HORT 1006 PROTECTED CROPPING BIOSECURITY AND POLLINATION

Credit Points 10

Legacy Code 301214

Coordinator Lihua Li (https://directory.westernsydney.edu.au/search/name/Lihua Li/)

Description The protected cropping industry in Australia is a rapidly expanding sector. There is an identified need for trained professionals who have an understanding of the management of plant pests and diseases. Students studying this course will learn industry best practice related to biosecurity, pest and disease management and emergency response procedures. In addition to pest and disease management the challenges of pollination in the context of Australian protected cropping will be explored. Western Sydney University is home to the state of the art National Vegetable and Protected Cropping Centre (NVPCC), this facility will be utilized in the on campus components of this course.

School Science

Discipline Horticulture

Student Contribution Band HECS Band 1 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 1 subject

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Identify invertebrate pests and plant pathogens, common to greenhouse and protected cropping systems, and their implications for quarantine, biosecurity and integrated pest and disease management (IPDM)
2. Describe interactions between pests, diseases and their hosts in a closed climate controlled environment, including their impact on yield and economic costs
3. Discuss the types of pollination and pollinators, comparing Australian legislation and practices against international protected cropping systems
4. Explain the importance of pest economic thresholds, population dynamics, and pesticide resistance in relational to biological, chemical and mechanical control strategies
5. Develop a chemical control plan for a protected cropping scenario including identification of chemical classifications, application methods, withholding periods and PPE & WHS
6. Use National standards and industry best practice protocols to plan and oversee an emergency pest and disease control program.

Subject Content

1. Introduction to low, medium and high-tech protected cropping environments. Familiarisation with the unique challenges, biosecurity issues (nationally and on-farm) and pollination services specific to Australian protected cropping.
2. Identification of invertebrate pests including monitoring and economic costs in protected cropping environments.
3. Identification of plant diseases, crop destruction for quarantine purposes and safe re-establishment of production in closed growing environments.
4. Biological pest control techniques, technologies and research specific to protected cropping.
5. PLANTPLAN, Nationally Agreed Standard Operating Procedures (NASOP) and current legislation used to plan and oversee an emergency disease or plant pest control program
6. Chemical pest and disease control, legislation, WHS and PPE.
7. Pesticide resistance in Australia and internationally, commercial crop disease-tolerant packages and their economic advantages and costs.
8. Pollinators suitable to protected cropping and climate controlled horticulture. Alternative pollinators and Australia specific pollinators.
9. Pollination types and mechanisms. Pollination case studies and emerging research opportunities.

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Portfolio - A collection of evidence for weekly learning achievements.	1000 words or equivalent	30	N	Individual
Professional Task - Professional documentatio	1500 words or equivalent	30	Y	Individual
Presentation	10 minutes	20	N	Group
Final Quiz - online	2 hours	20	N	Individual

Teaching Periods