

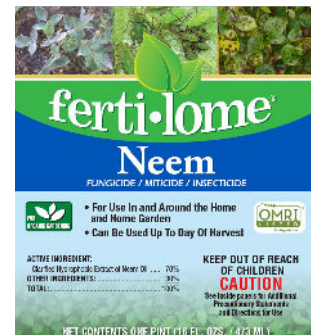
NEEM OIL

Neem oil is a natural, organic pesticide extracted from the bark, leaves, and seeds of a tropical evergreen tree native to the Indian subcontinent. Its excellent safety profile for birds and mammals, makes it a great alternative to chemical pesticides. In Europe, Asia, and Africa it is in cosmetics and skin care products, helping to treat infections and disease. This shows how safe it is for humans and animals. The earliest records of use are ancient, dating back to 4000-3000 BC.

Unlike most chemical controls that have an almost "instant" knock-down and kill, neem oil is not a contact poison. It does not kill insect pests instantly, even if sprayed directly on the pest. It is systemic in action, mainly affecting the feeding as well as growth and development of insects. Because of this, new gardeners may come to the incorrect conclusion that neem oil is ineffective and just all hype. Neem oil has to be ingested by the pests or come into direct contact with wet spray before it can have any effect. Try to cover both the top and bottom of the leaf. The toxic effect of the oil is mainly directed towards insects that suck plant juices or any insect that munches on leaves and buds. Some of the insects controlled with neem oil are aphids, Colorado potato beetles, spider mites, scale, caterpillars, whiteflies, Japanese beetles, bean beetles, squash bugs, lace bugs, grasshoppers, and squash vine borers.

Caterpillars feeding on leaves sprayed with neem oil develop an aversion to eating. It is thought that they experience a nausea-like sensation. You might say that the first bite is their last bite as the insect stop feeding and dies in a few days.

Insects grow and develop through a series of metamorphic stages. This process is regulated by specific enzymes, but neem oil suppresses their production, effectively preventing chrysalis formation and molting. This arrest in the development of larvae into pupae and nymphs into adults. Adult insects may become sterile as a result of ingesting neem oil. Female insects may refrain from laying eggs, and eggs that come into contact with the spray fail to hatch.



A most unique feature of neem oil is that it has antifungal properties that control fungus diseases such as rust, black spot, anthracnose, powdery mildew, leaf spot, and scab on vegetables and garden plants.

Lanoha Nurseries Garden Center carries two neem oil products. One is Fertilome's *Triple Action*. This contains neem oil and an insecticide pyrethrin that works as an "exciter" to cause insects to come from the bottom of the leaf or off stems to the surface of the leaf and come into better contact with neem oil. The second product is sold under the Fertilome label and is safe for use on fruits, vegetables, herbs, roses, houseplants, flowers, trees, and shrubs. Both products can be applied every 7-14 days. Be sure to completely wet both the top and bottom surface of the leaf.