

AGROCHEMISTRY (Landscape, IInd Year of study, IIIrd SEMESTER)

Credit value (ECTS) 4

Course category : Imposed

Course holder:

Assist. Prof. Dr. Mariana Volf

Discipline objectives (course and practical works)

The central objective of the course is focused on learning and acquisition by students to concepts related to plants, soil, amendments and fertilizers. Their presentation is done in close correlation with the condition of the supply of nutrients to the soil for decorative plants and maintaining or the correction with fertilizers and amendments of the fertility status of their but in accordance also with the necessities and the specific consumption of the plants in nutrients

The laboratory aims at the assimilation of knowledge related to assortments of fertilizers used for plants decorative, respectively their recognition and recommendations of use.

Contents (syllabus)

Course (chapters/subchapters)
The object of study, the history and the importance of agrochemistry
The foundations of agrochemicals of fertilization in relation to the requirements of plants and in agreement with edaphic factors. The chemical composition of the plant. Classification of nutrients. The requirements of the plant in nutrients in relation to the species and age. Absorption root of the nutrients in the soil. Nutrient balance of plants. Characterization of the soil system as a source of elements necessary for plant nutrition. Fractions of the soil. The complexes organo-mineral. Colloids of soil, the main factor of retention of nutrients. Processes of retention of nutrients.
Culture media for decorative plants. The mixtures of the ground. Hydroponics
Correcting chemical reaction of soils by amendment. Correcting chemical reaction of acid soils. Correcting chemical reaction of saline and alkali soils
Fertilizers as a means of increasing the fertility of the soil. Fertilizers - classification, production, consumption, trends. Chemical fertilizers with nitrogen. Chemical fertilizers with phosphorus. Chemical fertilizers with potassium. Fertilizers with macroelements of secondary order. Fertilizers with microelements. Complex chemical fertilizers. Organic fertilizers
Control of the fertility status of the soil, means of rational use of fertilizers. Testing fertility status by chemical analysis of the plants. Testing fertility status by chemical analysis of the soils. Mapping agrochemical.
Amendment and fertilization of the lawn.
Amendment and fertilization of trees and ornamental shrubs grown in parks and gardens
Amendment and fertilization of flowers.
Practical works
Sampling of soil agrochemical and their preparation for the analysis

Improving the composition of the ionic of acid soils. Determine the forms of acidity in the soil. Determining the doses of lime amendments
Improving the composition of halomorph soils. Determination of total alkalinity of soils. Determination of the sodium adsorbed in the soil. The establishment of doses of amendments with ghips.
Testing the soil fertility status. Dosage forms of nutrients into forms accessible for plants
Recognition fertilizers. Chemical reactions qualitative to identify anions and cations of fertilizers.

Bibliography

1. **Ioan Avarvarei , M. Goian, V. Davidescu, R.Mocanu, C. Caramete, M Rusu**, 1997, Agrochimie, Editura Sitech, Craiova
2. **Avarvarei, I., Volf Mariana**, 2006, Metodologia recunoa terii amendamentelor de sol i a îngrîmintelor chimice, Editura „Ion Ionescu de la Brad”, Ia i.
3. **Budoï, Gh.**, 2000, Agrochimie, Solul i planta, Editura Didactic i Pedagogic , R.A., Bucure ti.
4. **Davidescu, D., Davidescu, Velicica**, 1994, Agrochimie horticol , Editura Academiei, Bucure ti.
5. **L c tu u, R.**, 2000, Agrochimie, Editura Helicon, Timi oara.
6. **Rusu. M. i colab.**, 2005, Tratat de Agrochimie, Editura Ceres, Bucure ti.
7. **Volf Mariana**, 2008, Agrochimie, Editura Renaissance, Bucure ti

Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	Oral examination	60%
Appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	40%

Contact

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