

## **REQUIREMENTS**

### **2021/22 academic year II. semester**

**Name and code of the subject:** Plant protection mycology MTMNO7007A  
**Name and title of the person responsible for the subject:** Dr. Gabor Tarcali senior research fellow  
**Additional instructors involved in teaching the subject:** Csüllög Kitti  
**Name and level of the program:** Expert of plant protection, MSc  
**Subject type:** obligatory  
**Teaching timetable of the subject, type of examination:** 2 + 1 C  
**Credit value of the subject:** 3

#### **Purpose of teaching the subject:**

The student should be familiar with the system of plant pathogenic fungi. Through their most important morphological and taxonomic characteristics, the life cycle and biology the student can develop an integrated approach to plant protection against fungal diseases. Fungi, in a broader sense, are responsible for 40-65% of plant diseases. The topic is one of the defining parts of plant protection. In detailed plant pathology (per plant), knowledge of these is essential.

#### **Content of the subject (14 weeks)**

##### **Lectures:**

1. Introduction to mycology
2. Protozoa
3. Chromista (Oomycota)
4. Chromista (Oomycota), Mycorrhizae
5. Fungi (Chytridiomycota; Zygomycota)
6. Ascomycota
7. Ascomycota
8. Ascomycota
9. Ascomycota
10. Ascomycota
11. Basidiomycota
12. Basidiomycota
13. Basidiomycota
14. Summary

##### **Practices:**

1. Introduction to mycology
2. Life cycles and biology of Protozoa
3. Life cycles and biology of Chromista (Oomycota)
4. Life cycles and biology of Chromista (Oomycota), Mycorrhizae
5. Life cycles and biology of Chytridiomycota and Zygomycota fungi
6. Life cycles and biology of Ascomycota fungi
7. Life cycles and biology of Ascomycota fungi
8. Life cycles and biology of Ascomycota fungi
9. Life cycles and biology of Ascomycota fungi
10. Life cycles and biology of Ascomycota fungi
11. Life cycles and biology of Basidiomycota fungi
12. Life cycles and biology of Basidiomycota fungi

13. Life cycles and biology of Basidiomycota fungi
14. Life cycles and biology of Basidiomycota fungi

**Type of mid-term examination:**

Participation in lectures and practices.

Regular theoretical and practical preparation with periodic inspections.

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):**

Oral examination at the end of the semester.

**Teaching aids:**

Slide presentations of the knowledge to be submitted and the disease lists are available in advance in PDF files.

**Recommended literature:**

Agrios, G.N. (2005): Plant Pathology, Fifth Edition. Academic Press.

Sambamurti A.P.S.S. (2006): A Textbook of Plant Pathology. IK International.

Richard Gáborjányi, R., Takács, A.P.: Plant Pathology, University of Pannonia, Georgikon Faculty, Plant Protection Institute, Keszthely

## **REQUIREMENTS**

### **2021/22 academic year 2<sup>nd</sup> semester**

**Name and code of the subject:** Plant protection entomology I, MTMNO7008A

**Name and title of the person responsible for the subject:** Dr. Antal Nagy, associate professor

**Additional instructors involved in teaching the subject:** Eszter Szilágyi

**Name and level of the program:** Plant protection MSc

**Subject type:** applied natural sciences

**Teaching timetable of the subject, type of examination:** 2+1, E

**Credit value of the subject:** 3

**Purpose of teaching the subject:** Characterisation of the most important pest species of Lepidoptera and Hymenoptera orders considering their biology, economic importance, control and monitoring methods (especially cultural and biological methods).

**Content of the subject (14 weeks):**

Lepidoptera in general. Most important pests of Mandibulata, Exoporia, Monotrysis

2. Most important pests of Lionetiidae, Gracilariidae

3. Most important pests of Coleophoridae, Plutellidae, Acrolepiidae, Argyresthiidae, Ypsolophidae, Tineidae

4. Most important pests of Gelechiidae, Depressariidae, Oecophoridae, Agonoxenidae, Yponomeutidae

5. Most important pests of Tortricidae 1.

6. Most important pests of Tortricidae 2.

7. Most important pests of Pyralidae, Choreutidae

8. Most important pests of Cossidae, Sesiidae, Zygenidae, Geometridae,

9. Most important pests of Lasiocampidae, Lymantriidae, Arctiidae, Noctuidae 1.

10. Most important pests of Noctuidae 2.
11. Most important pests of Saturniidae, Shingifidae, Pieridae, Papilionidae, Nymphalidae
12. Hymenoptera in general. Most important pests of Tenthredinidae 1.
13. Most important pests of Tenthredinidae 2.
14. Most important pests and beneficial species of Vespidae, Ichneumonidae

**Type of mid-term examination:** lectures are suggested, the attendance of practices (at least 70%) is obligatory

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** damage and pest recognition, test (exam)

**Teaching aids:** slides of presentations

**Recommended literature:**

Marczali Zs. (2020): Modul of applied entomology: Field pests in temperate zone of Europe  
<http://dtk.tankonyvtar.hu/xmlui/handle/123456789/2953>

**KÖVETELMÉNYRENDSZER**  
**2021/2022. tanév II. félév**

**A tantárgy neve, kódja: Növényvédelmi műszaki ismeretek és alkalmazástechnológia**  
**MTMNO7009A**

**A tantárgyfelelős neve, beosztása:** Dr. Hagymássy Zoltán egyetemi docens

**A tantárgy oktatásába bevont további oktatók:** Illés Árpád

**Szak neve, szintje:** növényorvos MSc

**Tantárgy típusa:** kötelező

**A tantárgy oktatási időterve, vizsga típusa:** 1+2 G

**A tantárgy kredit értéke:** 3

**A tárgy oktatásának célja:** A hallgatók ismerjék meg a növényvédelemben használt munkagépek szerkezeti elemeit, beállításukat. Képesek legyenek a munkagépek üzemeltetésének irányítására. A tanultak alapján a hallgatók képesek legyenek a növényvédelemben használt gépek munkafolyamatainak megtervezésére.

**A tantárgy tartalma** (14 hét bontásban):

1. Types of sprayers.
2. Tanks, filters, pressure regulators (automatic and manual), pressure gauge
3. Surge tank, boom valves, boom sprayers
4. Types of pumps. sizing of pumps
5. Nozzles, anti-dripping system
6. Orchard sprayer I.
7. Orchard sprayer II. Air blast sprayers
8. Field practice (Depending on the pandemic situation)
9. Maintenance of sprayers I.
10. Maintenance of sprayers II.
11. Seed treater machines. Fogging machines.
12. Field practice (Depending on the pandemic situation)
13. Plant protection with aircraft and UAV.

14. Equipment for environmentally friendly spraying

**Évközi ellenőrzés módja:** a gyakorlatokon való részvétel kötelező. A gyakorlatok 70%-án való részvétel kötelező. Az aláírás megszerzésnek feltétele a gyakorlatokon való részvétel.

**Számonkérés módja** (*félévi vizsgajegy kialakításának módja – beszámoló, gyakorlati jegy, kollokvium, szigorlat*): gyakorlati jegy

**Oktatási segédanyagok:** az előadások diásorai

**Ajánlott irodalom:**

Csizmazia Zoltán: A növényvédelem gépei (jegyzet)

Szendrő Péter (szerk.): Mezőgazdasági géptan ISBN 9639121177

Szendrő Péter (szerk.): Példák mezőgazdasági géptanból ISBN 9633562066

Brian Bell: Farm Machinery ISBN 1903366682

## **REQUIREMENTS**

**2021/22 academic year 2. semester**

**Name and code of the subject:** Alternative management and rural development (MTMNO7011A)

**Name and title of the person responsible for the subject:** Dr. Péter Horváth

**Additional instructors involved in teaching the subject:** -

**Name and level of the program:** Plant Protection MSc

**Subject type:** lecture

**Teaching timetable of the subject, type of examination:** 3 lecture, essay in a given topic

**Credit value of the subject:** 3

**Purpose of teaching the subject:** The aim of the subject is to get the students acquainted with the situations, characteristics, resources and development of rural areas and rural economy, and their possibilities for diversification.

**Content of the subject (14 weeks):**

1. What is rural?
2. Basics of rural development I.
3. Basics of rural development II.
4. Characteristics of rural economy
5. Resources in rural economy
6. Spatial processes influencing the situation of rural areas
7. Development and performance of rural areas
8. The role of agriculture in rural economy
9. Programs in rural development I.
10. Programs in rural development II.
11. Rural Development Program 2014-2020
12. Diversification of rural economy: rural tourism
13. Diversification of rural economy: alternative farming
14. Student presentation

**Type of mid-term examination:** written

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** colloquium

**Teaching aids:** -

**Recommended literature:**

The on-line seminar materials and presentations of the lecturer (available on the e-learning system)

## **REQUIREMENTS**

### **2021/22 academic year 2. semester**

**Name and code of the subject:** Informatics and agricultural extension (MTMNO7013A)

**Name and title of the person responsible for the subject:** Dr. Péter Lengyel, Dr. Péter Horváth

**Additional instructors involved in teaching the subject:** -

**Name and level of the program:** Növényorvosi MSc

**Subject type:** lecture and practice

**Teaching timetable of the subject, type of examination:** 1 lecture + 2 practice, written mid-term exams

**Credit value of the subject:** 3

**Purpose of teaching the subject:** Understanding the structure of the spreadsheet program, using worksheet functions, and solving basic and complex worksheets. Learning how to make reports from data, which analyze tools can be used and interpretation of results.

#### **Content of the subject (14 weeks):**

1. Data input, data types, basic operations. The use of worksheets: basic formatting and data format
2. Structure of data tables, spreadsheet function semantics. References, sorting, and filtering
3. Date and time functions, text functions. The use of operators and arguments in date, time and text functions
4. Logical functions and lookup and reference functions. Learning the use of conditions in functions
5. Data features, tables as databases, database functions
6. Data analysis and reports. The use of PIVOT tables
7. Mid-term exam (Excel), Power BI basics
8. Transform databases, Create reports, visuals
9. Creating complex report
10. Mid-term exam (Power BI)
11. Agricultural extension
12. Agricultural advisory system
13. Swot analysis
14. Student presentations

**Type of mid-term examination:** written

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** practical grade

**Teaching aids:** -

**Recommended literature:**

The on-line seminar materials and presentations of the lecturer (available on the e-learning system)

Brian Larson (2020): Data Analysis with Microsoft Power BI, McGraw-Hill, ISBN: 9781260458626

Punit Prabhu (2021): Data Analytics with MS Excel & Power BI, Independently Published, ISBN: 9798733977249

## **REQUIREMENTS**

**2021/22 academic year II. semester**

**Name and code of the subject:** Plant protection law and administration MTMNO7016A

**Name and title of the person responsible for the subject:** Dr. Gabor Tarcali senior research fellow

**Additional instructors involved in teaching the subject:**

**Name and level of the program:** Expert of plant protection, MSc

**Subject type:** obligatory

**Teaching timetable of the subject, type of examination:** 3 + 0 C

**Credit value of the subject:** 3

**Purpose of teaching the subject:**

The student should get acquainted with the Hungarian plant protection organization and the current administration. The student should get acquainted with the Hungarian plant protection legislation. At the skill level, the student should master the rules for the use of plant protection products and be able to apply them in practice.

**Content of the subject (14 weeks)**

1. Introduction, historical overview
2. Organization of the plant protection administration, plant protection authorities
3. Plant protection legislation
4. Obligation to protect against pests
5. Regulations for quarantine and dangerous pests, quarantine rules
6. Plant protection regulations in the European Union
7. Plant health rules, plant passport
8. Phytosanitary inspection of propagating material
9. Authorization of active substances and plant protection products
10. Rules for the use of plant protection products

11. Rules for the use of plant protection products
12. Rules for the use of plant protection products
13. Environmental regulations, protection of bees and living waters
14. Legal consequences, administrative procedure

**Type of mid-term examination:**

Participation in the lectures.

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):**

Written examination at the end of the semester.

**Teaching aids:**

Slide presentations of the knowledge to be submitted and the disease lists are available in advance in PDF files.

**Recommended literature:**

- Current legislation on plant protection (XLVI of 2008 Act, 43/2010. (IV. 26.) FVM Decree, Directive 2009/128 / EC of the EU Parliament and the Council),
- Gabor Tarcali: Plant Protection Law and Administration, Educational Handbook, 2020

## **REQUIREMENTS**

**2021/2022 academic year 2. semester**

**Name and code of the subject: Outlines of plant pathology II., MTMNO7022A**

**Name and title of the person responsible for the subject: Gábor Tarcali; senior research fellow**

**Additional instructors involved in teaching the subject: András Csótó**

**Name and level of the program: plant doctor MSc**

**Subject type: mandatory**

**Teaching timetable of the subject, type of examination: 2+2 C**

**Credit value of the subject: 3**

**Purpose of teaching the subject: The aim of teaching the course is to acquaint students with the biology, means of identification of the diseases (abiotic diseases, viruses, bacteria, phytoplasmas, fungi) of main cultivated fruits in Hungary and the European Union and their integrated management technologies.**

**Content of the subject (14 weeks):**

1. Apple diseases/I.;
2. Apple diseases/II.;
3. Pear diseases;
4. Quince diseases;
5. Peach diseases;
6. Apricot diseases;
7. Plum diseases;

8. Cherry and sour cherry diseases
9. Diseases of currants and gooseberry;
10. Raspberry diseases;
11. Strawberry diseases;
- 12-13. Grape diseases;
14. Diseases of nuts

**Type of mid-term examination: Attendance at lectures is recommended. Attendance at the practical lessons is mandatory. The condition for signature is 70% attendance at the practical lessons.**

**Method of assessment (semester examination mark - colloquium): Oral examination.**

**Teaching aids: slideshows of the course**

**Recommended literature: Plant Pathology 5th edition George Agrios No. of pages: 952 Academic Press 2005 Hardcover ISBN: 9780120445653**

## **REQUIREMENTS**

### **2021/22 academic year 2<sup>nd</sup> semester**

**Name and code of the subject:** Plant protection entomology III, MTMNO7023A

**Name and title of the person responsible for the subject:** Dr. Antal Nagy, associate professor

**Additional instructors involved in teaching the subject:** Eszter Szilágyi

**Name and level of the program:** Plant protection MSc

**Subject type:** applied natural sciences

**Teaching timetable of the subject, type of examination:** 2+2, E

**Credit value of the subject:** 3

**Purpose of teaching the subject:** Characterisation of the animal pest assemblages of the main crops, vegetables and fruits grown in Hungary and Europe. Appearance of pest in consecutive phenological stages of the host plant(s). IPM against the most important pest of the main cultures.

### **Content of the subject (14 weeks):**

1. Polyphagous pest of crops (in arable lands)
2. Pest assemblages of cereals and their IPM
3. Pest assemblages of potato and sugar beet and their IPM
4. Pest assemblages of tobacco and sunflower and their IPM
5. Pest assemblages of lucerne and legumes (pea, bean and soy) and their IPM
6. Pest assemblages of tomato, green pepper and onion and their IPM
7. Pest assemblages of cucumber, watermelon, marrow and Brassica sp. (rapeseed) and their IPM
8. Polyphagous pests of fruit trees (in orchards)
9. Pest assemblages of apple and pear and their IPM
10. Pest assemblages of peach, apricot and plum and their IPM
11. Pest assemblages of grape, gooseberry and currant and their IPM
12. Pest assemblages of raspberry and strawberry and their IPM



13. Pest assemblages of small cultures (walnut, root crops, horse radish and asparagus) and their IPM

14. Pest assemblages of tored products

**Type of mid-term examination:** lectures are suggested, the attendance of practices (at least 70%) is obligatory

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** damage and pest recognition, test (exam)

**Teaching aids:** slides of presentations

**Recommended literature:**  
collected articles

## **REQUIREMENTS**

### **2021/2022 academic year 2 semester**

**Name and code of the subject:** Weed management (MTMNO7024A)

**Name and title of the person responsible for the subject:** Arnold Szilágyi, assistant lecturer

**Additional instructors involved in teaching the subject: -**

**Name and level of the program:** Plant Protection MSc

**Subject type:** compulsory

**Teaching timetable of the subject, type of examination:** 1+2 P: Practical examination

**Credit value of the subject:** 3

**Purpose of teaching the subject:** Description of weeds and weed control technologies of the most important field and horticultural crops.

**Content of the subject (14 weeks):**

1. Weed control of tobacco
2. Weed control of alfalfa
3. Weed control of root vegetables
4. Weed control of legume (pea, bean, soybean)
5. Weed control of onion
6. Weed control of cucumber, melon (water melon), pumpkin
7. Weed control of tomato, paprika (pepper)
8. Weed control of apple
9. Weed control of pear
10. Weed control of drupes or stone fruits (plum, sour cherry, cherry)
11. Weed control of drupes or stone fruits (apricot, peach)
12. Weed control of grape
13. Weed control of strawberry
14. Weed control of ACC inhibitors

**Type of mid-term examination:**

Attendance at the lecture is recommended.

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):**

Practical examination

**Teaching aids:**

1. Alden S. Crafts (1975): Modern Weed Control. University of California Press. ISBN 0-520-02733-7
2. Cobb, A., Reade, J. (2010): Herbicides and Plant Physiology. Wiley Ltd. USA ISBN-13: 978-1-4051-2935-0
3. Steven R. R., Jodie S. H. (1984): Weed Ecology Implications for Vegetation Management. A Wiley-Interscience Publication. USA ISBN 0-471-87674-7

## **REQUIREMENTS**

### **2021/22 academic year 2. semester**

**Name and code of the subject: (IPM)** Integrated plant protection, MTMNO7025A

**Name and title of the person responsible for the subject:** Dr. László Radócz associate professor

**Additional instructors involved in teaching the subject:-**

**Name and level of the program:** Plant Protection MSc

**Subject type:** obligatory

**Teaching timetable of the subject, type of examination:** 3+2/Oral exam

**Credit value of the subject:** 3

**Purpose of teaching the subject:**

Demonstration of integrated plant protection as an integral part of the work process of the agricultural production.

It is extremely important that participants do not limit plant protection to the use of pesticide products, but consider plant protection as a combined system of different protection practices within the cultivation activity.

An essential requirement is that students recognize the most important pests (know what, when, where to look); recognize the damage.

In accordance with the knowledge of Plant Protection Chemistry, detailed knowledge should be taught and reference should be made to all possible control procedures (including plant protection products that can be used), but there should be a reference to plant protection knowledge when describing preparations.

Pest control should be taught according to the approach and requirements of integrated pest management.

**Content of the subject (14 weeks):**

1. Modern plant protection of autumn cereals,
2. Modern plant protection for spring cereals
3. Modern plant protection of maize,
4. Modern plant protection of sunflowers,
5. Plant protection of winter oilseed rape

6. Modern plant protection of potatoes and tobacco,
7. Modern plant protection of peppers and tomatoes
8. Modern plant protection of cucumbers, melons, pumpkins,
9. Modern plant protection of cabbages (cabbage, cauliflower, turnips, radishes, lettuce),
10. Modern plant protection of onions
11. Modern plant protection of sugar beet,
12. Modern plant protection of peas, alfalfa, soybeans
13. Modern plant protection of nurseries,
14. Modern plant protection of greenhouses

**Type of mid-term examination:** mid-year audit

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** Practical colloquium

**Teaching aids:** lecture slides

**Recommended literature:**

1. Radócz L. : Modern plant protection, II-IV. (Fundamentals of Plant Protection in Major Field and Horticultural Crops). University Publishing House, Debrecen (2010). (ISBN: 978-606-10-0181-1).
- 2.[http://www.tankonyvtar.hu/en/tartalom/tamop425/0010\\_1A\\_Book\\_08\\_Novenyvedelem/ada tok.1](http://www.tankonyvtar.hu/en/tartalom/tamop425/0010_1A_Book_08_Novenyvedelem/ada tok.1).

## **REQUIREMENTS**

### **2021/22 academic year 2. semester**

**Name and code of the subject:** Mycology and fungal toxicology I, MTMNO7028A

**Name and title of the person responsible for the subject:** Dr. László Radócz associate professor

**Additional instructors involved in teaching the subject:-**

**Name and level of the program:** Plant Protection MSc

**Subject type:** optional

**Teaching timetable of the subject, type of examination:** 4+1/Practical

**Credit value of the subject:** 5

**Purpose of teaching the subject:**

Students should learn about the most important edible and toxic large fungi, the types of poisoning, and how to control them. Be aware of the ecological significance of fungi, their body composition and possible ways of forming their fruiting bodies.

**Content of the subject (14 weeks):**

1. The place of fungi is the living world, their body structure
2. Types of hyphae and fruiting bodies,
3. The ecological role of fungi
4. Type of production site,
5. Mycorrhizae

6. Damage caused by fungi and their recovery
7. Rules for mushroom collection
8. Qualification of mushrooms, mushroom testing
9. Cultivation of mushrooms
10. Cultivation of oyster mushrooms
11. Growing shii-take mushrooms
12. Growing of other mushroom species
13. Processing and preserving mushrooms
14. The dietary significance and nutritional value of mushrooms.

**Type of mid-term examination:** field report

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** Practical colloquium

**Teaching aids:** lecture slides

**Recommended literature:**

1. Ewald G. Handbook of Mushrooms. Artamira Publishing House, Budapest (2010). (ISBN 978-963-9889-13-2)
2. Rimóczi I. Mushrooms of Central-Europe. CD-ROM Kossuth Publishing House, Budapest (2000) (ISBN: 963-09-3986

## **REQUIREMENTS**

### **2020/21 academic year 2<sup>nd</sup> semester**

**Name and code of the subject:** Collection and preparation of insects and plants  
MTMNO7029A

**Name and title of the person responsible for the subject:** Dr. Antal Nagy, associate professor

**Additional instructors involved in teaching the subject:** Eszter Szilágyi

**Name and level of the program:** Plant protection MSc

**Subject type:** facultative subject

**Teaching timetable of the subject, type of examination:** 0+2, P

**Credit value of the subject:** 3

**Purpose of teaching the subject:**

Review of sampling methods of insect and plants and test them in field conditions. Preservation of the collected economically important species (pests and weeds), making a pest and weed collections. Review of the tasks and organization of natural history collections and museums.

**Content of the subject (14 weeks):**

1. Task and importance of scientific collections, organization and establishment of natural history collections.
2. collecting and preserving methods of plants
3. Visit the scientific collections of the University of Debrecen

4. Overview sampling methods of insects, methods of data collection
5. Theoretical background of collection and preservation of economically important taxa: Nematoda, Mollusca, Blattoptera, Orthoptera
6. Theoretical background of collection and preservation of economically important taxa: Coleoptera, lepidoptera, Hymenoptera, hetroptera, Cicadomorpha, Aphids
7. Field samplings 1.
8. Field samplings 2.
9. Field samplings 3.
10. Processing the collected samples.
11. Processing the collected samples.
12. Processing the collected samples.
13. Processing the collected samples.
14. Processing the collected samples.

**Type of mid-term examination:** the attendance of practices (at least 70%) is obligatory

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** insect and plant collections made during practices is evaluated

**Teaching aids:** slides of presentations

**Recommended literature:**

Murray S. Upton and Beth L. Mantl (2010): Methods for Collecting, Preserving and Studying Insects and other terrestrial arthropod. AUSTRALIAN ENTOMOLOGICAL SOCIETY. Canberra <https://doi.org/10.1111/j.1440-6055.2012.00871.x>

**REQUIREMENTS**

**2021/22 academic year 2. semester**

**Name and code of the subject:** Biological plant protection II., MTMNO7035A

**Name and title of the person responsible for the subject:** Dr. László Radócz associate professor

**Additional instructors involved in teaching the subject:-**

**Name and level of the program:** Plant Protection MSc

**Subject type:** optional

**Teaching timetable of the subject, type of examination:** 2+0/Practical

**Credit value of the subject:** 3

**Purpose of teaching the subject:**

Demonstration of the use of biological plant protection against plant pathogens and weeds. Introduction to related biotechnological processes.

**Content of the subject (14 weeks):**

1. Basics of biological plant protection against pathogens,
2. Mycoparasitism
3. Antibiotics
4. Saprobion competition
5. Viruses against plant pathogens

6. Hypovirulence and mycoviruses
7. Bacteria against plant pathogens,
8. Hyperparasitic fungi
9. Natural enemies of flowering parasites,
10. History of biological weed control
11. Biological weed control with microorganisms
12. Biological weed control with animals
13. Applications of bioherbicides
14. Bioherbicides in the world

**Type of mid-term examination:** mid-year audit

**Method of assessment (semester examination mark - report, practical grade, colloquium, examination):** Practical colloquium

**Teaching aids:** lecture slides

**Recommended literature:**

1. Radócz L. : Modern plant protection, II-IV. (Fundamentals of Plant Protection in Major Field and Horticultural Crops). University Publishing House, Debrecen (2010). (ISBN: 978-606-10-0181-1).
2. Fischl G. : Basics of biological plant protection. Farmer Publishing House, Budapest (2000). (ISBN 963 9239 57 7)
3. [http://www.tankonyvtar.hu/en/tartalom/tamop425/0010\\_1A\\_Book\\_08\\_Novenyvedelem/adatok.1](http://www.tankonyvtar.hu/en/tartalom/tamop425/0010_1A_Book_08_Novenyvedelem/adatok.1).