

# PEST AND DISEASE MANAGEMENT

## A GUIDE FOR CUT FLOWER FARMERS

Pests can be a huge problem for flower farmers! Applying pesticides may seem like an easy solution, but it comes with many downsides. Pesticides are expensive, weather dependent, and often require an application license. Plus, most pesticides kill beneficial as well as 'problem' pests. Smaller scaled flower farmers need other solutions.

Integrated Pest Management (IPM) is an alternative approach that can work for farms of all sizes, using a combination of environmentally friendly and cost-effective tactics. IPM prioritizes protecting beneficial insects like pollinators and predators, and favours 'doing nothing' and cultural controls over the application of anything. In fact, IPM always begins with ongoing monitoring and assessment to see if anything at all is warranted.

## PRINCIPLES OF IPM

### Identify & understand the 'pest' or disease

- Use resources to accurately identify the pest or disease and determine its characteristics.
  - What is the pest lifecycle?
  - What weather accelerates this disease?
  - What are the natural enemies of this pest? Are they present?
- Determine how much of an impact this pest or disease will likely have on your farm so you can make appropriate decisions about treatment.
  - Will you lose a few flowers or an entire crop?
  - How much will this affect your sales this year?
  - Is it worth an added expenditure to treat?
  - Is it worth it to potentially disrupt the 'good' bugs—and add to your problems in the future?



## Practice prevention (or cultural control)

- Think long term, rather than focusing only on the present problem.
- Rotate crops regularly to break pest cycles.
- Change the timing of your planting in the future to avoid key pest cycles.
- Reduce pest habitats, including cleaning up plant residue to prevent pests that overwinter.
- Select more resistant varieties next year.
- Practice 'trap cropping' to trap pests. These crops are selected to be more attractive to the pests than your 'desired' crop is (see the Johnny's Seeds video below for more information).
- Build soil health. Healthy soil helps plants withstand pests and disease.
- Attract beneficials by planting habitat and cover crops.

## Assess the situation

- Scout your fields regularly to find problems when they first occur and are easier to address
- Use traps (like yellow sticky strips) so you know when certain pests turn up.
- If you do find pests or disease, determine the extent of the issue. How many are out there? How big is your problem?

## Manage using the LEAST destructive approach

- Cultural controls first: remove weeds, improve soil, remove and destroy pest laden plants.
- Biological controls next: encourage predators, parasitoids and pathogens (the 3 Ps) that control pests, and give them a chance to work
- Chemical control, as a last resort: select products that are least harmful to beneficial insects and pollinators, and apply following manufacturer's instructions

## Evaluate and change

- If something doesn't work, do something else! There is no sense in doing the same again. In particular, pests can become resistant to chemical controls very quickly.
- Keep good records so you can change something next year.





## ADDITIONAL RESOURCES

### WATCH

*What pests do I have in my cut flower operation?*

Elizabeth Lamb - Cornell Cooperative Extension Cut Flower

*Site Preparation of Cut Flower Farm from Pest Management Point of View*

Elizabeth Lamb - Cornell Cooperative Extension Cut Flower

*Pest Management - Johnny's Educational Webinar Series*

A recent from Johnny's Seeds on managing pests with ecological farm design, covering IPM used at Johnny's

### READ

*Cut Flowers: Insects and Mites in Commercial Production of Field-Grown Cut Flowers*

University of Massachusetts. A good resource on cut flowers and pest management, including how to identify and manage thrips, aphids, tarnished plant bugs, leafhoppers, etc. It also reviews which pesticides are most effective.

