

Greenhouse Pest Management



Greenhouse Functions

- Display
 - Conservatory
 - Box store retail sales
- Production
 - Retail
 - Wholesale/retail
 - Export

Key production target dates (IN)

- Easter Lilies (April)
- Annuals, Perennials and Bedding plants
 - Mother's day (May)
 - Home gardeners (April-June)
 - Commercial landscape (April-June)
- Chrysanthemums (August-Sept)
- Poinsettia (Nov-Dec)
- House plants (year-round)

Greenhouse IPM

- Monitor
 - Sticky cards (flying insects)
 - Visual inspection (immatures and wingless)
- Record Keeping
 - Where are pests building or coming from?
 - Make maps to locate sources
- Decision making
 - Effective use of cultural tactics, pesticides and biological control
- Evaluation
 - Are pests likely to be a problem at time of sale?

Specialized greenhouse pest management issues

- Safe reserve for tropical pests and beneficials
- Movement of pests by fans
- Movement of pests on yellow clothes
- Sanitation
 - Weeds and Pet plants as pest reservoir
 - Bag old plants in greenhouse as you discard to prevent pest movement
- Pesticide resistance
 - Need to rotate pesticide by mode of action every life cycle
- Physical exclusion
 - Quarantine / inspection of new plants
 - Screening of vents and fans

Pesticide delivery systems

- Dusts (potential visible residue)
- Wettable Powders, Water Soluble Packets, Dry Flowables, Flowables
- Emulsifiable Concentrates (potential phyto)
- Granular, Baits (slow and expensive to apply)

Products applied to house that must be safely vented

- Aerosols (Total release cans)
- Fogs (heated metal pans)
- Smokes (light and go)
- Fumigants (release as gas)

Worker Protection Safety

- Workers- People who work in greenhouses, or handle or water plants
- Pesticide Handler- People who apply or mix or monitor pesticide treated area
- Workers must wear personal protective equipment (PPE) when entering a treated area during the restricted entry interval (REI)

Potential for biological control in greenhouse

- Closed system sets the stage for sustainable biological control.
- Inoculative releases-
 - Seed crop with beneficials that provide control
- Inundation releases-
 - Regular addition of beneficials to keep pest population low

Links to Greenhouse Biocontrol

- New England Greenhouse Pest Management Guide

http://www.umass.edu/umext/floriculture/pest_management/ne_pest_manage_guide.html

- Links to information about useful beneficial insects

<http://www.entomology.umn.edu/cues/inter/Biologic.html>

http://www.umass.edu/umext/floriculture/pest_management/biological_control.html

- Link to site on pesticide side effects on beneficials (see side effects)

<http://www.koppert.com/Home.13133.0.html>