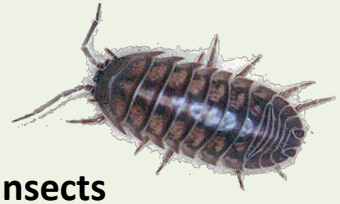
Beneficial and Harmful Insects

What defines a beneficial insect in a garden?



•Beneficial insects have behaviors which directly stimulate the health of the garden or inhibit other bugs from hurting vegetation. These bugs can be attracted by staying away from pesticides, mulching, and diversifying your planting.

- *•Example positive behaviors: Pollination, Preying on harmful insects*
- *•Example negative behaviors: Damaging vegetation, plant growth, diseases*

Beneficial Insects

•Praying Mantis

- *•Size:* Up to 4 inches in length
- *•Beneficial Behavior:* The praying mantis eats large quantities of harmful insects.

•Honey Bee

- *•Size:* Up to 1 inch in length
- *•Beneficial Behavior:* Bees aid in the pollination process of flowering vegetation which enables plant reproduction.
- *•Attracting:* Plant flowering plants with continuous blooming and have shallow water sources

•Ladybug

- *•Size:* Up to 0.4 inches in length
- *•Beneficial Behavior:* Both mature and larval ladybugs feed on harmful aphids and various other harmful insects.
- *•Attracting:* Plant carrots, parsley, dill, fennel, and yarrow.

•Caterpillars

- *•Size: .5 to 2 inches in length*
- *•Beneficial Behavior: Caterpillars are the beginning stages of butterflies which aid in the pollination process*

Harmful Insects

•Flea Beetles

- *•Size: Very small, 1/16 – 1/18 inch*
- *•Harmful Behavior: Attack crops such as mustard and rapeseed*

•Green Worms

- *•Size: Up to 1 inch in length*
- *•Harmful Behavior: Green Worms feast on vegetation causing dramatic damage*

•Stink Bugs

- *•Size: .67 inches in length*
- *•Harmful Behavior: Eat quickly and feed on a variety of fruit, vegetables and plants*

•Grass Hoppers

- *•Up to 5 inches in length*
- *•Harmful Behavior: Attack and eat wild plants, crops, and ornamental plants*

Frequently Asked Questions

•What does organic mean?

- •All fertilizers and pesticides must be natural, and no hormones, antibiotics, GMO's, human waste, or nanomaterials may be used in the garden (www.dpi.vic.gov.au/agriculture)

•How can I tell if what I am using in my garden is organic?

- •Visit www.omri.org/ to look up products you have purchased, or see more information on finding organic materials for your garden.

•How do I get involved at the farm?

- *•To volunteer call* (610) 330-3079, or contact Farm Manager Sarah Edmonds. For more information see garden.lafayette.edu

Good Agricultural Practices at Lafarm

Soil

- Prevent soil erosion and desertification
  - Erosion is when soil is removed from the earth's surface through wind or water flow
  - Soil desertification is a type of land degradation that causes the soil to become to arid to use
  - You can these through hedging and ditching
- Applying fertilizers at appropriate times and doses
  - Fertilize only when the grass is actively growing
  - Test before you fertilize
  - Use reclaimed water
  - Never fertilize before a storm
  - Properly store fertilizer
- Maintaining and restoring organic soil content
  - Protects soil against overexposure to rain and sun
  - Provides organisms in soil with constant food supply
  - Alters soil microclimate for optimal growth and development for organisms

The Food and Agricultural Organization of the United Nations defines Good Agricultural Practices as "a collection of principles to apply for on-farm production and post-production processes that result in safe and healthy food and non-food agricultural products, while taking into account economical, social, and environmental sustainability." -UNFAO

Water

- Practice scheduled irrigation
  - Add water only when needed; an optimal amount of irrigation exists
  - Minimizing runoff and percolation losses maximizes irrigation efficiency by reducing energy and water usage
- Prevent soil salinization
  - Salinization is having too much salt content in the plants
  - This can be prevented by using non-salt containing water for irrigation
- Avoid drainage and fertilizer run-off
  - Overuse of fertilizer causes the fertilizer to seep through the soil and into the waterbed.
  - This can cause serious oxygen depletion in the ocean, and more notably in coastal zones
- Maintain permanent soil covering
  - Improved infiltration and retention of soil moisture results in less severe, less prolonged water stress and increased nutrients availability
  - Soil regeneration is higher than soil degradation
  - Better conditions for root and seedling growth