

Managing Garden Pests While Keeping Pollinators Safe

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Work with Nature

- **Only 3% of the insects in the world are harmful**
 - *The rest are pollinators, decomposers, pest managers...*
- Beneficial Insects
 - Bees as pollinators, leafcutter bee eats caterpillars
 - Lady beetles, lacewings are predators that eat aphids
 - Dragonflies eat mosquito larvae
 - Parasitic wasps
 - Ground beetles and more
- Bringing them to your garden
 - Create the right environment
 - Grow plants to attract them
 - <https://wimastergardener.org/article/plant-flowers-to-encourage-beneficial-insects/>
 - Small flowers for tiny insects like parasitoid wasps
 - Carrot family
 - Cilantro – coriander
 - Fennel
 - Dill
 - Composite family
 - Coneflower
 - Sunflowers, coreopsis, blanket flower
 - Yarrow (look for non aggressive species and varieties)
 - Goldenrod
 - Aster
 - Mustard family
 - Sweet alyssum
 - Broccoli, mustards and more
 - Mint family
 - Creeping thyme
 - Agastache
 - Monarda
 - Lavender (Hidcote and Munstead are hardier cultivars)
 - Buying and releasing **beneficial insects**
 - Pros and cons
 - Don't forget the **songbirds**
 - Most songbirds eat insects
 - Tolerate some pests and their damage
 - Beneficial insects need a food source



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Managing Pests

- Use **PHC** to manage problem insects to limit damage to tolerable level
 - Plant Health Care
 - **Right plant** for the location
 - Will thrive in **growing conditions and space**
 - Select the most pest resistant plants when possible
 - Provide **proper care**
 - Healthy plants are more resistant to insects and disease
 - **Proper watering, mulching** key to success
 - Fertilize according to soil test recommendations
 - Monitor for problems
 - Easier to control a few insects than a thousand
 - Identify the **Problem**
 - Check **reliable sources**
 - Review recent weather
 - **Maintenance practices**
 - Determine if control is needed
 - Cosmetic not life threatening
 - Is the **pest still present**
 - Polyphemus caterpillar
 - Damage level of concern?
 - Boxelder bugs – nuisance
 - Dog vomit fungus – disgusting not harmful
 - Look for the most eco-friendly way to manage the problem
 - Handpick, traps, barriers, eco-friendly products
 - **Always read and follow label directions when using any chemical** – organic, natural or synthetic
 - Evaluate management strategies and adjust as needed
 - Record
 - Mark your calendar for next year to watch for problems
- A few examples
 - Diseases occur when these three things are present
 - Weather conditions are right
 - Susceptible plant
 - Disease causing organism
 - Powdery mildew
 - Resistant plants
 - Proper growing conditions
 - Thin stems by $\frac{1}{4}$ in spring
 - Mask bad foliage with other plants
 - Cornell Baking Soda mix
 - $1\frac{1}{2}$ T baking soda



- 3 T horticulture oil
 - 1 gallon water
 - Horticulture oil like Summit Year Round Spray Oil
- Phytophthora and botrytis blights
 - Sanitation
 - Copper fungicide first application when stems are 6" tall
- Insect pests
 - Emerald Ash Borer (EAB)
 - Do you treat your ash trees?
 - Treatment options for homeowners
 - <https://hort.extension.wisc.edu/articles/homeowner-guide-emerald-ash-borer-insecticide-treatments/>
 - Impact of EAB insecticides
 - http://www.emeraldashborer.info/documents/Potential_Side_Effects_of_EAB_Insecticides_FAQ.pdf
 - Aphids and Mites
 - Lady beetles and lacewings eat the problem
 - Strong blast of water
 - Insecticidal soap or Neem
 - Traps and reflective mulch
 - Earwigs – predaceous insects that eat foliage and flowers
 - Traps
 - Organic pesticides (plant oils as active ingredient)
 - Slugs
 - Resistant plants – hostas with thick, substantive leaves
 - Traps
 - Deterrents
 - Organic slug controls (iron phosphate as active ingredient)
 - Cabbage Worms
 - Physical control
 - Barriers – ReeMay, Harvest Guard, Grass Fast
 - *Bacillus thuringiensis kurstaki*
 - European Pine Sawfly – hatch when saucer magnolia drops petals
 - Physically remove
 - Smash with gloved hand
 - Prune out infested branch
 - *Bacillus thuringiensis (Bt)* will NOT work
 - Sawfly have 6-8 prolegs
 - Caterpillars have 5 or fewer prolegs
 - Soaps, horticulture oils or other eco-friendly products



- Japanese Beetles
 - Japanese lace effect
 - Insecticidal soap, when crawlers are active
 - Summit Year Round Spray Oil or other horticultural oil (treats all stages – used during growing and dormant seasons)
 - **Pine Needle Scale** – when Vanhoutte spirea bloom
 - **Oyster Shell Scale** on dogwood and lilac – when Vanhoutte spirea bloom and when Hills-of-Snow hydrangea blooms go from white to green
 - **Euonymus Scale** – when Japanese tree lilacs in bloom



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