presentation of practice assignments	Text layout and reference formatting, oral communication (speaking and use of graphic slide support skills).	1	10
Total			100

Observations

The evaluation will be passed when the overall mark of the exams is over 5/10 (with a minimum mark of 3.5 in a given activity). The course will be taught and assessed in English. If the students follow the continuous evaluation system, there won't be a second-chance examination.

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Bibliografia i recursos d'informació

Coursebook

McGlone, J., Pond, W., 2003. Pig Production. Biological principles and applications. Ed. Thomson, USA.

Basic references

Babot, D. (Ed.), 2001. Gestión en empresas de producción porcina. Ed. Universidad de Lleida, Spain.

Babot, D. (Ed.), 2008. La gestión técnica de las explotaciones porcinas en Spain. Ed. Ministerio de Medio Ambiente, Rural y Marino, Spain.

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Buxadé, C., Marco, E., López, D., 2007. La cerda reproductora: Claves de su optimización productiva. Ed. Euroganadería, Spain.

Buxadé, C., Sánchez, R., 2008. El verraco: Claves de su optimización productiva. Ed. Euroganadería, Spain.

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Gadd, J., 2005. Guía John Gadd de soluciones en Producción Porcina. Ed. Servet, Spain.

Gadd, J., 2007. Producción porcina. Lo que los libros de texto no cuentan. Ed. Servet, Spain.

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IFIP, 2013. Mémento de l'éleveur de porc (7^{ème} édition). IFIP-Institut du porc, France.

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Complementary references

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- Blair, R., 2007. Nutrition and feeding of organic pigs. Ed. CABI, CAB International, United Kingdom.
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- Font, J., Bernaus, J. Costes en producción porcina. Porcipress Monografías prácticas. Ed. Edivet, S.L, Spain.
- Forero, J. (Ed.), 2008. El cerdo ibérico: Una revision transversal. Ed. Junta de Andalucía, Spain.
- GENCAT, 2010. Guía de prácticas correctas de higiene para las explotaciones de ganado porcino. Generalitat de Catalunya, Spain.
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- Varley, M.A., 1995. The neonatal pig. Development and survival. Ed. CAB International, United Kingdom.
- Varley, M.A., Wiseman, J., 2001. The weaner pig: Nutrition and Management. Ed. CAB International, United Kingdom.
- Velarde, A., Geers, R. (Eds.), 2007. On farm monitoring of pig welfare. Ed. Wageningen Academic Publishers, The Netherlands.

Printed news magazines regarding swine production:

Albéitar, Ed. Asisvet, Spain.

ANAPORC, Ed. Asociación Nacional de Porcinocultura Científica, Spain

Avances en tecnología porcina, Ed. Prodiva S.A., Spain

Ganadería, Ed. Agrícola, Spain

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Mundo Ganadero, Ed. Eumedia, Spain

Suis, Ed. Servet, Spain

Pig Progress, Ed. Reed Business Information, The Netherlands