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Putting Together an IPM Package for Foxglove Aphid

Rose Buitenhuis, PhD



Foxglove aphids

- Cool weather pest (15-25°C) in many ornamental plants
- Survey 2014 and 2018: Common pest and difficult to control
 - Good at hiding, smaller colonies
 - “Biocontrols ineffective”
 - “Pesticides incompatible/ineffective”
- COHA cluster project 2014-2017



Photo by S. Jandricic, OMAFRA

IPM strategy

IPM Strategy for Foxglove & Potato aphids

SCOUT
the crop regularly



early
identification
is the key to success!

release

PARASITOIDS

when the first
aphids are
detected



MUMMIES

appear after
1 week &
numbers
will begin
to decline



SUPPORT

with bio-insecticides
or predators
as needed



CLEAN-UP

with 1-2 final
pesticide
sprays
before
shipment
if needed



SCOUT
the crop regularly



early
identification
is the key to success!

Population dynamics

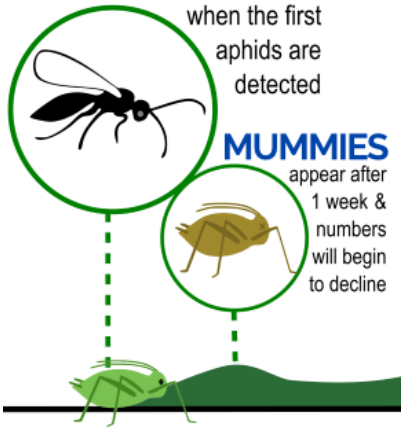


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Aphidius ervi

- Efficacy depends on when and how it is used:
 - Preventative releases can be costly and ineffective
 - Use distribution boxes with a dab of honey
- Effect on aphid populations only noticeable after one to two weeks
- Few visible mummies due to aphid dropping behaviour



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SUPPORT

with bio-insecticides
or predators
as needed



Predators and biopesticides

- Commercially available predators
 - *Aphidoletes* – searching not adapted to foxglove aphids
 - Lacewings / ladybeetles
- New aphid predators
- Biopesticides



SUPPORT

with bio-insecticides
or predators
as needed



Predators and biopesticides

- Commercially available predators
- New aphid predators
 - Mirids – promising results in Europe, need Canadian species
 - Predatory mite – developed at Vineland
 - Syrphids – perform at lower temperatures
- Biopesticides



SUPPORT

with bio-insecticides
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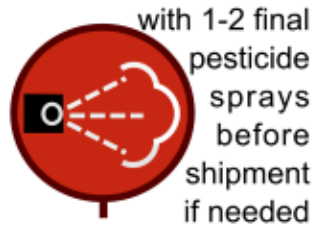


Predators and biopesticides

- Commercially available predators
- New aphid predators
- Biopesticides
 - Met 52 – direct spray, aphids do not pick up spores from treated surface
 - Greenhouse ornamentals not on label
 - Pea protein
 - Compatible with *A. ervi*



CLEAN-UP

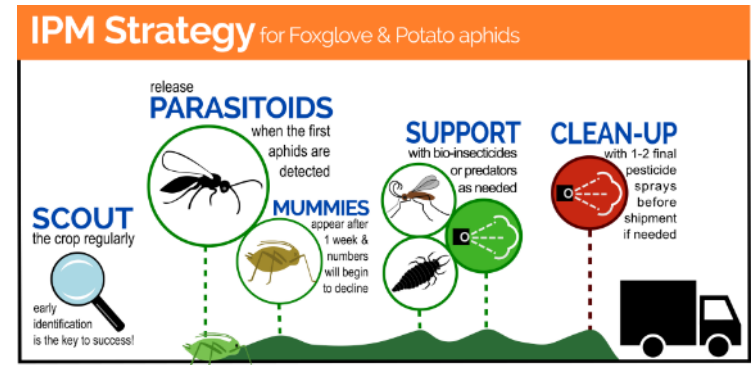


Chemical pesticides

- Compatibility with *A. ervi*
 - YES - Beleaf, Endeavour (N.B. similar MOA)
 - NO - Enstar
- Clean up spray, if needed
- Keeping pesticides as a clean up prevents resistance issues

Conclusion

- Pesticide reduction of at least 50% in commercial trials
- Continue to develop new aphid predators for Canada



Acknowledgments

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Further reading:

- Greenhouse Canada, September issue
- Greenhouse Grower, May issue

Thank you

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