

# Natural Pesticide Products

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Natural pesticidal products, also called botanical pesticides, are available as alternatives to synthetic chemical formulations. Although thought of by some as "natural," and therefore assumed to be harmless, safety clothing must be worn when spraying these, even though their toxicity is low to warm-blooded animals. Some botanical pesticides

are toxic to fish and other cold-blooded creatures and should be treated with care.

The botanical insecticides break down readily in soil and are not stored in plant or animal tissue. Often their effects are not as long-lasting as those of synthetic pesticides.

## Appropriate Insecticide Use

<i>INSECTICIDE</i>	<i>USE AGAINST</i>
Pyrethrum	Pickleworms, aphids, leafhoppers, spider mites, harlequin bugs, cabbageworms, Mexican bean beetles, flea beetles, flies, squash bugs
Rotenone	Colorado potato beetle, Mexican bean beetle, Japanese beetle, flea beetles, fleas, cucumber beetles, spittlebugs, aphids, potato beetles, mites, carpenter ants, cabbage worms, loopers
Ryania	codling moths, corn earworm, oriental fruit moth, potato aphids, onion, thrips, corn earworms
Sabadilla	armyworms, harlequin bugs, stink bugs, cucumber beetles, leafhoppers, cabbage loopers, blister beetles

In addition to botanical insecticides, other biological products can help in the battle against insects. However, some of these compounds may be difficult to find.

*Bacillus thuringiensis* (B.t.) is an effective product commonly used against moth larvae. B.t. is a bacteria that produces a toxin quite lethal to caterpillars, but nontoxic to beneficial insects and mammals. B.t. is most effective on young larvae. New strains of B.t. have been developed to work against other types of insect larvae.

Another biocontrol product available to gardeners is grasshopper spore. It is not proven for small-scale use, but may help gardeners reduce damage by grasshoppers.

Commercial insecticidal soap, a special formulation of fatty acids, has proved effective

against aphids, leafhoppers, mealybugs, mites, pear psylla, thrips and whiteflies. Homemade, soap sprays also work to some extent. They can be formulated by combining three tablespoons of soap flakes (not detergent) per gallon of water. Spray on plants till dripping.

Repellent sprays, such as garlic sprays and bug sprays (made from a puree of bugs), have been reported as useful by some gardeners, but their effectiveness is questionable. Some researchers believe that bug sprays may work if a disease is present in the insect macerated and that disease is spread through the spray to other insects.

Apply all insecticides locally, to take care of a specific pest problem, instead of blanketing the entire garden. Call your local Extension office for specific recommendations.