

A GUIDE TO HEALTHIER PEST CONTROL

Alternatives to Pesticides

PEST PREVENTION

- Remove debris, trash and standing water from yard areas.
- Keep plants and soil healthy. Healthy plants can resist and recover from pest damage. Use native plants in your area and/or pest-resistant cultivars. Choose the right plant for the right spot for sun exposure, soil, and water requirements.
- Welcome natural pest enemies in your garden like lady beetles, toads, dragonflies, and others.

MAKE SURE YOU HAVE A PROBLEM

- A bug on a plant does not mean you have a problem. Many insects are beneficial and are not pests. Learn to identify the “good guys.”
- Many butterfly caterpillars are large and colorful. While they do eat foliage, they nature quickly and do not harm plants.
- The presence of a pest species does not mean you have a problem. Pests have to be abundant enough to cause damage.
- Tolerate other Plants in your lawn. Many low-growing wildflowers like clover can tolerate mowing and are beneficial to pollinators.

USE LESS TOXIC OPTIONS

PHYSICAL METHODS OF PEST CONTROL

- Pick or wash bugs off plants.
- Use floating fabric row covers to keep pests out of gardens.
- Pull weeds by hand before they set seed.
- Mulch gardens to prevent weeds.
- Remove all Japanese Barberry which attracts mice and ticks.

NONTOXIC SUBSTANCES AND HEAT

- Garlic-based tick spray and MET-52 are alternatives to bee-killing Pyrethroids.
- Limonene as an herbicide for small areas (Avenger is one brand).
- Apply corn gluten meal to turf grass in early spring and fall to prevent germination of crabgrass and weeds.
- Kill weeds in driveways and walkways with a propane torch.
- Weed killer: 1 qr. Vinegar, ¼ cup salt, 2 tsp. dish soap.
- Sprinkle diatomaceous earth around foundations and entryways for nontoxic control of ants.
- Whole milk and water (1:2) prevents powdery mildew.

BIOLOGICAL CONTROL

- Learn to identify the “good guys” and let them do their job.
- Lady beetles eat aphids, and green lacewing larvae feed on soft-bodied insects, mites and insect eggs.
- Spined soldier bugs, spiders, predatory mites, and many nematodes are also beneficial “allies.”

INSECTICIDAL SOAPS

- Effective against whiteflies, aphids, notes, and thrips – but **TAKE CAUTION not to use insecticidal soaps on butterfly caterpillars**. Also, many plants are sensitive to insecticidal soap.

NONTOXIC BAITS, TRAPS AND LURES

- Trap whiteflies and aphids with yellow sticky cards, a very effective method since these insects are attracted to color.
- Slugs can be trapped with a saucer of beer.
- Tick boxes™ - Tick Control System (info at www.tickboxcts)

MICROBIAL PESTICIDES

- Milky spore is effective in controlling Japanese beetle grubs.
- *Bacillus thuringiensis galleriae* (Btg) controls many grub species.

HORTICULTURAL OIL SPRAYS

- Use to control aphids, mites, scale insects, whiteflies and other pests. **USE WITH CAUTION** as these oils are non-selective and will kill beneficial insects.
- Dormant Oils are safe to use on dormant plants, but **read label carefully** as some products labeled Dormant Oil are advertised to be used year round.

BOTANICAL INSECTICIDES

- Many naturally occurring plant extracts have insecticidal properties. They vary in toxicity to humans and non-target organisms. **USE WITH CAUTION** as immature insects, including beneficial insects like butterfly caterpillars, are extremely sensitive to extracts like Neem.
- Do not apply any insecticide when pollinators are active and flowers are present.

THINGS YOU SHOULD KNOW

Pesticides include **herbicides** (for weed control), **insecticides** (insect control), **fungicides** (fungus control) and **rodenticides** (rodent control).

Neonicotinoids (neo-nics) are systemic insecticides known to be toxic to pollinators. **Imidicloprid, Actamiprid, Clothianidin, Dinotefuran, Thiamethoxam and Thiacloprid** are the active ingredients in products manufactured by Bayer, Monsanto, Scotts, Matsui and Syngenta.

Neonics may be used on some nursery stock including plants that attract pollinators.

Homeowners apply about 66 million pounds of herbicides and insecticides each year to their homes, lawns and gardens . . . not including chemicals applied by lawn and pest-control companies.

7 million birds are killed each year from the use of lawn pesticides.

In the U S., commonly used pesticides are **routinely found in surface and ground water supplies**.

Pesticide studies have found **traces of garden chemicals in children**, with the highest concentrations **reported in children** from homes with pesticide-treated lawns and gardens