Universitat de Lleida

GUÍA DOCENTE

PRODUCCIÓN PORCINA

Coordinación: ÁLVAREZ RODRÍGUEZ, JAVIER

Año académico 2017-18

PRODUCCIÓN PORCINA 2017-18

Información general de la asignatura

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<tr><td>Denominación</td><td>PRODUCCIÓN PORCINA</td></tr>
<tr><td>Código</td><td>102555</td></tr>
<tr><td>Semestre de impartición</td><td>2o Q(SEMESTRE) EVALUACIÓN CONTINUADA</td></tr>
<tr><td>Carácter</td><td>
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<tr><th>Grado/Máster</th><th>Curso</th><th>Carácter</th><th>Modalidad</th></tr>
<tr><td>Grado en Ingeniería Agraria y Alimentaria</td><td>3</td><td>OBLIGATORIA</td><td>Presencial</td></tr>
<tr><td>Máster Universitario en Ingeniería Agronómica</td><td></td><td>COMPLEMENTOS DE FORMACIÓN</td><td>Presencial</td></tr>
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<tr><td>Número de créditos ECTS</td><td>6</td></tr>
<tr><td>Grupos</td><td>1GG</td></tr>
<tr><td>Créditos teóricos</td><td>3</td></tr>
<tr><td>Créditos prácticos</td><td>2</td></tr>
<tr><td>Coordinación</td><td>ÁLVAREZ RODRÍGUEZ, JAVIER</td></tr>
<tr><td>Departamento/s</td><td>CIÈNCIA ANIMAL</td></tr>
<tr><td>Distribución carga docente entre la clase presencial y el trabajo autónomo del estudiante</td><td>Horas presenciales: 60
Horas no presenciales: 90</td></tr>
<tr><td>Información importante sobre tratamiento de datos</td><td>Consulte este enlace para obtener más información.</td></tr>
<tr><td>Idioma/es de impartición</td><td>Inglés 100%</td></tr>
<tr><td>Horario de tutoría/lugar</td><td>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</td></tr>
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Profesor/a (es/as)	Dirección electrónica profesor/a (es/as)	Créditos impartidos por el profesorado	Horario de tutoría/lugar
ÁLVAREZ RODRÍGUEZ, JAVIER	jalvarez@ca.udl.cat	7,2	

Objetivos académicos de la asignatura

-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.

Competencias

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.

Contenidos fundamentales de la asignatura

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).

Ejes metodológicos de la asignatura

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 de evaluación

Type of activity	Assessment Procedures	Number	Mark weight (%)
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.

Bibliografía y recursos de información

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.

Buxadé, C., Daza, A. (Eds.), 2001. Porcino Ibérico: Aspectos Claves. Ed. Mundi-Prensa, Spain.

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.

Close. W.H., Cole, D.J.A., 2001. Nutrition of sows and boars. Ed. Nottingham University Press, United Kingdom.

Forcada, F., Babot, D., Vidal, A., Buxadé, C., 2009. Ganado porcino: diseño de alojamientos e instalaciones. Ed. Servet, Spain.

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.

Gordon, I., 1997. Controlled reproduction in pigs. Ed. CAB International, United Kingdom.

Hulsen, J., Scheepens, K., 2013. Pig signals. Ed. Roodbont Publishers, The Netherlands.

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Lewis, A.J., Southern, L.L., 2001. Swine nutrition. Ed. CRC Press, Estados Unidos.

Lyons, T.P., Cole, D.J.A., 2001. Concepts in pig science. Ed. Nottingham University Press, United Kingdom.

Pluske, J.R., Le Dividich, J., Verstegen, M.W.A., 2007. El destete en el ganado porcino. Conceptos y aplicaciones. Ed. Servet, Spain.

Rodríguez-Estévez, V., 2010. El anestro y la infertilidad estacional en la cerda. Ed. Servet, Zaragoza, Spain.

Wiseman, J., Garnsworthy, P.C., 2001. Recent developments in pig nutrition 3. Ed. Nottingham University Press, United Kingdom.

Wiseman, J., Varley, M.A., Chadwick, J.P., 1998. Progress in pig science. Ed. Nottingham University Press, United Kingdom.

Complementary references

Badouard, B., Daridan, D., Marroco, P., 1999. Organisation et développement de la production porcine en Espagne. Ed. Institute Technique du Porc, France.

Blair, R., 2007. Nutrition and feeding of organic pigs. Ed. CABI, CAB International, United Kingdom.

Buxadé, C., 1996. Porcinocultura intensiva y extensiva. Ed. Mundi-Prensa, Spain.

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 Cataluña, Spain.

Hoechst Roussel Vet, 1996. Manejo en bandas. Técnica de gestión de las explotaciones porcinas y de optimización de la productividad. Hoechst Roussel Vet, France.

Huss, P.E., Priest, J.B. (Eds.), 2000. Swine Housing. Proceedings of the 1st International Conference, October 9-11, Des Moines, Iowa. Ed. American Society of Agricultural Engineers, Estados Unidos.

Jacobson, L. (Ed.), 2003. Swine Housing II. Proceedings of the 2nd International Conference, October 12-15, Des Moines, Iowa. Ed. American Society of Agricultural Engineers, Estados Unidos.

Kyriazakis, I. (Ed.), 1999. A quantitative biology of the pig. Ed. CAB International, United Kingdom.

Moyano, F.J., Díaz, M., Martínez, T., 2002. Gestión Técnica y Económica en Explotaciones Ganaderas. Ed. Universidad de Almería, Spain.

Muñoz, A. (Ed.), 2006. Producir carne de cerdo en el Siglo XXI, generando un Nuevo orden zootécnico. Ed. Acalanthis, Spain.

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Taylor-Pickard, J.A., Spring, P.. (Eds), 2008. Gut efficiency; the key ingredient in pig and poultry production. Elevating animal performance and health. Ed. Wageningen Academic Publishers, The Netherlands.

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. Prodive S.A., Spain

Ganadería, Ed. Agrícola, Spain

Mundo Ganadero, Ed. Eumedia, Spain

Suis, Ed. Servet, Spain

Pig Progress, Ed. Reed Business Information, The Netherlands