

## Conditioning and storage plant (IVth Year of study, VII SEMESTER)

Credits transferable value: 4

Course category

Domain (imposed)

Course holder:

Associate prof. dr. A. MOGİRZAN

### Discipline objectives (course and practical works)

The aim of the coursework is to have students acquire knowledge on reception, conditioning, storage and preservation methods and storage of agricultural products plant. Also will pursue acquiring knowledge on control of products during storage and calculation of reduction during conditioning and keeping.

Practical work is aimed at acquiring knowledge by students on morphological peculiarities, anatomical and biochemical of agricultural products influencing their preservation. Quality control and establishing reduction during conditioning and keeping agricultural crop.

### Contents (syllabus)

Course (chapters\subchapters)
<b>INTRODUCTION:</b> definition, object, research methods, relationship with other disciplines;
<b>SEEDS MASS ATTRIBUTES:</b> physical, biological, biochemical and of quality;
<b>NECESSARY CONDITIONS FOR PRODUCTS STORAGE:</b> construction and storage spaces;
<b>MACHINERY AND EQUIPMENT USED IN PRACTICE OF STORAGE AND PRESERVATION PRODUCTS</b>
<b>RECEIVING AND WEIGHING OF AGRICULTURAL PRODUCTS;</b>
<b>COMPARTMENTALIZATION AND STORAGE OF AGRICULTURAL PRODUCTS</b> (by: species, moisture, foreign bodies %, MH, health status and type of deposit);
<b>CLEANING AND SORTING OF AGRICULTURAL PRODUCTS;</b>
<b>CONSERVATION METHODS FOR AGRICULTURAL PRODUCTS</b> (drying, cooling, ventilation, preservation, chemically, and radiation);
<b>PARTICULARITIES OF PRESERVING AGRICULTURAL PRODUCTS</b> cereals, grain legumes for oilseeds, textile plants, sugar beet, potato tubers, narcotic plants, hop cones and medicinal plants);
<b>CONTROL OF PRODUCTS DURING STORAGE</b> (U,T, diseases and pests in storage; combating dust);
<b>VALORISATION OF AGRICULTURAL CROP.</b>

<b>Practical works</b>
<b>SEEDS QUALITY CONTROL</b> (determination of purity, MH, humidity, MMB, MS, glassy, germination).
<b>MORPHOLOGICAL, ANATOMICAL AND BIOCHEMICAL PARTICULARITIES OF AGRICULTURAL PRODUCTS;</b>
<b>DETERMINATION OF AGRICULTURAL PRODUCTS UNIFORMITY;</b>
<b>DETERMINATION PEST INFESTATION VISIBLE AND INVISIBLE;</b>
<b>USEFUL RECORDING CALCULATION AND VALUE OF PRODUCTS;</b>
<b>CALCULATION OF REDUCTION DURING CONDITIONING AND KEEPING AGRICULTURAL PRODUCTS;</b>
<b>FINAL COLLOQUIUM OF VERIFICATION OF KNOWLEDGE.</b>

### **Bibliography**

- Axinte M., și colab. - 2002 - FITOTEHNIE :** Fitotehnie, caiet pentru lucrări practice, partea I, U.S.A.M.V. Iași, uz intern, 1986.
- Beceanu D-tru, Balint G., 2002 –** Valorificarea în stare proaspătă a fructelor, legumelor și florilor. Ed. “Ion Ionescu de la Brad” Iași.
- Mogârzan Aglaia, Robu T., 2005 –** Tehnologia păstrării produselor agricole vegetale, Ed.”Ion Ionescu de la Brad” Iași.
- Mogârzan Aglaia, Robu T., Zaharia Marius, 2010 –** Fitotehnie, Îndrumător pentru lucrări practice, Ed. I.Ionescu de la Brad, Iași.
- Thierer Volf și colab. –** Tehnologia recepționării, depozitării, condiționării și conservării produselor agricole. Ed.Ceres, Buc., 1971.
- Thierer Volf –** Determinarea calității produselor agricole vegetale. Ed.Ceres, București, 1971.
- Zaharia Marius și colab. 2011 –** Fitotehnie, Lucrări de laborator, Editura “Ion Ionescu de la Brad”, Iași.

### **Final evaluation**

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

### **Contact person**

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## **Conditioning and storage of agricultural products (IV<sup>th</sup> Year of study, VIII<sup>th</sup> Semester)**

**Credit value (ECTS) 3**

**Course category**

Domain (Imposed)

**Course holder:**

**Assist. Prof. PhD Bogdan-Vlad AVARVAREI**

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

It is discipline with a general feature on study of food products and on theoretical basis regarding the main technological flows to obtain food products with animal origin. At the end of the course the students must know the specific operations and stages for different branches in food industry which processed raw material with animal origin; apparatus and equipments which transform it in final product; specific installations utilized in food industry; main sensorial features and physical-chemical properties of food products with animal origin.

At practical works the aim is to familiarize the students with working techniques in control and expertise laboratories for food products with animal origin and knowledge regarding the main sensorial features and physical-chemical properties of those products.

**Contents (syllabus)**

<b>Course (chapters/subchapters)</b>
1. Processing technology for consumption milk.
2. Processing technology for acid-diet products (yogurt, sana, etc.). Processing technology for consumption cream.
3. Processing technology for butter. General processing technologies for cheeses (fresh, matured in brine, semi-hard and hard, melted and squeezed).
4. Processing technology for ice-cream and concentrated and dried dairy products.
5. Processing technology for meat common products (classification, raw material, auxiliary material and materials, technologies and equipments, quality characteristics, defects).
6. Processing technology for crude and dried meat products (classification, raw material, auxiliary material and materials, technologies and equipments, starter cultures, quality characteristics, defects).
7. Processing technology for cooked products (semi-cooked). Technology for meat semi-canned products (classification, raw material, auxiliary material and materials, technologies and equipments, quality characteristics, defects).
8. Technology for meat canned products (classification, raw material, auxiliary material and materials, technologies and equipments, quality characteristics, defects, packing). Processing technology for meat byproducts (intestines, organs, fat, uneatable byproducts).
9. Processing technology for smoked fish (smoking methods). Processing technology for fish semi-canned products.
10. Processing technology for fish canned products. Capitalization of byproducts from fish industrialization.

**Practical works**

1. Norms for working security technique. Sensorial analysis and determination of physical-chemical properties for: consumption milk, acid-diet products, cream, butter, cheeses, ice-cream.
2. Physical-chemical analysis of meat products, raw-dried salami, meat semi-canned and canned.
3. Chemical analysis of salted and smoked fish (salt and moisture content). Physical-chemical analysis of fish semi-canned and canned products.
4. Evaluation of knowledge.

## References

1. Banu C., Alexe P., Vizireanu Camelia – Procesarea industrială a cărnii, Ed. Tehnică, București, 2003
2. Banu C., și colab. – Calitatea și controlul calității produselor alimentare, Ed. AGIR, București, 2002
3. Costin G.M. și colab. – Știința și ingineria fabricării brânzeturilor, Ed. Academica, Galați, 2003
4. Ionescu Aurelia – Tehnologie și utilaj pentru prelucrarea peștelui. Ed. Universității „Dunărea de Jos”, Galați, 1992
5. Ionescu Aurelia, Zara Margareta, Gurău Gabriela, Aprodu Iuliana, Vasile Aida, Păltânea Elpida, – Procesarea industrială a peștelui, Ed. Fundației Universitare „Dunărea de Jos” Galați, 2006
6. Tofan C. – Igiena și securitatea produselor alimentare, Ed. AGIR, București, 2001
7. Usturoi M.G. – Tehnologia laptelui și a produselor derivate, Ed. PIM, Iași, 2008
8. Walstra P., Wouters, J.M., Geurts T.J. – Dairy science and technology, Ed. Taylor and Francis, 2<sup>nd</sup> edition, New York, 2006
9. \*\*\* – Manualul inginerului de industrie alimentară, vol. I, Ed. Tehnică, 2000
10. \*\*\* – Manualul inginerului de industrie alimentară, vol. II, Ed. Tehnică, 2002

## Evaluation

Evaluation form	Evaluation Methods	Percentage of the final grade
Examination	Written evaluation	60%
Appreciation of activity during semester	Oral assessment during semester, verification tests and final laboratory colloquium	40%

## Contact

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