Integrated pest management

Options for controlling pests in vegetable crops

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IPM Technologies

- Entomologists
- Support growers/advisors to adopt IPM
- IPM research and training
- Independent advice
- Experience in a wide range of crops




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How can we control pests?

Only three control options:

1. Biological
2. Cultural
3. Chemical

Integrated pest management (IPM)

All three control measures used together in a compatible way

1. Biological
2. Cultural
3. Chemical (support)

- Chemicals used as a support tool, only as required
- Decisions are made based on monitoring

Biological control agents

- Predators, parasites and pathogens of pests

Two complementary strategies:

1. Preserve, attract and encourage naturally-occurring beneficials
2. Release commercially-produced beneficials if required


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Cultural controls

Very powerful tools, but often overlooked

Examples:

- Improve habitat/provide alternative food source for beneficials
- Sequential planting
- Quarantine/hygiene
- Variety selection
- Weed management
- Soil management

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Pesticides in IPM

- Use only as a support tool
- Consider impacts on beneficials, not just efficacy against target pest
- Need to know “is it safe?” to beneficials

Pesticides and beneficials

- Most old chemistry – toxic
- New selective chemistry – highly variable

- Need to consider which beneficial species you want to protect
- Consider both acute and sub-lethal effects
- Consider residual toxicity
- Consider effects of fungicides

Why use IPM?

Adoption usually driven by crisis:

- Pesticides stop working (resistance)
- Pesticides withdrawn
- Residues in produce
- Worker and environmental safety

- Induced pests (pest-flare)

Why use IPM?

- Better pest control
- Fewer insecticide applications
- Improve market access (e.g. export)
- Delay development of insecticide resistance

Developing an IPM strategy

Pests	Beneficials	Cultural controls	Chemicals/sprays

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