Sveučilište u Zagrebu Agronomski fakultet
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Organic fruit growing (296585)

Nositelj kolegija

izv. prof. dr. sc. Kristina Batelja Lodeta

Opis kolegija

Module Description: The Organic Fruit Growing

The Organic Fruit Growing module provides students with knowledge in the field of organic (ecological) cultivation technology for fruit crops. This module equips students with understanding of economically important pome, stone, nut, and berry fruit species. Indigenous species that contribute to the development of rootstocks and cultivars are also covered.

Lectures and practical exercises enable students to acquire knowledge about ecological factors influencing cultivation, the biological characteristics of species, cultivars, and rootstocks, as well as the fundamentals of tree growth physiology and fruitfulness.

Each section of the module addresses the following topics: global and national production, botanical classification, ecological factors for cultivation, flowering and fertilization, cultivation technology – rootstocks, cultivar assortment, and training systems.

Module Sections:

Fundamentals of Fruit Growing

Basic Principles of Organic (Ecological) Fruit Cultivation

Pome Fruit Species (Pomoideae): apple, pear, quince, medlar, and service tree

Stone Fruit Species (Prunoideae): plum, sweet cherry, sour cherry, apricot, peach, and nectarine

Nut and Berry Fruit Species: hazelnut, walnut, chestnut, strawberry, raspberry, blackberry, blueberry, currant, and others

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ECTS: **6.00**

Sati nastave: 60
Predavanja: 44
Seminar: 8
Terenske vježbe: 8

Izvođač predavanja

- izv. prof. dr. sc. Kristina Batelja Lodeta
- prof. dr. sc. Boris Duralija
- doc. dr. sc. Jelena Gadže

Ocjenjivanje

Dovoljan (2): Sufficient / Pass: 60–70%
Dobar (3): Good: 71–80%
Vrlo dobar (4): Very Good: 81–90%
Izvrstan (5): Excellent: 91–100%

Opis

Fail: below 60% – insufficient performance, course requirements not met

Sufficient / Pass: 60–70% – basic understanding and competence

Good: 71–80% – solid understanding and satisfactory competence

Very Good: 81–90% – high level of understanding and competence

Excellent: 91–100% – outstanding understanding, comprehensive knowledge, and excellent competence

Vrsta kolegija

- Undergraduate studies / BS Courses taught in English (Izborni kolegij, 2. semestar, 1. godina)

Opće kompetencije

The course provides students with essential theoretical and practical knowledge in organic (ecological) cultivation technologies, emphasizing the selection of fruit species, varieties, and rootstocks suitable for specific ecological growing conditions.

Ishodi učenja i način provjere

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Ishod učenja	Način provjere
Define the structure of fruit trees and the function of individual organs, as well as growth and fruiting processes.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Explain methods of fruit tree propagation, including grafting, pruning, and training systems.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Define the relationship between ecological factors at a given site and the ecological requirements for cultivating specific fruit species.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Explain the relationship between flowering, pollination, and fruiting within the current and subsequent growing seasons for particular fruit species.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Describe and explain the fundamental principles of organic (ecological) fruit production, including nutrition, protection, and orchard maintenance.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Describe and explain the fundamental principles of organic (ecological) fruit production, including nutrition, protection, and orchard maintenance.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Plan an organic (ecological) cultivation technology for selected fruit species.	Oral examinations (colloquia) assessing theoretical knowledge and understanding.
Present an organic (ecological) cultivation technology for a specific fruit species.	Seminar presentations demonstrating the application of organic (ecological) fruit cultivation technologies. (written paper and oral presentation)

Način rada

Obveze nastavnika

Instruction is conducted in accordance with the defined weekly plan. Course materials and announcements related to the course are made available, and regular communication with students is maintained through electronic media and scheduled weekly consultations.

Colloquia and examinations are conducted on published dates, and grading is performed in accordance with the defined criteria.

Obveze studenta

Regular attendance in class is required. Eligibility to take the final exam requires both consistent attendance and completion of the seminar paper

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Tjedni plan nastave

1. Lectures: Organic–biological fruit cultivation in Croatia and worldwide; legal framework and regulations governing organic production in the Republic of Croatia and the European Union. Practical classes / exercises: Case studies and presentations of sustainable fruit cultivation practices worldwide.
2. Lectures: Prerequisites for organic–biological fruit cultivation – suitable and unsuitable sites; climatic factors (temperature, precipitation, light) and the influence of wind; impact of soil type selection, “undisturbed” soils as a factor in fertility, and the role of soil organisms.
3. Lectures: Soil management in organic orchards; green manuring and biocenoses; nutrition in organic orchards. Practical classes / exercises: Principles influencing the establishment of an organic orchard.
4. Lectures: Principles of pruning and thinning in organic orchards; diseases and pests – prevention and protection. Practical classes / exercises: Feasibility of organic fruit growing in different regions.
5. Lectures: Criteria for obtaining high-quality planting material in organic fruit production (rootstocks and scions); orchard planting systems.
6. Lectures: Pome fruits – uses, distribution, and biological characteristics; apple – organic cultivation technology, rootstocks, and cultivars in organic production.
7. Lectures: Pear – uses, distribution, biological characteristics; organic cultivation technology, rootstocks, and cultivars in organic production.
8. Lectures: Other pome fruit species in cultivation; stone fruits – uses, distribution, and biological characteristics; plum – organic cultivation technology, rootstocks, and cultivars in organic production.
9. Lectures: Apricot and peach – organic cultivation technology, rootstocks, and cultivars in organic production.
10. Lectures: Sweet cherry and sour cherry – organic cultivation technology, rootstocks, and cultivars in organic production.
11. Lectures: Organic cultivation of subtropical fruits.
12. Lectures: Berry fruits – uses, distribution, and biological characteristics; strawberry – organic cultivation technology, cultivars in organic production, and pomology with an emphasis on qualitative traits.
13. Lectures: Raspberry, blackberry, blueberry, cranberry, currant, and other less common berry species – organic cultivation technology and cultivars.
14. Lectures: Nut-bearing fruit trees – uses, distribution, and biological characteristics; walnut, hazelnut, and chestnut – organic cultivation technology, cultivars, and rootstocks; walnut and hazelnut – pomology with an emphasis on qualitative traits.
15. Presentation of seminar paper.

Preporučena literatura

1. Lind K. i sur. 2003. Organic fruit growing. CABI Publishing (ed.) ISBN 0 85199 640 X; Miljković, I. 1991. Suvremeno voćarstvo. Znanje –Zagreb; Kisić, I. 2014. Uvod u ekološku poljoprivredu; Phillips M. 2011. The Holistic Orchard. Goodman M (ed.) ISBN 978-1-60358-407-4

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