Less Toxic Insecticides

Insecticides are chemicals used to kill, prevent, or repel insects.

Insecticides can be an important part of integrated pest management; however, some products can worsen pest problems or harm people or wildlife. Pesticide products referred to as less toxic pesticides cause fewer injuries to people and organisms other than the target pest. The less toxic insecticides listed below should be a first choice when deciding to use pesticides to manage insects. Always check product labels to be sure the pesticide is registered for your plant and pest situation.

Soaps (potassium salts of fatty acids)

Pesticidal soaps control aphids, whiteflies, mites, and other soft-bodied insects. To be effective, complete coverage of pests is needed and sometimes a repeat application is also necessary. Soaps come in easy-to-use spray bottles for small jobs. Several of these products also control plant fungal diseases.

Insecticidal oils

Oils control aphids, whiteflies, mealybugs, scale insects, spider mites, psyllids, and thrips. Good coverage of pests and plants is required. Don’t apply to water-stressed plants or when temperatures are above 90°F. Petroleum-based oil products include superior, supreme, narrow range, mineral, and horticultural oils. Plant-based oil products include neem, canola, and other oils.

Microbial insecticides

Microbial insecticides are derived from microorganisms that cause disease only in specific insects.

- *Bacillus thuringiensis* (Bt) subspecies *kurstaki* (Btk) controls leaf-feeding caterpillars. Bt subspecies *israelensis* (Bti) controls mosquitoes and fungus gnats.
- Codling moth granulosis virus (sold as Cyd-X) targets only the codling moth.
- Spinosad controls caterpillars, leafminers, thrips, and several other insects, but it can also harm some beneficial insects.

Avoid these more toxic pesticides:

- Pyrethroids such as permethrin, cyfluthrin, cypermethrin, and bifenthrin are synthetic versions of pyrethrins and can move into waterways and kill aquatic organisms.
- Organophosphates such as malathion, disulfoton, and acephate are highly toxic to natural enemies.
- Carbaryl, the active ingredient in older Sevin products, harms bees, natural enemies, and earthworms.
- Systemic neonicotinoids (such as imidacloprid and dinofetefuran) can be very toxic to bees and parasitic wasps, especially when applied to plants that are flowering.
- Metaldehyde, a common snail bait, is toxic to dogs and wildlife. Use iron phosphate baits instead.

What you do in your home and landscape affects our water and health.

- Minimize the use of pesticides that pollute our waterways and harm human health.
- Use nonchemical alternatives or less toxic pesticide products whenever possible.
- Read product labels carefully and follow instructions on proper use, storage, and disposal.

Look at the active ingredients section of the pesticide label to see if it lists one of the less toxic chemicals.

**Active Ingredient:**
Potassium Salts of Fatty Acids.................1.0%
Other Ingredients........99.0%
Total................................100.00%

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

Less toxic pesticides are sold under many brand names.