

## VEGETABLES GROWING (HORTICULTURE, 3<sup>rd</sup> Year of study, 1<sup>st</sup> Semester)

**Credit value (ECTS): 5**

**Course category:**

Domain discipline (**mandatory**)

**Course holder:**

**Associate professor PhD. Teodor Stan**

**Discipline objectives (course and practical works)**

Familiarize the students with the vegetable plants, knowing them for the purpose of cultivating them on the largest areas in order to achieve significant incomes.

Theoretical and practical training of students with general and special elements of vegetable cultivation, ensuring the completion of the professional knowledge, which allows a better use of the land and the constructions destined to produce vegetables, in order to obtain superior productions from a quantitative and qualitative point of view, as far as possible unpolluted, which ultimately lead to higher profits for growers.

The practical works aim at:

- deepening the elements, rules and details regarding the constructions and materials necessary for the production of seedlings of vegetable plants;
- the correct formulation of a cultivation technology of a vegetable species in correlation with the pedoclimatic and social economic factors existing in a certain vegetable area;
- developing the sense of preventing and combating certain risk factors that may occur at a given time in a vegetable crop in order to obtain high yields both quantitatively and qualitatively;
- developing the sense of perceiving the "new", by applying modern, fully mechanized technologies, to be as economically profitable as possible.

**Contents**

<b>1st SEMESTER - Course</b>
1. The importance, development and objectives of vegetable growing 1.1. Objectives and content of vegetable growing course 1.2. Vegetable growing importance and its place in agricultural production. 1.3. Present situation and future development of vegetable growing
2. The biological bases in cultivation of vegetable plants 2.1. The origin and evolution of vegetable plants 2.2. The particularity of growth and development in vegetable plants 2.4. Vegetable plants classification
3. Propagation of vegetable plants 3.1. Vegetative propagation (asexual) 3.2. Generative propagation (sexual) 3.3. Preparation of seeds for seeding
4. Vegetable plant ecology 4.1. Relationships of vegetable plants with light 4.2. Relationships of vegetable plants with the temperature 4.3. Air as a factor of vegetation in vegetable growing 4.4. Requirements of vegetable plants to water 4.5. Soil and food 4.5.1. The requirements of vegetable plants from the soil 4.5.2. Mineral nutrition of vegetable plants and physiological role of the mineral elements (nitrogen, phosphorus, potassium, calcium, magnesium, trace elements, boron, copper, manganese, molybdenum, zinc, iron) 4.5.3. The requirements of vegetable plants to mineral elements

5. The bases of intensification in vegetable growing
  - 5.1. Intensive development of vegetable growing
  - 5.2. Zonation of vegetables plants
  - 5.3. Concentration, profiling and specialization of vegetable growing production
  - 5.4. Technical and material basis specify for vegetable growing production
    - 5.4.1. Dedicated spaces and materials used in the seedlings production
    - 5.4.2. Dedicated spaces and materials used for vegetable crops in polytunnel and greenhouses
    - 5.4.3. Machinery and equipment used in vegetables growing

1st SEMESTER -Practical works
Knowing the assortment of vegetable plants cultivated in our country and around the globe
Knowing the vegetable seeds and special methods for determining and analyzing the characteristics of seed, useful for production
Quality control of vegetable seeds
Preparation of vegetables seeds to seeding
Establishing the necessary materials and seedlings for a vegetable farm

### Bibliography

1. CIOFU RUXANDRA, STAN N. și colab. – Tratat de legumicultură, Editura Ceres, București, 2003
2. STAN N.,STAN T. – Legumicultură, generala, Editura “Ion Ionescu de la Brad”, Iași, 2010
3. STAN T. - Tehnologia cultivării legumelor. Editura ALFA Iași, 2005
4. STAN N.,STAN T. – *Legumicultură, vol.I, Editura “Ion Ionescu de la Brad”, Iași, 1999*
5. STAN N. - *Legumicultură generală. Lucrări practice. Institutul Agronomic Iași, 1987*
6. STAN N., MUNTEANU N. - Legumicultură,vol.II,Editura "Ion Ionescu de la Brad",Iași, 2001
7. STAN N., MUNTEANU N., STAN T. – Legumicultură, vol III, Editura "Ion Ionescu de la Brad",Iași, 2003.

### Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Exam	Oral examination	70%
Practical works - appreciation of the activity during the semester	Oral assessment during the semester, verification tests and final laboratory colloquium.	30%

### Contact

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## VEGETABLES GROWING (HORTICULTURE, 3<sup>rd</sup> Year of study, 2<sup>nd</sup> Semester)

**Credit value (ECTS): 4**

### **Course category:**

Domain discipline (**mandatory**)

### **Course holder:**

**Associate professor PhD. Teodor Stan**

### **Discipline objectives (course and practical works)**

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Theoretical and practical training of students with general and special elements of vegetable cultivation, ensuring the completion of the professional knowledge, which allows a better use of the land and the constructions destined to produce vegetables, in order to obtain superior productions from a quantitative and qualitative point of view, as far as possible unpolluted, which ultimately lead to higher profits for growers.

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### **Contents (syllabus)**

<b>Course</b>
6.1 Culture systems used in vegetable growing
6.2 Basic elements of vegetable crops technology
6.2.1. Rational and intensively use of land and soil in vegetable growing
6.2.2. Irrigation, fertilization and weed control in vegetable crops
6.2.2.1. Irrigation of vegetable crops
6.2.2.2. Used fertilizers and methods of fertilization in vegetable crops
6.1.2.3. Weed control in vegetable crops
6.3 General technology of seedlings production
6.3.1. Preparation of spaces, machinery and equipment, inventory and nutrient mixture for seedling production
6.3.2. The technology of seedlings producing in greenhouses
6.3.3. The technology of seedlings producing in greenhouses and polytunnels with substrate heated biologically
6.3.4. The technology of seedlings producing in greenhouses and polytunnels without heat
6.3.5. The technology of seedlings producing in seedbeds heated biologically
6.4 General technology of vegetable crops in the field
6.4.1. Preparing the land and soil
6.4.2. The establishment of vegetable crops in the field
6.4.3. Maintenance work applied to vegetable crops in the field
6.5 General technology of vegetable crops in polytunnel
6.5.1. Preparation of construction used and tillage
6.5.2. Establishment of vegetables crops in polytunnels

6.5.3. Leading environmental factors during the cultivation period in polytunnels
6.5.4. Maintenance work of vegetable crops in polytunnels
6.6 General technology of vegetable crops in greenhouses
6.6.1. Preparing the land and greenhouses for crops establishment
6.6.2. Establishment of vegetables crops in greenhouses
6.6.3. Maintenance work of vegetable crops in greenhouses
6.7 General technology of edible mushrooms and mycelium mushrooms production
6.7.1. General technology of edible mushrooms
6.7.2. General technology of mycelium mushrooms production
General technology of vegetable crops "without soil"
6.8 Harvesting, conditioning, transportation, storage and capitalization of vegetable products
6.9.1. Harvesting of vegetables products
6.9.2. Conditioning of vegetable products
6.9.3. Transporting of vegetable products
6.9.4. Storage of fresh vegetables products
6.9.5. Prepackaged of vegetables products

<b>Practical works</b>
Seedlings production for field crops, greenhouse crops and polytunnel crops
Preparation of used construction and tillage for the establishment of vegetable crops
Establishment of vegetable crops in field, greenhouse and polytunnels
Maintenance work of vegetable crops in field, greenhouse and polytunnels
Harvesting and capitalization of vegetable products
Material and energetic base used for vegetables production.

### **Bibliography**

1. CIOFU RUXANDRA, STAN N. și colab. – Tratat de legumicultură, Editura Ceres, București, 2003
2. STAN N.,STAN T. – Legumicultură, generala, Editura “Ion Ionescu de la Brad”, Iași, 2010
3. STAN T. - Tehnologia cultivării legumelor. Editura ALFA Iași, 2005
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