

## ALTERNATIVE INSECTICIDES

Insecticides can be made from chemicals or they can originate from natural sources. Insecticides kill insects.

Alternative insecticides normally mean the insecticides are less toxic to humans and breakdown more rapidly in the environment than conventional insecticides. They are often called “environmentally friendly”; however, remember anything called an insecticide means it kills insects. Most insecticides are broad spectrum – that is, they kill most insects. Alternative or conventional insecticides should be used according to the label.

Conventional insecticides as used here include products like diazinon, Malathion and Dursban. Alternative insecticides or softer insecticides in this brochure refer to insecticidal soaps, sabadilla, *Bacillus thuringiensis* and pyrethrins. Many of these insecticides are natural or come from natural sources. However, caution should be used when applying, since many of these may cause skin and eye irritation. Here are a few examples of alternative insecticides:

**Sabadilla dust** is derived from sabadilla lily seeds. It is a contact and stomach poison effective against caterpillars, leaf hoppers, and squash bugs.

**Pyrethrins** come from certain species of chrysanthemums. These are in dusts and sprays. Insects listed on pyrethrin’s label include ants, aphids, roaches, fleas, flies, and ticks.

**Limonene** and **linalool** are extracts from citrus peelings. These are found in many flea and tick dips and shampoos for pets.

**Diatomaceous earth** is a dust composed of skeletal remains of aquatic organisms or diatoms. This product is abrasive to insects and abrades insects’ waxy coating. Use a dust mask when applying diatomaceous earth. *Do not use the pool grade formulation for insect control.* Insects targeted include ants, crickets, fleas, ticks, and roaches.

**Boric Acid** is made from borax and is a stomach poison. For example, after roaches walk over the dust, they ingest the powder while grooming themselves. Insects affected by boric acid include roaches, ants, and silver fish.

**Silica aerogels** cause insects to dehydrate and eventually die by scraping their waxy cuticle. These are effective on numerous insects.

**Insecticidal soaps** consist of potassium salts of fatty acids. Researchers believe soaps remove protective oils and waxy coverings of the insects. This dehydrates insects. Soaps are most effective on soft-bodied insects such as aphids and spider mites. *Do not use soap solutions containing detergents.*

**Horticulture oils** are very effective in pest management. Dormant oils should be applied while plants are dormant. Summer oils can be applied on growing plants. Follow the label carefully. Dormant oils are used at higher rates than summer oils. Insects controlled include aphids, spider mites, and scales. Do not apply either oil above 90 degrees F or below 45 degrees F.

**Bacillus thuringiensis (B.t.)** is a bacterium. Numerous strains are used for specific insects. Examples of insects include mosquito larvae and caterpillars.

**Insect Growth Regulators (IGRs)** are new tools. They are synthesized growth regulators that disrupt the life cycle of targeted insects. For example, methoprene is used for fleas and hydropene is for cockroaches.

In summary, always follow the label on any product you choose to use for insect management. Never use more than recommended. Never pour insecticides down toilets, sinks or storm drains, or in rivers or creeks. Contact your local county extension agent for advice on pest management.