

HR901-20 Advances in Crop Protection

26/27

Department

Life Sciences

Level

Taught Postgraduate Level

Module leader

John Clarkson

Credit value

20

Module duration

3 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

This module teaches students the importance and impact of plant pests, diseases and weeds on food production and provides them with a thorough understanding of their biology and ecology.

[Module web page](#)

Module aims

The aim of this module is for students to understand the the importance and impact of plant pests, diseases and weeds on food production and examine in detail their mechanisms, biology and ecology. The module also aims to critically analyse the range of control approaches available and how these may be combined in an integrated crop protection system. The adoption of different management approaches will also be examined in the context of environmental, legislative and other factors.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ. Causes of disease and types of plant pathogens; biology and ecology of pests, pathogens and weeds, plant pathogen infection processes; plant pathogen detection and discrimination; plant population dynamics; chemical control measures for pests, diseases and weeds; biological control of pests, diseases and weeds; monitoring and forecasting of pests and diseases; plant genetics and resistance to pests and diseases; resistance management; components of integrated crop pest and disease management systems

Learning outcomes

By the end of the module, students should be able to:

- Demonstrate understanding of the impact of plant pests, diseases and weeds on food production and global food security
- Examine the key concepts and mechanisms associated with the biology and ecology of plant pathogens, pests and weeds and how these relate to different control strategies.
- Critically assess the range of advanced approaches for controlling pests, diseases and weeds
- Design and consider the different components of integrated crop pest and disease management systems and how these interact with economics, legislation and the environment.
- Demonstrate understanding, knowledge and practice independently the experimental techniques in plant pathology, entomology and weed science

Indicative reading list

[Reading lists can be found in Talis](#)

[Specific reading list for the module](#)

Subject specific skills

To understand the impact of plant pests, diseases and weeds on food production. To understand key concepts associated with the biology and ecology of plant pathogens, pests and weeds. To assess a range of advanced approaches for controlling pests, diseases and weeds. To develop and evaluate the components of integrated crop pest and disease management systems. To analyse the conflicting and complex requirements of environmental and crop protection.

Transferable skills

Analysis and evaluation

Study

Study time

Type	Required
Lectures	31 sessions of 1 hour (16%)
Seminars	2 sessions of 2 hours (2%)
Tutorials	5 sessions of 2 hours (5%)
Private study	105 hours (52%)
Assessment	50 hours (25%)
Total	200 hours

Private study description

Independent research and reading

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A6

	Weighting	Study time	Eligible for self-certification
Assessment component			
Report	60%	30 hours	Yes (extension)
Report based on workshop exercise			

Reassessment component is the same

Assessment component

In-module test	40%	20 hours	No
1 hour			

Weighting**Study time****Eligible for self-certification****Reassessment component**

Written report

No

Written report covering same learning outcomes as in-module test.

Feedback on assessment

Written feedback released through Tabula.

Availability**Courses**

This module is Core for:

- THRA-D4A3 Postgraduate Taught Food Security
 - Year 1 of D4A3 Food Security
 - Year 1 of D4A3 Food Security
- Year 1 of THRA-D4A2 Postgraduate Taught Sustainable Crop Production: Agronomy for the 21st Century

This module is Core optional for:

- Year 2 of THRA-D4A3 Postgraduate Taught Food Security

This module is Optional for:

- Year 1 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)