

VITICULTURE

(III year of studies, V semester)

Credits (ECTS): 5

Course category: specialized discipline

Holder of course activities and practical works:

Profesor univ. dr. Liviu Mihai IRIMIA

The objectives of the discipline

Knowledge of the anatomical-morphological peculiarities of the grapevine, the peculiarity of the biological and physiological processes of this species, its requirements in relation to ecological factors; understanding the mechanisms on which the exploitation of the biological vegetative and production potential of grapevine varieties depends; knowledge of the spread of the vine around the globe, of the wine-growing regions and vineyards in Romania; understanding the mechanisms that condition the viticulture potential of geographical areas and its spatial distribution at fine scale and regional scale; knowledge and control of the mechanisms that determine the size and quality of grape yields, life duration, vigor and production potential of grapevine.

Course and practical works content

Course (chapters)
1. Introduction to viticulture
1.1. The importance of viticulture
1.2. The history of viticulture
1.3. Grapevine culture around the globe
1.4. Grapevine culture in Romania
2. The origins, evolution and systematics of the Vitaceae
2.1. The origin and evolution of the Vitaceae
2.2. Systematics of the Vitaceae
2.3. Classification of cultivated vines
3. Biology of the grapevine
3.1. The ontogenetic biological cycle of the vine
3.2. The annual biological cycle of the vine
4. The ecology of the grapevine
4.1. Climatic factors
4.2. Bioclimatic indices
4.3. The soil
4.4. The relief
4.5. Secondary ecological factors
5. Physiology of the vine
5.1. Water absorption
5.2. Mineral nutrition
5.3. Transpiration
5.4. Photosynthesis
5.5. Respiration
5.6. Translocation, metabolism and accumulation of organic substances
5.7. The role of phytohormones in the development of physiological processes in the grapevine

Practical works
1. Grapevine morphology.
2. Shoot and cane morphology and anatomy.
3. Morphology and anatomy of the root system.
4. Inflorescence and flower morphology in grapevine.
5. Analysis of the architecture of the root system.
6. Analysis of the microclimate of the vine canopy.
7. Grapevine productivity indices.
8. Evaluation of grapevine yield.
9. Calculation of leaf area and leaf index.
10. Analysis of the phenological evolution in the vine according to the Baggioolini, Echorn-Lorens, BBCH scales.
11. Study of wine-growing areas in Romania: regions, vineyards and wine-growing centers.
12. The wine regions of the world.
13. Evaluation of the viticultural potential of geographical areas by using Geographical Information Systems (GIS).

Bibliography

- Dejeu L.C., 2010. Viticultură. Ed. Ceres, București.
- Galet P., 1988 – Precis de Viticulture. Ed. Tec et Doc.
- Hidalgo L., 2003. Tratado de viticultura general. 3^a edición. Ediciones Mundi-Prensa, Madrid
- Huglin P., Schneider Ch., 1998. Biologie et physiologie de la vigne. 2e édition. Ed. Lavoisier TEC&DOC.
- Irimia L.M., Mustea M., 2021. Cap. 3 Viticultura, în Manual de practică – Specializarea Horticultură, vol. 2, Ed. “Ion Ionescu de la Brad” Iasi,
- Irimia L.M., Patriche C.V., 2019. Potențialul viticol al podgoriilor și evoluția acestuia în contextul schimbării climatice. Ed. “Ion Ionescu de la Brad” Iasi
- Irimia L., 2012. Biologia, ecologia și fiziologia viței de vie. Ed. Ion Ionescu de la Brad, Iași, 284 p.
- Irimia L., Țârdea C., 2007. Viticultura. Lucrări practice. Ed. Ion Ionescu de la Brad, Iași.
- Milică C., Bărbat I., Dorobanțu N., Nedelcu Polixenia, Baia V., 1977. Fiziologie vegetală. Ed. Didactică și Pedagogică, București.
- Mullins M., Bouquet A., Williams L.E., 1992. Biology of the grapevine. Biology of horticultural crops. Cambridge University Press.
- Țârdea C., Dejeu L., 1994. Viticultura. Ed. Didactică și Pedagogică, București.

Student assessment

Assessment form	Assessment method	Percentage of the final grade
Examination	Oral assessment	75%
Appreciation of the activity during the semester	Written assessments during the semester and practice tests.	25%

Contact

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Viticulture (Specialization: Horticulture, the third Year of study, the sixth Semester)

Course category: domain discipline (mandatory)

Credit value (ECTS): 4

Course holder:

Assoc. Prof. PhD. Mihai MUSTEA

Discipline objectives (course and practical works): Knowledge and proper use of the notions specific to viticulture; knowledge of the technology of production of viticulture planting material; knowledge of the technology for setting up live vine plantations; knowledge of the cultivation technology of fruit plantations

Contents (syllabus)

Course (chapters/subchapters)
1 Production planting material 1.1 Nursery wine 1.1 Production rootstock cuttings Production strings graft Producing grafted vines
2. Establishment vineyards fruitful 2.1 Types of vineyards 2.2 Choosing the land for vineyards 2.3 Organizing land for planting vines 2.4 Preparing the soil for planting 2.5 Choosing fruitful vine varieties and rootstocks 2.6 Systems culture of the vine 2.7 Establishing planting distances and types of cutting 2.8 Planting of vines
3 Maintenance of young plantations of vines 3.1 Maintenance in the first year after planting 3.2 Maintenance in the second year after planting 3.3 Maintenance in the third year after planting 3.4 Training cuts the vine
4 Maintenance fruitful vineyards 4.1 Tăierea viței de vie 4.2 Tying vine after cutting 4.3 Soil maintenance systems in vineyards 4.4 Green works and operations on vine 4.5 Fertilization of vineyards 4.6 Irrigation of vineyards 4.7 Filling the gaps 4.8Pest and disease control in vineyards 4.9 Harvesting grapes
Practical works
Viability checking buds
Preparation of material for grafting
Grafting vines
Forcing cuttings grafted

Planting cuttings grafted vines
Cutting vine rootstock
Planting of vines
Training cuts the vine
Cuts bearing fruit on vines
Tillage applied to vineyards
Work and operations on grapevines
Work and operations on rootstocks

Bibliography

1. Dejeu L., 2010 - Viticulture, Ceres Publishing House, Bucharest.
 2. Dobrei A., Liliana Rotaru. Dobrei Alina, 2017 - Viticulture, Ampelography, Oenology. "Solness" Publishing House Timișoara.
 3. Irimia. L., Țârdea C., 2007 - Viticulture. Practical work.
 4. Mustea M., 2004 - Viticulture, biological bases, establishment and maintenance of young fruit trees. "Ion Ionescu de la Brad" publishing house, Iasi.
 5. Țârdea C. 1995 - Viticulture. Didactic and Pedagogical Publishing House, Bucharest.
- xxx-Journal of Horticulture
xxx - Scientific works of the U.A.M.V. Iasi, the Horticulture series.
xxx - Agronomic Research in Moldova

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Course	Exam	60 %
	presence	
Practical works	Tests + cours and practical	40 %

Contact

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