



Course Book

Salahaddin University-Erbil

College of Agricultural Engineering Sciences

Department of Plant Protection

**Subject: Horticulture Insects (Theory &
Practically)**

Semester: Spring

Stage: 4th Year students

**Lecturer's name: Dr. Pshtiwan Abdullah Jalil
& Noor Nadhir Polis**

Academic Year: 2021 - 2022

Course Book

1. Course name	Spring semester
2- Subject name	Horticulture Insects
3. Lecturer in charge	Pshtiwan Abdullah Jalil
4. Department/ College	Plant protection/Agricultural Engineering Sciences
5. Contact	e-mail: Pshtiwan.jali@su.edu.Krd Tel: 009647504823304
6. Time (in hrs./ week)	Theory: 2 hrs. /week Practically: 3 hrs. /week
7. Office hours	Monday, 8.30-10.30; Wednesday, 8.30-11.30
8. Course code	
9. Teacher's academic profile	<p>Date of Birth: 1 January 1982 Place of Birth: Kirkuk Nationality: Iraqi Marital Status: Married Sex: Male</p> <p>Education:</p> <p>* B.Sc. Plant Protection, Agriculture, Salahaddin University, Erbil, 2005.</p> <p>* M.Sc. Plant Protection, Agriculture, Economic Insects, Salahaddin University, Erbil, 2011</p> <p>Work History:</p> <p>(A) College of Agriculture, department of Plant protection, Salahaddin University -Erbil, November 2005-October 2009, I was assigned as Assistant Agricultural Engineer in my department labs.</p> <p>(B) College of Agriculture, Plant protection department/Salahaddin University -Erbil, June 2011 until now (Assistant Lecturer)</p> <p>As an assistant lecturer, I have teaching:</p>

	<p>1- I was assisting as assistant lecturer in teaching Insect Morphology for second year students. In Fall semester, 2012 and I was teaching the subject of Field crop insects for Final year students in spring semester too.</p> <p>2- I was teaching as assistant lecturer the subject of Principles of entomology for second year students of Forestry department in Fall semester during 2013 - 215.</p> <p>3- I was teaching as assistant lecturer the subject of Practical Pesticide for third year students in Spring semester, 2013.</p> <p>4- I was teaching as assistant lecturer the subject of Insect Physiology for 3rd year students through four consecutive years, 2014 - 2020.</p> <p>5- I was teaching as assistant lecturer the subject of Horticulture Insects for 4th year students through three consecutive years, 2017 - 2020.</p>
<p>10. Keywords</p>	<p>Horticulture entomology, Insect management, insect damage, host plants, Methods of insect pest control.</p>
<p>11. Course overview:</p> <p>This course will focus on identification, biology, ecology, damage and management of insect pests that attacked horticultural plants, including vegetables, evergreen, and deciduous fruit trees and shrubs, greenhouse crops, turf and ornamentals. Emphasis will be on Integrated pest management (IPM) strategies employed to maintain pests below damaging levels while minimizing the use of harmful insecticides. We strive to promote insect determining in our region and selecting the best control method and also problem solving and critical thinking skills in this class.</p> <p>12 The importance of studying the subject:</p> <ol style="list-style-type: none"> 1- To recognizing and identifying main insect pests which attack horticultural trees. 2- To describing of all life stages of horticultural insects and their host ranges. 3- To apply suitable and efficient method for management and control these insects. 	

13. Course objective:

1. Recognize beneficial and harmful insects that associated with horticultural plantings.
2. Explain the biology, ecology, and damage of insects and the effected factors.
3. Illustrate types of plant injury and associate it with the insect pest that is responsible.
4. Describe management methods and tactics that will be used to minimize the injury by insect pests.

14. Student's obligation

There are many things important in academic year: attendance and completion of all tests, exams, assignments, reports, sample collection, quizzes ...etc...

15. Forms of teaching

For the teaching methods most instructional materials and educational aids are implemented, like using data show, power point, white board, giving hand note, and video shots.

16. Assessment scheme

a- Marks distribution for theoretical part of 15%

No.	Measures	Mark 15%
1	Examination	10
2	Weekly Quiz	2
3	Insect samples	2
4	Scientific Report	1
5	Total	15%

b- Mark distribution for practical part of 35%

No.	Measures	Mark 35%
1	Examination	25
2	Weekly Quiz	5
3	Insect samples	5
4	Total	35%

17. Student learning outcome:

- 1- Important of Horticulture entomology.
- 2- Important of type of insect mouth parts and their metamorphosis.
- 3- How insect survive and tolerant with their ecosystems.
- 4- Detection of insect behavior and reproduce.
- 5- How insects are attract and select host plants.
- 6- The best method preferred for decreasing the economic damages level.

18. Course Reading List and References:

1-	Davidson, R.H., and William F. Lyon, (1987). Insect Pests of Farm, Garden, and Orchard, eighth edition, John Wiley and Sons.
2-	Borror, D.J. and R.E. White, (1998). A Field Guide to Insects: America North of Mexico, Peterson Field guide Series, Houghton Mifflin Co.
3-	Braby, MF. (2000). Butterflies of Australia: Their identification, biology and distribution. Volume 1. CSIRO Publishing.
4-	Dufour, R. (2000) Farmscaping to enhance biological control. Appropriate Technology Transfer for Rural Areas, University of Arkansas, Arkansas, USA.
5-	Luna, J.; Colley, M. and Staben, M. (1998). Insectary plantings. Department of Horticulture, Oregon State University, Corvallis, Oregon, USA.
6-	Moreau J, Benrey B, Thiéry. (2006). Grape variety affects larval performance and also female reproductive performance of the European grapevine moth <i>Lebania botrana</i> (Lepidoptera: Tortricidae). Bull. Entomol. Res. 96: 205-212.
7-	<ul style="list-style-type: none"> • http://www.goodbugs.org.au • http://www.attra.org/attra-pub/farmscape.html
8-	<ul style="list-style-type: none"> • http://www.masscic.org/http://www.masscic.org/ • http://ukmoths.org.uk/search.php?entry=hippotion+celerio • http://ukmoths.org.uk/search.php?entry=hippotion+celerio
9-	<ul style="list-style-type: none"> • http://www.ipm.msu.edu/

19. Theoretical Topics:	Lecturer's name
<p>1st Week: Course overview with some basic terms about general entomology, metamorphosis and modification of insect mouthparts.</p> <p>2nd Week: Types of insect life stages, egg, larvae, pupae and adults.</p> <p>3rd Week: Insect damage and separating beneficial and harmful insects.</p> <p>4th Week: Monitoring, inspection and the methods of insect pest control.</p> <p>5th Week: Biology, damage and management of Apple tree insects.</p> <p>6th Week: Biology, damage and management of Grape vine insects.</p> <p>7th Week: Biology, damage and management of Pomegranate insects.</p> <p>8th Week: Biology, damage and management of Citrus insects.</p> <p>9th Week: Biology, damage and management of Fig tree insects.</p> <p>10th Week: Biology, damage and management of Olive tree insects.</p> <p>11th Week: Biology, damage and management of stony seed fruit tree Insects.</p> <p>12th Week: Biology, damage and management of Vegetable insects.</p> <p>13th Week: Cucurbitaceae family insects.</p> <p>14th Week: Solanaceae plants insects.</p> <p>15th Week: Brassicaceae plants insects.</p>	

20. Practically Topics:

1st Week: Definitions of some scientific terms that related with horticulture entomology, metamorphosis and modification of insect mouthparts.

2nd Week: Classification and separating of horticulture Insects with insects and other arthropods.

3rd Week: Applying of methods of insect pest control, monitoring and inspection.

4th Week: Types of insect larvae and pupae.

5th Week: Identification, description and host plant ranges of Apple tree insects.

6th Week: Identification, description and host plant ranges of Grape vine insects.

7th Week: Identification, description and host plant ranges of Pomegranate insects.

8th Week: Identification, description and host plant ranges of Citrus insects.

9th Week: Identification, description and host plant ranges of Fig tree insects.

10th Week: Identification, description and host plant ranges of Olive tree insects.

11th Week: Identification, description and host plant ranges of Stony seed fruit tree insects.

12th Week: Identification, description and host plant ranges of Vegetable insects.

13th Week: Insect pests of the family of Cucurbitaceae.

14th Week: Insect pests of Slanaceae family.

15th Week: Insect pests of Bracissicaceae family.

21. Peer review