

PRODUCTION OF RAW MATERIALS

MODULE	CONTENT	YEAR	TERM	CREDITS	TYPE
Food Science	Production of raw materials	2º	2º	6	Compulsory
LECTURER(S)			Postal address, telephone nº, e-mail address		
<ul style="list-style-type: none"> • María Virginia Fernández González (Coordinadora) • Ana Cervera Mata • Manuel Sierra Aragón 			Department of Soil Science and Agricultural Chemistry. Faculty of Pharmacy. Campus Universitario de Cartuja s/n, 18071, Granada, Spain. Office 181, 182. Phone number: 0034 958242096; 0034 958243834 Email: mvirginiafernandez@ugr.es ; anacervera@ugr.es Department of Soil Science and Agricultural Chemistry. Faculty of Sciences. Fuente Nueva s/n 18071. Teléfono: 958241734; 958243233 Correo electrónico: msierra@ugr.es Tutorships hours in: https://www.ugr.es/~edafolo/profesorado.php		
DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT					
Food Science and Technology and Human Nutrition and Dietetics-Food Science and Technology					
PREREQUISITES and/or RECOMMENDATIONS (if necessary)					
<p>PREREQUISITES:</p> <p>In particular this course requires successful completion of all the materials previously for the Common Basic Training module, and the subjects: Bioclimatology, Soil Science, Chemical Analysis, Biology, Botany; Vegetable, animal and human physiology. Also the knowledge of biostatistics is adapted; Also they are of interest for this discipline the knowledge of: microbiology, biochemistry and computer science, in order that the knowledge of the Program of the subject could be taken advantage adequately.</p>					



CONTEXT INSIDE THE QUALIFICATIONS:

RECOMMENDATIONS: Subject that it announces to the students of the Degree of Science and Technology of the Food, the origin of these three groups of food (vegetables, animals and fish), the technologies adapted for his obtaining, conservation and commercialization, doing special emphasis on the production, quality and food safet.

The students have dealed the first course and we believe that they possess the basic knowledge adapted to deal the subject.

BRIEF ACCOUNT OF THE SUBJECT PROGRAMME (ACCORDING TO THE DEGREE ¿??)

NAME: Production of raw materials

CODE: YEAR OF PLAN OF STUDY: 2010

TYPE (main / obligatory / optional): Main

Total Credits (LRU / ECTS): Credits theoretical ECTS:4.5 Credits practical CTS: 1.5

DEAL: 2 ° Deal FOUR-MONTH PERIOD: 2 ° CYCLE: Degree

GENERAL AND PARTICULAR ABILITIES

GENERAL

The Basic Skills of University and Transverse contained in the Agreement of the Andalusian Committee of the Degree in Science and Food Technology.

- Competitions as for production and identification of food that is included in the theoretical and Practical Program.
- Improve Technologies and Methods for the production and conservation in the implied aspects.
- Methods of analysis and quality control, according to regulated national guidelines and European in the agricultural, meat and fishing production.
- Analysis of Dangers and Critical Points Control of the implied food production.
- Advice in the production of contradictory and annulling analyses on the technologies of Production.

SPECIFIC

- Cognitive (To know): Know the models of food production of vegetable, animal and marine origin.
- Procedural / instrumental (To be able to do):
 - Analysis of cultive soils.
 - Evaluation of soils with general and specific intentions.
 - Production and quality of vegetable products.
 - Different types of cattle production.
 - It goes fishing: Technologies, products and Fish farming (continental and marine).
- Actitudinals (To (be):
 - Training to know the natural resources and useful raw materials for the food production
 - Training to elaborate reports on the parameters that concern the vegetable, animal and marine production.
 - Possibility of the incorporation to Programs of I+D+i in companies and in the administration.

OBJECTIVES (EXPRESSED IN TERMS OF EXPECTED RESULTS OF THE TEACHING PROGRAMME)

OBJETIVES

The aims that are chased, it is a solid scientific and technical formation, which allows the futures



Classified in Science and Technology of the Food confront the missions raised in previous paragraphs successfully and they make concrete in:

- To know the principal characteristics of the raw materials of the food-processing industry (Vegetables, animals and fish from seacoasts). As well as the conditions and forms of culture, baby or capture, as well as the more important principal cultivated, bred or captured kinds in the human consumption.
- To endow the student the necessary knowledge in order that in the food-processing industry they are known and has the different kinds and species of cultivated plants, as well as a raw material of highquality, departing from the base that the quality begins in the culture.
- Know the foundations of animal production, in order to the student body could relate the different factors of production of the animal species important in the human consumption, his typification and influence in their quality and health.
- To know the fish farming production and his performance. Study and recognize marine systems members, identify capture technologies and fish farming, so much of species of sweet water as seacoasts that are more important for the supply and the food industry. Qualit analysis and food safety.
- Identify and value the influence quality of the obtained Product once realized the culture, compilation and adequacy for his conservation and transport.

DETAILED SUBJECT SYLLABUS

THEORETICAL SUBJECT:

Part 1: Fundamentals of food production systems of vegetable origin.

- UNIT 1. Feeding and production of raw materials.
- UNIT 2. Agricultural climatology.
- UNIT 3. The soil as substrate for the growth of plants.
- UNIT 4. The main techniques used in agriculture production.
- UNIT 5. The main features of the vegetables.
- UNIT 6. Production of cereals.
- UNIT 7. Production of legumes and oilseeds.
- UNIT 8. Horticultural crops
- UNIT 9. Roots, tubers and edible bulbs.
- UNIT 10. Cultivation of fruit trees.
- UNIT 11. The cultivation of citrus fruits.
- UNIT 12. Cultivation of the olive tree.
- UNIT 13. Stone fruit
- UNIT 14. The vine.
- UNIT 15. Other crops of socio-economic importance.
- UNIT 16. Advances in agriculture.

Part 2: Fundamentals of food production systems of animal origin.

UNIT 17. Concept of Animal production in the supply of raw materials for food.



UNIT 18. The productive specialisation of animals. Main breeds of animals used in obtaining food. Productive characters. Selection and animal breeding.
UNIT 19. Animal nutrition and feed for livestock.
UNIT 20. Grazing
UNIT 21. The reproductive process and its importance in animal productions.
UNIT 22. The production of eggs.
UNIT 23. Lactation
UNIT 24. Production of cow's milk.
UNIT 25. Growth and animal development.
UNIT 26. Beef cattle production.
UNIT 27. Meat of sheep and goat production.
UNIT 28. Pig meat production.
UNIT 29. Production of poultry and rabbit meat.
UNIT 30. The aquatic environment.
UNIT 31. Beekeeping.

SEMINAR / PRACTICAL SUBJECT:

Thematic seminars and guided a:

- Greenhouses
- Field crops
- Horticultural crops
- Pig farm
- Poultry farm
- Sheep farm
- Cattle farm
- Fish farm.

READING

- Buxadé, C. (Ed.). (1995). Zootecnia. Bases de Producción Animal. Colección de 20 Tomos. Ed. Mundi- Prensa. Madrid.
- Cadenas, A. (Ed) (1995). Agricultura y desarrollo sostenible. Ministerio de Agricultura, Pesca y Alimentación. Madrid.
- Castelló, J. A. & Cole, V. (1986). Manual práctico de avicultura. Real Escuela Oficial y Superior de Avicultura. Barcelona
- FAO (2007). Estado mundial de la acuicultura 2006. FAO Documento técnico de pesca 500. FAO Roma.
- Girard, J.P. (1990). Tecnología de la carne y los productos cárnicos. Ed. Acribia. Zaragoza.
- González Laxe, F., Lupin H.M., Bretón de la Cal, J.A. (2004). Acuicultura: producción, comercio y trazabilidad. Editorial NETBIBLO, La Coruña. 168 páginas.
- Jiménez Díaz, R.M, y Lamo, J. (eds) (1998). Agricultura sostenible. Mundi-Prensa.
- López Bellido, L. (1991). Cereales. Mundi-Prensa, 539 pp
- López Bellido, L. (2003). Cultivos industriales. Mundi-Prensa, 1071 pp
- Luquet, F.M. (1991). Leche y productos lácteos. Vaca, oveja y cabra 1.- La leche: de la mama a la lechería. Acribia. Zaragoza.
- Maroto, J.V. (1989). Elementos de Horticultura General. Mundi-Prensa, 343 pp.
- Maroto, J.V. (1992). Horticultura herbácea especial. Mundi-Prensa, 568 pp.
- Mateo Box, J.M. 2005. Prontuario de Agricultura. Cultivos Agrícolas. Ed. Mundi-Prensa, Madrid.
- Muslera Pardo E. 1991. Praderas y Forrajes: producción y aprovechamiento. Ed. Mundi-Prensa, Madrid
- Nadal Moyano, S.; Moreno Yagüela, M.T.; Cubero Salmerón, J.I. 2004. Las leguminosas grano en la agricultura moderna. Ed. Mundi-Prensa, Madrid.
- Robledo de Pedro, F. y Martín Vicente, L. 1988. Aplicación de los plásticos en la agricultura. Mundi- Prensa. 566 pp



Rodríguez, J.M. (1990). Morfología y desarrollo del animal en crecimiento. Ed. ETSIA-UPM. Madrid

Sotillo, J.L., Quiles, A. y Ramírez, A.R. (1996). Producción Animal e Higiene Veterinaria. Vol. I y II. Ed. ICE-Un. Murcia. Murcia.

Urbano Terrón, P. (1989). Tratado de Fitotecnia General. Mundi-Prensa, 836 pp.

Villalobos F.J., Mateos L., Orgaz F., Ferres E. 2002. Fitotecnia: bases y tecnologías de la producción agrícola. Ed. Mundi-Prensa, Madrid.

Welch, D.J.W. (1996). Milk composition, production and biotechnology. Ed. CAB Int. Oxon.

RECOMMENDED INTERNET LINKS

- <http://www.biotech.bioetica.org/d97.htm>
- <http://www.ccma.csic.es/dpts/cons/humus/humuses.htm>
- <http://www.fao.org/docrep/w8594e/w8594e00.htm>
- <http://www.inra.fr/ea/>
- <http://www.nrcs.usda.gov/technical/agronomy.html>
- <http://www.greenpeace.org.ar>
- <http://edafologia.ugr.es/>
- <http://www.worldbank.org/poverty/data/trends/index/htm>

