AGROCHEMISTRY (I-st Year of study, I-st SEMESTER)

Nr. transferable credits: 7

The status of the discipline
Specialized discipline

Discipline holder: Phd. lecturer Mariana Volf

Obiectivele disciplinei (curs și aplicații):
Acquiring thorough by future engineers horticulturists the theoretical and practical issues on relationships soil - plant –fertilizer/ amendments, in close correlation with the control of the supply state with the nutrients of the soil and maintaining or the correction with fertilizers and amendments of the fertility status, through setting of doses judicious and differentiated economic optimum, for the purpose of yields quantitatively and qualitatively superior , effective economic and with the preservation of the environment.

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 The chemical composition of the plant. Classification of nutrients. Absorption root of the nutrients in the soil. State of supply it with nutrients
Characterization of the soil system as a source of elements necessary for plant nutrition. Generalities. Fraction mineral of soil. The fraction organic soil .The complexes organo-mineral. Colloids of soil, the main factor of retention of nutrients. Processes of retention of nutrients.
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. The retention of chemical fertilizers Organic fertilizers. Fertilizers and crop quality
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.
The principles of the rational and economic use of fertilizers. The determination of fertilizer doses.

Practical works
Improving the composition of the ionic of acid soils. Improving the composition of halomorph soils.
Testing the soil fertility status. Dosage forms of nutrients into forms accessible for plants
Testing the soil fertility status. Dosage forms of nutrients into variates forms in plants
Recognition and testing the simply chemical fertilizers.
Recognition and testing the chemical complex fertilizers.
Mapping agrochemical.

Bibliografie

1.**Avarvarei, I.**, **Volf Mariana** 2006, Metodologia recunoaşterii amendamentelor de sol şi a îngrăşămintelor chimice, Editura „Ion Ionescu de la Brad”, Iaşi.
2. **Budoi, Gh**., 2000, Agrochimie, Solul şi planta, Editura Didactică şi Pedagogică, R.A., Bucureşti.
3. **Davidescu, D., Davidescu, Velicica**, 1994, Agrochimie horticolă, Editura Academiei, Bucureşti.
4. **Lixandru, Gh**., 2006, Sisteme integrate de fertilizare în agricultură, Editura Pim, Iaşi.
5. **Lăcătuşu, R**., 2000, Agrochimie, Editura Helicon, Timişoara.
6 **Rusu. M. şi colab.**, 2005, Tratat de Agrochimie, Editura Ceres, Bucureşti.
7. **Volf Mariana** , 2008, Agrochimie , Editura Renaissance , Bucuresti

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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