

Plant Pest Interaction - Problems and Alternatives to Pesticides

Key Terms and Concepts:

Upon completion of this course, the student should be familiar with the following terms, concepts, and programs.

Resistance development to pesticides

Pesticide persistence

Pest resurgence

Genetic resistance of insects

Metabolic resistance

Knockdown resistance (kdr)

Physiological selectivity of pesticides

Ecological selectivity of pesticides

Insect behavior selectivity

Resistance ratios

Cross resistance

Multiple resistance

Target species

Non target species

Alternative strategies for pest management

IPM

Biorational strategy of pest management

Integrated Resistance Management

Pheromone traps

Attractants

Selective crop application

Granular application of pesticides

Crop life table

Pest life table

Links:

Pesticides and human health:

Pesticides: Human Health and Safety

<http://www.epa.gov/pesticides/health/human.htm>

Pesticides health Effects on Human Health, Cornell University

<http://pmep.cce.cornell.edu/facts-slides-self/facts/gen-posaf-health.html>

Health and Environmental Linkages Initiative (HELI)

<http://www.who.int/heli/risks/toxics/chemicals/en/index.html>

Our Stolen Future

<http://www.ourstolenfuture.org/Basics/hardback.htm>

Integrated pest management – US:

National Information System for the Regional IPM Centers, USDA

<http://www.ipmcenters.org/>

Integrated Plant Protection Center, Oregon State University

<http://www.ipmnet.org/>

National Science Foundation Center for Integrated Pest Management, North Carolina State University

<http://cipm.ncsu.edu/about.cfm>

Pest Management at Crossroads

<http://www.pmac.net/>

Integrated pest management – International:

Global IPM Facility, FAO

<http://www.fao.org/ag/AGP/AGPP/IPM/gipmf/index.htm>

Community IPM

<http://www.communityipm.org/index.htm>

Pesticide use and occupational safety – US:

Pesticide Illness and Injury Surveillance, National Institute for Occupational Safety and Health

<http://www.cdc.gov/niosh/topics/pesticides/>

Pesticide use and occupational safety – International:

Chemical Exposure Limits, International Occupational Safety and Health Information Center

<http://www.ilo.org/public/english/protection/safework/cis/products/explim.htm>

International Journal of Occupational and Environmental Health

http://www.ijoeht.com/archive_01.html

Alternative pest management:

Alternative Farming Systems Information Center, USDA

http://riley.nal.usda.gov/nal_display/index.php?tax_level=1&info_center=2

Pest Management, National Sustainable Agriculture Information Service

<http://www.attra.org/pest.html>

Biological Control Virtual Information Center, Department of Entomology, NC State University

<http://cipm.ncsu.edu/ent/biocontrol/>

Pesticide industry related disasters:

Remembering the Anaversa Disaster in Mexico

http://www.panna.org/about/pu/pu_200110.12.dv.html

International Campaign for Justice in Bhopal

<http://www.bhopal.net/>

1986: Chemical Spill Turns Rhine Red

<http://news.bbc.co.uk/onthisday>