SUBJECT GUIDE

PLANTS OF FOOD INTEREST

Academic year 2020-2021

Approved on July 9, 2020

MODULE	CONTENT	YEAR	TERM	CREDITS	TYPE
	Plants of food interest	4th	1st	6	Optional

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TUTORING HOURS	MCP: Tues. Wed.Thu. 10 – 12 MRGT: Mon. Tue. Thu. 11,30-13,30h GBC: Mon. 10,30-13,30h, Fri. 10,30-13,30h
DEGREE WITHIN WHICH THE SUBJECT IS TAUGHT	Degree in Science and Food Technology

PREREQUISITES and/or RECOMMENDATIONS (if necessary)

Any

BRIEF ACCOUNT OF THE SUBJECT PROGRAMME

Use of plants and fungi in food. Origin and diversity of plants for food use. Study of the cultivated plants and their relationship with wild plants. Morphology of plants and plant organs used in food. Botanical and popular nomenclature of vegetables used in food. Wild plants for food use. New products of vegetable origin used in food.

GENERAL AND PARTICULAR ABILITIES

BASIC COMPETENCES
CB.1 That students have demonstrated to possess and understand knowledge in a study area that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge coming from the vanguard of its field of study

GENERAL COMPETENCES
CG.07 - Capacity for analysis and synthesis

CG.08 - Critical thinking
CG.10 - Capacity for organization and planning
CG.11 - Information management capacity
CG.05 - Decision making
CG.03 - Team work
CG.04 - Ability to apply theoretical knowledge to practice

SPECIFIC COMPETENCES OF THE DEGREE IN FOOD SCIENCE AND TECHNOLOGY
CE.1Recognize and apply the physical, chemical, biochemical, biological, physiological, mathematical and statistical fundamentals necessary for the understanding and development of food science and technology.
CE.11 Understand and appreciate that food is one of the basic pillars of the cultural identity of a society.
CE.12 Know and establish nutritional guidelines and design food to promote healthy eating and eating.
CE.13 Understand and know how to apply actions to promote food education, health systems and food policies.

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

Learning results
Know the plant species used in human nutrition.
Know the organography of the plant products used in food.
Understand and know the origin and routes of dispersal of the vegetables used as food.
Know the rules of nomenclature of cultivated plants.
Learn to differentiate and identify the plants used in food.

DETAILED SUBJECT SYLLABUS

THEORETICAL SUBJECT:
1. Introduction. Food and biological diversity vegetables. Concept of species and taxonomy. Economic and cultural importance of plants. Economic Botany, Agricultural Botany, Ethnobotany. Evolution and origin of agriculture. Cultivation and domestication.
2. Plant biodiversity. Areas of origin of the cultivated plants. Vavilov centres. Secondary diversity centres. Importance of traditional varieties and cultivars. The green revolution and the transgenic vegetables.
3. Phytogenetic Resources. Protection of cultivated plants. The F.A.O. and the Global System for Food and Agriculture.
4. Plant organs, morphology and plant organography. Nomenclature of the cultivated plants.
5. The cereals. Poaceae Family Main species. Food interest. Origin and main production areas.

6. The vegetables. Fabaceae Family. Main species. Food interest. Origin and main production areas
7. Tubers, bulbs and underground organs for food use. Main species. Food interest. Origin and main production areas.
8. Vegetables I. Brasicáceas, Asteraceae, Amarantáceas and other families. Main species. Food interest. Origin and main production areas
9. Vegetables and vegetables II. Cucurbitaceae, Solanaceae and other families. Main species. Food interest. Origin and main production areas
10. Fleshy fruits I. Rosaceae family. Main species. Food interest. Origin and main production areas.
11. Fleshy fruits II Rutaceae Family and others. Other fleshy fruits. Banana, persimmon, avocado, mango, etc. Food interest. Origin and main production areas
12 Dried fruits Main species. Food interest. Origin and main production areas.
13. Oleaginous plants. Main species. Food interest. Origin and main production areas.
14. Sugar and sweetener plants. Beet, sugar cane and Stevia. Other sugar plants Food interest. Origin and main production areas
15. Condiments and spices. Main species. Food interest. Origin and main production areas.
16. Plant-based beverages
17. Algae and fungi with interest in food.
18. Marginalized crops. Ethnobotany Wild food plants.

SEMINARS:
Current topics or aspects complementary to the program proposed by teachers or students will be developed

PRACTICAL SUBJECT:
Laboratory practices:
Identification of species and plant products with an interest in food, especially organs and structures used in food. Use of identification protocols and cataloguing of food species.
Field practices:
Visits to markets
Visit to an agricultural farm of subtropical crops of the Granada coast.
Recognition of wild species with food value.

READING

FUNDAMENTAL BIBLIOGRAPHY
BAILEY, L. H. 1977. Manual of Cultivated Plants. MacMillan Publishing, New York. 1116 pp.
BAKER , . 1968. Las Plantas y la Civilización. Herrero Hermanos S.A. México. 193 pp.
BUXÓ, R. 1997. Arqueología de las plantas. Crítica. Barcelona. 367 pp.
COTTON, C.M. 1996. Etnobotany. Principles and Applications. Wiley. Chidester. 424pp.
DE CANDOLLE, A. 1896. Origine des plantes cultivées. Felix Alcan. Paris. 385 pp.

GROOMBRIDGE, B. 1992. Global Biodiversity. London. 585 pp.
HILLS, A.F. 1965. Botanica Económica. Plantas útiles y productos vegetales. Omega. Barcelona. 616 pp.
MARTIN, G. 1995. Etnobotany. Chapman & Hall. London. 268 pp.
PHILLIPS, R. & M. RIX. 1994. Legumes. La maison rustique . Paris.
RIVERA, D., OBÓN, C., RÍOS, S., SELMA, C., MÉNDEZ, F., VERDE, A. Y CANO, F. 1997. Las variedades tradicionales de futales de la Cuenca del Río Segura. Catálogo Etnobotánico (1): Frutos secos, oleaginosos,frutales de hueso, almendros y frutales de pepita. Serv. Publ. Univ. de Murcia-Jard. Huerto del Cura, Elche. Murcia. 360 pp.
RIVERA, D., OBÓN, C., RÍOS, S., SELMA, C., MÉNDEZ, F., VERDE, A. Y CANO, F. 1998. Las variedades tradicionales de frutales de la Cuenca del Río Segura. Catálogo Etnobotánico: Cítricos, frutos carnosos y vides. Ed. DM, Murcia. 264 pp.
SÁNCHEZ-MONGE, E. 1980. Diccionario de Plantas Agrícolas. Serv. Publ. Minist. Agricultura. Madrid. 466 pp.
SIMMONDS, N.W. 1976. Evolutions of Crops Plants. Longman. London. 339 pp.
SIMPSON, B. & CONNER, M. 1986. Economic Botany. Plants in our World. Mc Graw-Hill New York 640 pp
TREHANE, P. 1995. International Code of Nomenclature for Cultivated Plants. Quarterjack Publish. PWinborne. 175 pp.
Warren, J. (2015). The Nature of Crops: How We Came to Eat the Plants We Do. CABI. 183pp.
ZEVEN, A.C. & ZHUKOVSKY, P.M. 1975. Dictionary of cultivated plants and their centres of diversity.Centr.Agric. Publishing and Documentation. Wageningen. 219pp.
BIBLIOGRAFÍA COMPLEMENTARIA:
VAVILOV, N.I. 1951. Estudios sobre el origen de las plantas cultivadas. A.C.M.E. Agency. Buenos Aires 185 pp. ZOHARY, . & HOPF, . 1994. Domestication of Plants in the Old World. 2ª Ed. Oxford
University Press. Oxford. 279 pp.
MARTIN, G. 1995. Etnobotany. Chapman & Hall. London. 268 pp.

RECOMMENDED INTERNET LINKS

DEPARTAMENTO DE BOTÁNICA UNIVERSIDAD DE GRANADA http://www.ugr.es/~botanica/
ORGANOGRAFIA VEGETAL http://www.ugr.es/~mcasares/
FLORA VASCULAR DE ANDALUCIA ORIENTAL http://granatensis.ugr.es/descubre.html
FLORA IBÉRICA (ACCESO A LAS CLAVES DE DETERMINACIÓN) http://www.rjb.csic.es/floraiberica/
DIRECTORIO DE BOTÁNICA EN INTERNET http://www.botany.net/IDB/botany.html
IMÁGENES Y DESCRIPCIONES DE FAMILIAS DE ANGIOSPERMAS http://www.csdl.tamu.edu/FLORA/imaxxaca.htm
RED DE INFORMACIÓN DE RECURSOS DE GERMOPLASMA (GRIN) http://www.ars-grin.gov/npgs/tax/indexsp.html

DESCRIPCIONES DE FAMILIAS http://www.botany.hawaii.edu/faculty/carr/pfamilies.htm
LA ENCICLOPEDIA DE LAS PLANTAS http://www.botany.com/
REAL JARDÍN BOTÁNICO DE MADRID http://www.rjb.csic.es/
BOTANICA ON-LINE http://www.biologie.uni-hamburg.de/b-online/e00/contents.htm
LECCIONES HIPERTEXTUALES DE BOTÁNICA http://www.unex.es/botanica/LHB/index.htm
CODIGO INTERNCIONAL DE NOMENCLATURA BOTÁNICA http://www.bgbm.fu-berlin.de/iapt/nomenclature/code/SaintLouis/0000St.Luistitle.htm
FILOGENIA DE ANGIOSPERMAS (MISSOURI BOTANICAL GARDEN)
http://www.mobot.org/MOBOT/Research/APweb/