



## IPM

### *What is IPM?*

Integrated Pest Management is a set of different strategies that focuses on the long term prevention of disease and pests with a combination of techniques. When techniques are applied, a set of goals should be to maintain: sustainability, human health, economics, and the environment.

### *What is a Pest?*

A pest is any organism that damages or interferes with desirable plants in a setting (greenhouse, landscape, homes, etc). A pest can be a plant, vertebrate, invertebrate, nematode or pathogen that causes unwanted harm to an ecosystem.

### *Determine Threshold.*

A threshold is a limitation set by an institution or person. The limitation will be determined by the active amount of pest that can be acceptable in order to maintain a healthy ecosystem. Always expect pests to be within our ecosystem alongside maintaining and balancing the population.

Key factors for determining a threshold

- What is the pest?
- Total amount of pest?
- Visible pest damage?
- Lasting damage to plant health?

## **Methods of Control**

### *Biological Control*

Biological Control is the use of natural enemies that target a specific pest. The natural enemies can consist of predators, parasites, and pathogens. Bios will kill or suppress the pest by consuming, exuding toxins, or parasitizing them. This method usually takes place right before a pest population reaches a severe threshold. In some rare circumstance the use of bios can uphold severe cases of pest. Bios exist naturally in ecosystems; IPM program should seek to allow these to flourish even when controlling pests.

### *Cultural Control*

Cultural control can be many different methods depending on the pest you are trying to suppress. This can be as simple proper site selection, cultivar selection, trap crop, crop rotation etc. Cultural control really comes into effect when you have educated yourself on the pest. In most circumstances Cultural Control should be first line of defense in pest control.

### *Mechanical Control*

Mechanical or physical control includes methods of killing, removing, or altering their environment of a pest directly. Examples of the methods can be trapping, vacuuming, or handpicking the pest. This method should only be done at the first sign of a pest population build up. If the population is beyond this method another alternative should be chosen.

### *Chemical Control*

Chemical Control should be the last resort when all other controls fail. We want to try to stay away from chemical spray, due to the fact they effect many environments; beneficial insects, plant health, and human health.

Before choosing your pesticide:

- What is the identification of the pest in which is being suppressed?
- Is the pest population past it economic threshold?

After identification you can educate yourself on the pesticide you would like to use. Within the family of pesticides everyone has its own MOA (Mode of Action). This action is how the pesticide will interact and kill the insect population.

- With Chemical choice in mind it's very important to read and understand your label. Always follow directions on label! Within your label you will find vital information on the chemical.

### *Record Keeping*

After any method of IPM is used, it is always to a good idea to record what methods you took in controlling a pest. This can allow you to reevaluate what maybe you did wrong or what maybe you did right. Allow yourself to come up with new set of goals and ideas you can implement into next years plan.

*Franklin Park Conservatory, William Barnhill*