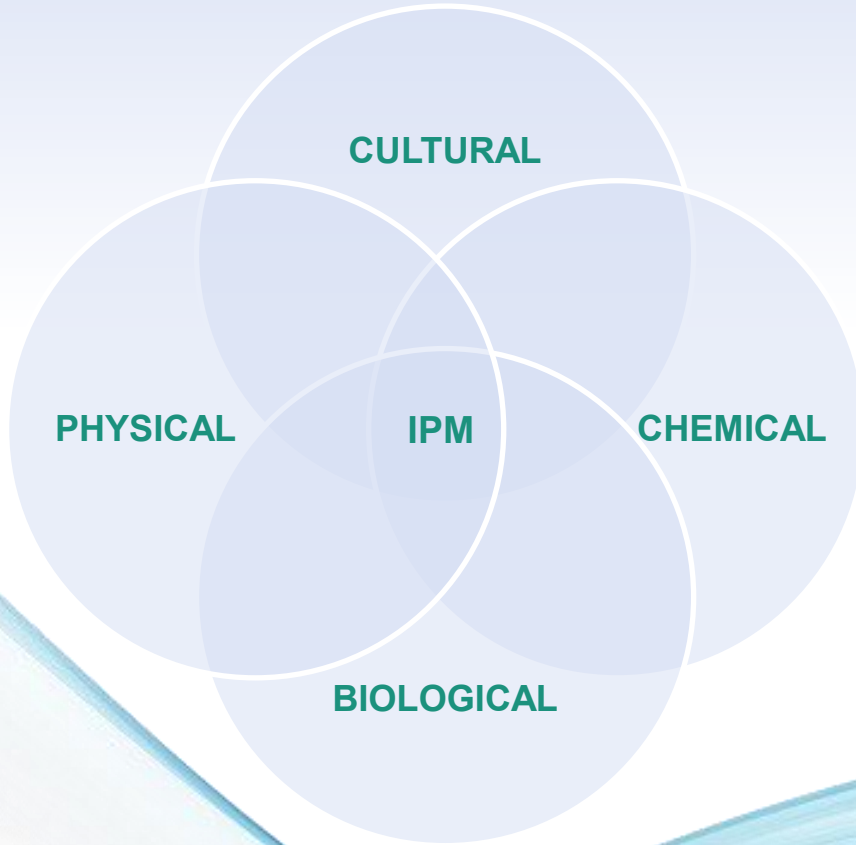




IPM AND BIOSECURITY

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Integrated Pest Management (IPM)



Strategy to effectively manage the damages from pests and pathogens

Uses multiple tools to prevent and manage pests:

- Cultural
- Physical
- Biological
- Chemical

The Goal

Provide crop protection while reducing human and environmental health risks associated with the use of pesticides

- Prevent further loss of yield due to pests
- Provide long-term solutions to pest problems
- Delay onset of pest resistance
- Reduction of crop inputs
- Protect pollinators
- Ensure the land remains usable for future generations

Steps of an IPM Program

1. Prevention and Planning
2. Monitoring
3. Decision making
4. Implement solutions
5. Monitor to measure effectiveness of decision

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Crop Scouting

Walk the crop in a different pattern each time, hitting low spots, high spots, edges, irrigation paths (W, X, diamond, zig-zag)

Early detection = proactive approach

Collect information about the crop and its condition to identify:

- Pests
- Crop damage

Determine if action is needed **OR** provide enough information for the client to make a decision



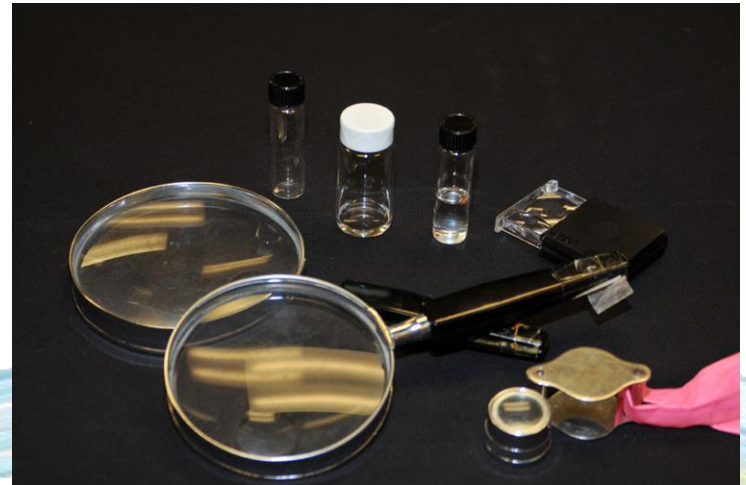
Crop Scouting

Record keeping!!

- Provide an accurate record for crop management
- Track populations over time (within seasons or between seasons)
- Monitor efficacy of implemented solution

Tools:

- Hand lens
- Knife
- Trowel
- Vials
- Sample bags
- Gloves
- Flagging tape
- Notepad and pencil

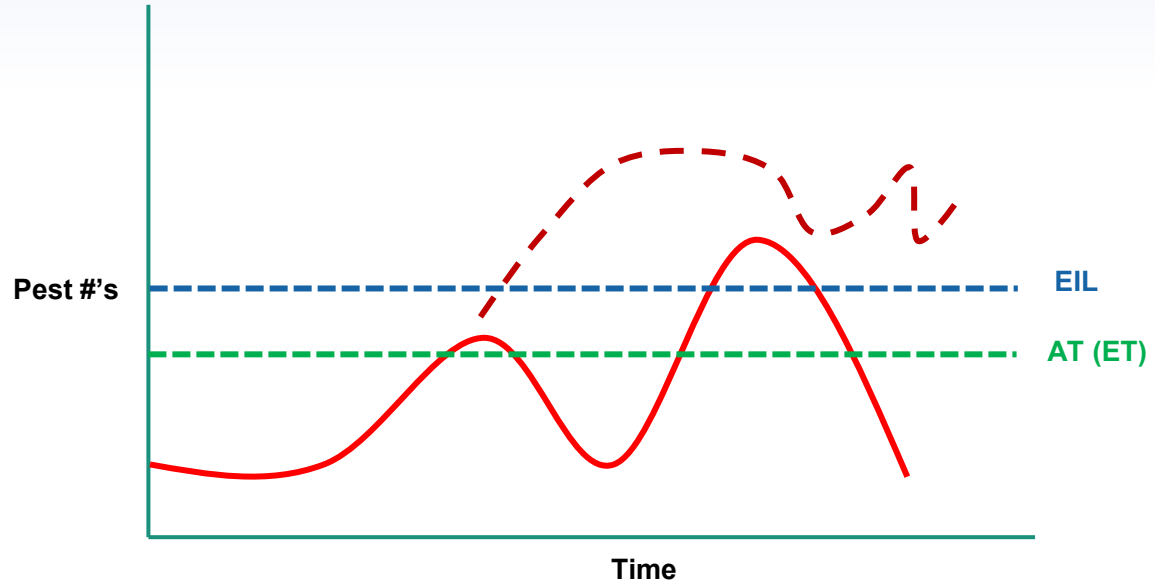


Thresholds

A threshold is a pre-determined level of pest population where pest control is needed

Action/ economic threshold - The pest density at which management action should be taken to the pest doesn't reach economic injury level

Economic injury level - The smallest pest density (amount of injury) that will cause yield losses equal to the management costs.



Biosecurity

Set of management practices used to prevent the movement of diseases or pests on to, within, or off an agricultural operation



Biosecurity

Primary responsibility lies with the farm operation

Roles of the scout:

- Identify possible risks and take steps to mitigate them
- follow biosecurity procedures identified at each farm
 - Ex. sign in logs, restricted areas, parking areas

Best Practices - Arrival

Confirm with the operator any biosecurity protocol to be followed;
respect signs, posted protocol, and barriers

Sign a visitor's logbook (when available)

Arrive in a clean vehicle (i.e., no mud/soil)

Where possible, drive in a manner to avoid mud splashes or dust

Wear cleaned and disinfected boots or disposable boot covers

Wear clean protective clothing

Clean and disinfect hands or wear disposable gloves

Best Practices - Departure

Visibly inspect clothing, hair, and equipment to ensure no soil, insects or plant material have adhered to them

Leave disposable materials with the operator, where possible

Clean and disinfect any equipment used during the visit

Clean and disinfect boots, hands, wheel wells

Some operations may have wash stations that you could use

Document biosecurity precautions taken during a site visit

[illegible]

Cleaning vs Disinfecting

Cleaning – physical removal of soil & debris off equipment

- Soilborne pathogens can be spread when soil moves from field to field.
- Ex. There are no effective chemical control agents to eradicate Potato Wart fungus from soil

Disinfection – chemical removal or reduction of pathogens

- Pathogens that may remain on surfaces of tools and PPE and can spread
- Ex. Bacterial Ring Rot (BRR) bacteria can survive on surfaces

****Always clean before disinfecting**

Supply List

Container

Boot brush/ hoof pick

Disinfectant

Small pressure sprayer

Disposable booties

Disposable gloves

Disposable coveralls

Extra water

Hand sanitizer

Paper towel

Garbage bags

Notepad

Biosecurity logbook

Biosecurity protocol

The Highlights:

Confirm farm biosecurity practices

Avoid moving soil from field to field or farm unit to farm unit

Clean and disinfect anything that enters and then leaves the field (vehicles, boots, pants, soil probes, knives, sample trays, etc.)

Keep a log of all biosecurity practices



Resources:

<https://peipotatoagronomy.com/> (pest information and biosecurity resources)

<https://cropipm.omafra.gov.on.ca/en-ca/crops/potatoes/overview>

<https://www.perennia.ca/portfolio-items/potatoes/>

Contact Info



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