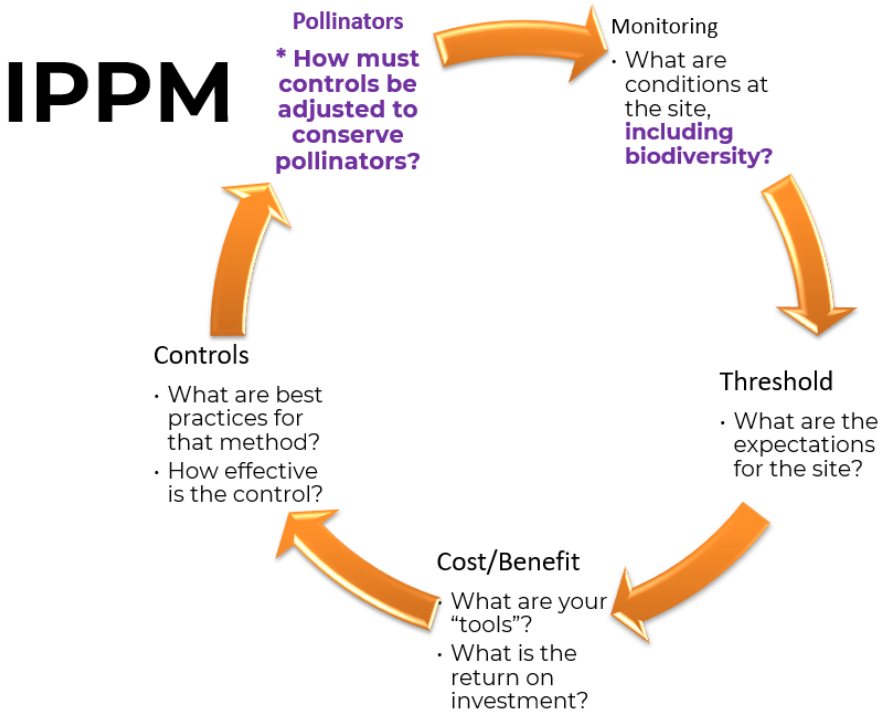
Gardening for Healthy Ecosystems – Integrated Pollinator and Pest Management

Integrated Pollinator and Pest Management (**IPPM**) is a thoughtful evaluation of the damage caused by a pest, weed, or disease, based on a cost/benefit analysis and the impact of any management technique upon pollinator populations and their habitats. In order to protect our local invertebrates, Butterfly Pavilion's horticulture staff and volunteers develop IPPM strategies to care for our plant collections. Home gardeners who are concerned about the effects of pesticides upon their environment can do the same.

IPPM is a process, not a prescription.

The process begins with a thorough understanding of the landscape and frequent scouting for potential issues. Frequent monitoring catches pests, weeds, and diseases before the infestation has progressed too far to manage.

Once the pest is identified, then the gardener must consider how to minimize damage while reducing negative impacts on pollinators and other desirable species. Many times, the gardener finds that gentler controls are better for the ecosystem- keeping the pest from causing too much damage while allowing pollinators to thrive.



Once the gardener has decided upon a feasible level of control, they must research options for the best control techniques. Each gardener should examine all the factors that are affected by the pest control method in question: cost, effectiveness, appearance, and risk to the environment.

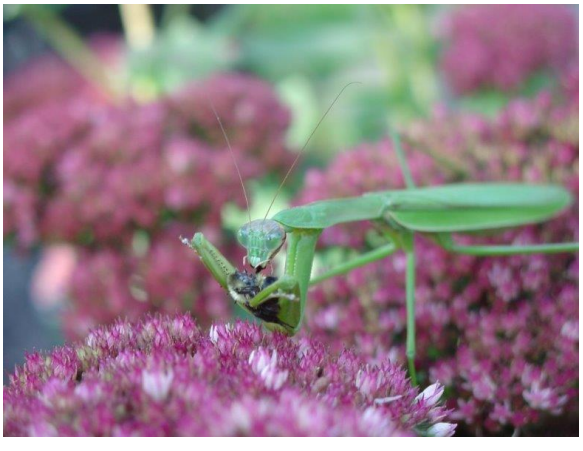
IPPM Control Techniques

Physical Controls – Barriers, traps, and removal work against a wide range of pests and weeds. Some examples are: the use of floating row covers to keep grasshoppers out of the veggie garden, sticky traps for meal moths in the pantry, and hand-pulling weeds.
Cultural Controls – Healthy plants, with proper amounts of light, water, space, and nutrients, can fight weeds and pests with their own defenses. Avoiding excessive soil disturbance discourages weed seed germination. Resistant plant choices reduce disease infestation and chewing from pests. One can also avoid pests by growing a crop slightly earlier or later than a pest's appearance, or by choosing a different location.
Biological Controls – Pests have their own enemies, and a gardener can make use of these predators and parasites to keep the garden community healthy. Ladybird beetles are the most famous examples, of course, but parasitic wasps and predaceous mites are available for gardeners to buy and apply in their own gardens. Even better, gardeners can also encourage pests' natural enemies by planting favored nectar sources, such as yarrow and dill.
Chemical Controls – IPPM encourages a thoughtful evaluation whether a chemical pesticide would do more harm than good. Would a systemic pesticide enter the nectar of a plant and poison pollinators? Is there the chance of drift to a neighbor's property or open space, harming wildlife? If a chemical pesticide is used as a last resort, IPPM mandates that it be used safely and responsibly, according to best practice.

IPPM encourages gardeners to weigh all their options and to look closely at their needs before deciding upon any pest control technique. Each of these controls could have negative impacts on pollinators. Would cutting down weeds in early summer deprive pollinators of food and shelter? Would biological controls compete for food resources with native insects? To avoid negative side effects, gardeners should consider these adjustments that could preserve pollinator habitat

- Timing – Carry out controls when pollinators are not active
- Intensity – Adjust the duration, frequency or level of the activity
- Proportion – Treat only a part of the landscape, to create refuges

Sustainable gardens can make a real impact for wildlife and connect us to the natural world.



For more information about how *you* can garden sustainably, visit:
https://butterflies.org/pollinator-awareness-through-conservation-education/