

What you can do to help our pollinators

Bee Gardens

- Try to choose native plants; many ornamentals produce little or no pollen and nectar. Bees don't like common daffodils and tulips. Flowering shrubs (shadbush) or fruit trees can fill in during that time of spring. Impatiens and annual salvia don't provide nectar and pollen. For fall, consider asters, goldenrods, joe-pye weeds and sedums.
- Go to www.pollinator.org, (scroll down on right, click on "Free pollinator friendly planting guides", and enter your zip code to get recommended plants for pollinators)
- Use a variety of flowering plants (annuals and perennials), fruits and vegetables, that bloom spring through fall; flowers that are yellow, blue, red, and purple attract bees most
- **Flowers for native bees:** Hyssop skullcap (*Scutellaria integrifolia*), Indian hemp, common selfheal, blue verbenas, common milkweed, flat-top goldenrod (*Euthamia graminifolia*), Palespike lobelia (*Lobelia spicata*), Purple gerardia/false foxglove, Narrow-leaved mountain mint (*Pycnanthemum tenuifolium*), Sweet goldenrod (*Solidago odora*), Spotted joe pye weed (*Eupatorium maculatum*), Broad-leaved ironweed (*Vernonia noveboracensis*)
- **Herbs:** sage, mints, oregano, lavender, catnip, fennel, rosemary, thyme, bee balm
- **Fruits and vegetables:** Tomatoes, eggplants, potatoes, strawberries, blueberries, raspberries, watermelons, gourds, peppers, cucumbers
- **Shrubs:** blueberry, buttonbush, shadbush
- **Trees:** alder, black gum, crabapple, American holly, black locust, eastern redbud, basswood, buckeye, magnolia, maples, sycamore, tulip tree, willows
- Leave some small patches of unmulched soil for native bees to nest in the ground
- Providing water in shallow bird baths or dishes where pollinators can easily land.
- And most importantly don't use pesticides! Encourage birds and insect predators of pests. Also encourage neighbors to reduce reliance on chemical pesticides.

Bee houses are for native bees to live in. Hole-nesting bees do not defend the holes and do not sting unless they are grabbed.

Resources for learning more:

<http://nature.berkeley.edu/urbanbeegardens>

www.xerces.org

<http://dels.nas.edu/pollinators>

For excellent information on native bees, go to Google's search bar and type in "Native bee benefits, Bryn Mawr College and Rutgers University" and click on the pdf document that comes up.

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The following commonly used pesticides (neonicotinoids) are **highly toxic to bees** & other beneficial insects and wildlife:

- Imidacloprid
- Fipronil
- Thiacloprid
- Dinotefuran
- Acetamiprid
- Thiamethoxam
- Clothianidin

IMD (imidacloprid) is sold in the form of:

- MERIT (turf, lawn, garden)
- MARATHON (garden)
- GAUCHO (corn, cotton, potatoes)
- GAUCHO XT (cereal grains)
- ADMIRE (potatoes, corn, grapes, vegetables, citrus)
- ALIAS (leafy vegetables, cucurbits, strawberries, tree nuts, citrus, grapes, stone fruit, cotton and all other crops)
- PREMISE (termite control)
- PROVADO (fruits, vegetables)
- LEVERAGE (cotton)
- CALYPSO (apple, pear, quince, crabapple, cotton)
- ADVANTAGE (flea collars for pets)

Other toxins such as **thiacloprid, dinotefuran, acetamiprid, thiamethoxam, clothianidin:**

- Trade names:
- Actara (fruit and vegetables)
- Adage (potatoes)
- Adjust (seed treatments for corn and mustard)
- Arena (clothianidin: ornamental plants, trees, and turf; tobacco, grapes, pears, potatoes)
- Assail (for fruits, vegetables, nuts, garden plants)
- Belay (clothianidin: potatoes, tobacco)
- Centric (cotton)
- Clutch (clothianidin: apples, grapes, pears)
- Cruiser (leafy vegetables)
- Flagship (indoor pesticide for homes & other buildings)
- Helix (insecticide & fungicide for corn seed)
- Intruder (indoor food storage areas, factories, garages, restaurants)
- Meridian (ornamental plants & turf)
- Platinum (fruit and vegetables)
- Poncho (clothianidin: agricultural seed treatment)
- Titan (2,4,-d selective weed control, algae in water tanks, ant and roach killer)
- Venom (for ants, wasps, hornets, roaches)

Pollinator	Shape	Color	Scent	Examples of flowers
Beetles	Large, shallow bowl shaped	Dull green/white	Strong, fruity	Magnolia
Carrion flies	Often funnel-shaped	Dark reddish brown	Decaying flesh	Skunk cabbage, purple trillium
Bees	Not tubular, with a landing platform	Yellow, blue, pink, purple, white	Sweet	Clovers, violets, mints, goldenrods etc.
Butterflies	Tubes with rim	Vivid colors	Weak	Butterfly bush, mints, milkweeds
Moths	Tubes without rims, open at night	White or pale yellow	Strong	Morning glory, phlox, evening primrose
Birds	Deep wide tube	Red	None	Cardinal flower, trumpet creeper
Bats	Single large or small grouped	Dull white	Strong at night	Mimosa, agave, saguaro