

Apple IPM Intensive Workshop

What is Integrated Pest Management (IPM)?

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Integrated Pest Management or IPM means

Managing pests to promote sustainability and reduce risks to:

- Environment – water, air, landscape, non-targets organisms.
- Economics – farm business, crop yield, crop quality.
- Human health – our food, farmworkers, neighbors.





Defining IPM

IPM is a pest control strategy that uses an array of complementary methods: natural predators and parasites, pest-resistant varieties, cultural practices, biological controls, various physical techniques, and pesticides.

It is an approach to managing the pests of apples that aims to significantly reduce or eliminate the use of pesticides.

e.g. planting apple scab resistant varieties can eliminate the need for scab sprays and is an essential component of organic apple production in the Northeast.





The six steps of IPM

1. **Pest identification** ...or... *What is causing the problem?*
2. **Pest biology** ...or... *What is its life cycle?*
3. **Monitoring** ...or... *How much is in the orchard?*
4. **Thresholds** ...or... *Will that number cause economic injury?*
5. **Control** ...or... *How do I protect my crop?*
6. **Evaluation** ...or... *Did the methods I use solve the problem?*

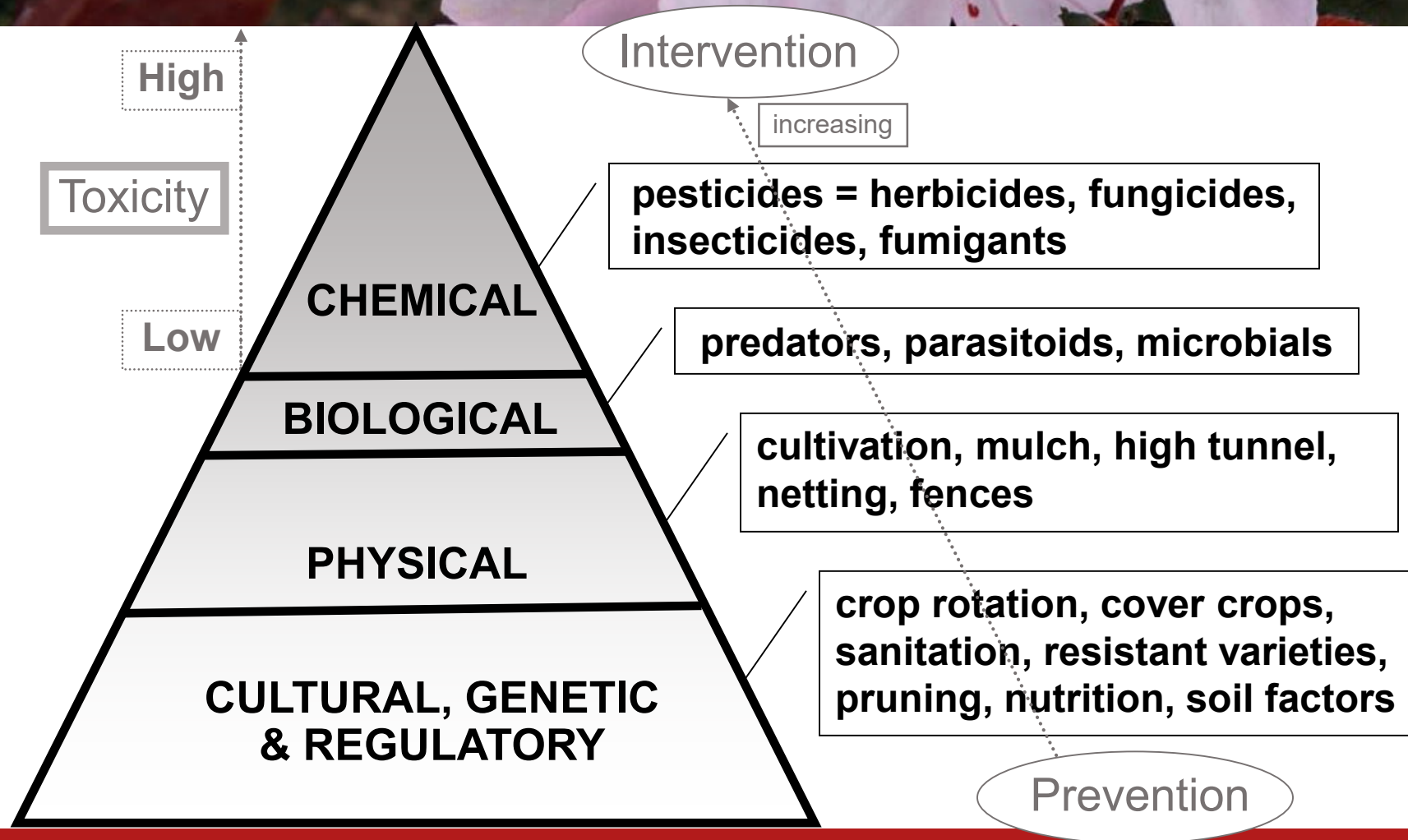




The six tactics for management

1. **Cultural** – pruning to open the canopy for faster drying.
2. **Physical** – hail netting to prevent wounding and crop loss.
3. **Genetic** – varieties less susceptible to fire blight.
4. **Biological** – parasitoids, predators, or microbials that kill pests.
5. **Chemical** – pesticides, nutrients, growth regulators.
6. **Regulatory** – quarantines and certification programs.

Hierarchy of IPM Tactics



Pests Types & Occurrence

Arthropods

Diseases

Weeds

Wildlife

Others not covered
in this workshop

In time, by season

- Constant threat
- Sporadic
- Rare

In time, crop life span

- Preplant
- Establishment
- Bearing years

In space, across field

- Localized
- General
- Associated or linked

In space, on plant

- Phenology
- Plant part affected

Tools of IPM

Scouting & monitoring

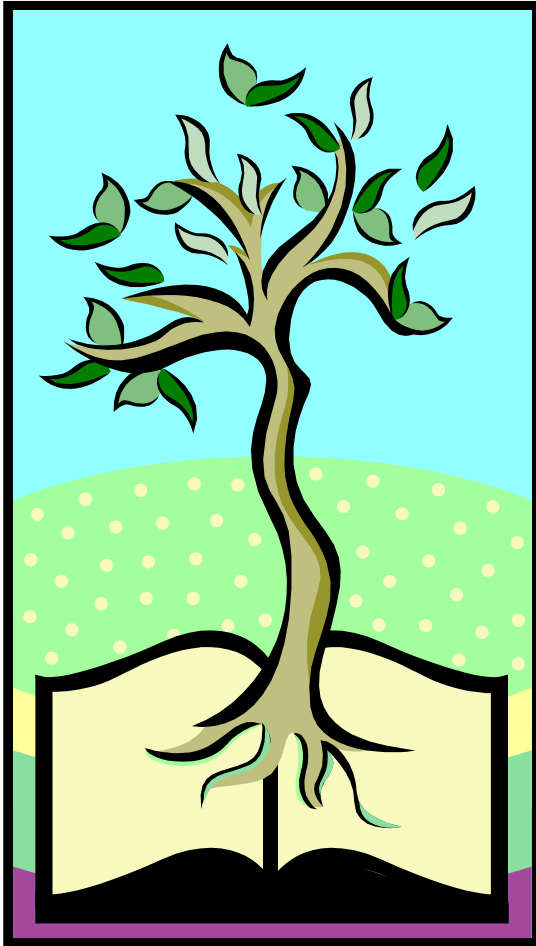
- Clipboard & records
- Hand lens, optivisor
- Traps, sticky cards
- White plates
- Trowel, knife, etc
- Bags, vials, etc
- Camera, phone

Records & reports

- Field maps
- Planting records
- Scouting results
- Spray records
- Harvest records



Tools of IPM



Knowledge

- Accurate pest ID
- Reference books
- Fact sheets - nysipm.cornell.edu
- Cornell Fruit Resources - fruit.cornell.edu
- Cornell Pest Management Guidelines
- NEWA - newa.cornell.edu

