

ENTM0620 -- Pest Management and Farm Insects

Instructor: Dr. R.W. Currie, 218 Animal Science/Entomology Building (Phone 474-6022)

Recommended Text: Insect Pests of the Prairies, 1989. H. Phillip and E. Mengersen, University of Alberta Press.

Lectures: Three per week during regularly slotted time.

Course Theme: The focus of this course is on how to apply an integrated pest management approach to a variety of different agricultural systems. This course covers: the principles of insect pest management in livestock systems, cropping systems and storage systems; insecticide groups, insecticide use and pesticide safety; and the integration of chemical, cultural and biological controls to control pests under a variety of management systems. Reference is also made to the application of the principles of pest management to weeds and plant diseases. Characteristics, damage and identification; life histories and control of common Manitoba livestock field and farmyard insects are included. The applications of general principles of pest management in agriculture will also be discussed.

Topics Covered:

1. Introduction,
2. Anatomy, Physiology and Life History of Insects
 - How insect growth and development relates to:
 - routes of entry of pesticides
 - modes of action of pesticides
 - identification of damaging stages in field scouting
3. Understanding and Using Classification Systems
4. Pesticides:
 - Discuss different types of pesticides
 - Advantages and disadvantages of insecticides
 - LD50 concept
 - Modes of Entry
 - Major Classes OP-s, OC-s etc.
 - Alternatives, Pheromones, Methoprene etc.
 - Formulations of Pesticides
 - Application of Pesticides

 - Safety Issues Related to Pesticide Use
5. Pest Management in Animal Systems:
6. Pest Management in Crop Systems:
 - Scouting techniques (general principles and specific to insects)
 - Factors affecting insect impact on crops
 - Economic thresholds. Etc.
 - Pesticide resistance and Pest Management (insect and weed examples)
 - Use of transgenic crops (advantages/disadvantages)²³⁴

 - How to relate life history of insect to identification of the problem and control strategies (comparison with weeds and pathogens)
 - Principles are illustrated using a variety of pests and crops
 - Eg. Grasshoppers, flea beetles, aphids, wheat midge, corn borer etc. (Insects change depending upon class background and interests but include examples that allow discussion of all the applicable management criteria)
8. Pest Management in Storage Systems:
 - Focus on how to sample, and control strategies during storage, use of expert systems in pest management
9. Insects on Ornamental Trees and Shelter Belts/Special topics:

Laboratories: One per week during regularly slotted times. These relate directly to the lectures and cover, internal and external anatomical studies and the identification of beneficial and harmful insects common to Manitoba.

ENTM0620 Exams and Assignments: Fall Session, 2008

Examination Schedule:	Date	Percentage
Lecture		
Midterm Lecture Exam # 1:	Friday October, 3, 2008	15%
Midterm Lecture Exam #2:	Monday October, 27, 2008	15%
Final Lecture Exam:	TBA (Scheduled by Administration)	30%
Lab Exams:		
Lab Exam # 1:	7 October/ 9 Oct., 2008	10%
Lab Exam #2:	October 28/Oct. 30, 2008	10%
Final Lab Exam:	November 25 /November 27 2008 ¹	20%
Totals		100%