

Soil biology (Ist Year of study, IInd Semester)

Credit value (ECTS): 5

Course category

Domain – foundation course (Imposed)

Course holder:

PhD, Prof. Eugen ULEA

Discipline objectives (course and practicum)

The analytical program aims to instill the knowledge by students concerning etiology, symptomatology, the epidemiology and measures for prevention and control of ornamental plant diseases. Practical application aims to familiarize students with the technical work in the laboratories of plant protection, and with the recognition of disease.

Understanding of the disease distribution in ecosystems from our country.

Ability to identify the real disease causes and to control them, considering protection of ecosystems.

Contents (syllabus)

Course (chapters/subchapters)
Inert soil components
Living soil components
Biological soil activity
Environment effects on microorganisms
Interactions between microorganisms and plants
Possibilities to modify processes from soil

Practicum
Isolation and counting of bacteria and fungi from the soil
Isolation and enumeration of algae and protozoa
Isolation and counting of nematodes and arthropods
Biomass soil evaluation
Determination of CO ₂ emissions in the rhizosphere
Soil enzymatic activity measurement
Testing of the action of xenobiotic products on microorganisms

References

1. Eliade Gh., Ghinea L., Ștefanic Gh. - Bazele biologice ale fertilității solului. Ed. CERES, București, 1983.
2. Hatman M., Ulea E. - Microbiologie - Curs, Universitatea Agronomică Iași - Centrul de multiplicare, Iași, 1993.
3. Kiss Șt., Ștefanic GH., Pasca Daniela, Drăgan-Bularde Zborovschi, Crișan R. - Enzimologia mediului înconjurător, Ed. CERES, Vol. I - 1991, Vol. II, 1993.
4. Mihăescu Gh., Gavrilă L. - Biologia microorganismelor fixatoare de azot, Ed. CERES, București, 1989.

5. Pierre Davet - Vie microbienne du sol et production végétale
6. Papacostea P. - Biologia solului. Ed. Științifică și Enciclopedică, București, 1976.
7. Zarnea Gh. - Tratat de microbiologie generală, Ed. Academiei Române, București, Vol. I - 1983, Vol. II - 1984, Vol. III - 1986, Vol. IV - 1990, Vol. V - 1994.

Evaluation

Evaluation form	Points no.	Percentage of the final grade %
Presence at the course	1	10
Appreciation of the activity during the semester	3	30
Exam	6	60
Final note	10	100

Contact

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