Neem Oil for Plants

How to Make Neem Oil Spray

Make a neem oil spray with three ingredients—neem oil, liquid Castile soap, and warm water. Mix 2 tsp. neem oil and 1 tsp. liquid soap with 1 quart (1 l) of lukewarm water. Put the ingredients in a spray bottle and shake vigorously to combine them.

With the neem oil spray recipe, the addition of liquid Castile soap helps bind or emulsify water and neem oil together. Always shake the spray bottle before using it to mix the ingredients.

Neem oil works as a pesticide and fungicide on houseplants and garden plants. Neem oil spray solutions are effective against aphids, various types of mites, fungus gnats, mealybugs, tomato hornworms, and Japanese beetles. Neem oil's fungicidal properties help destroy fungal diseases such as powdery mildew, leaf spot, tip blight, and scab.

What plants should you not use neem oil on?

Despite being a natural solution, neem oil isn't suitable for some types of plants. For example, neem oil foliar sprays can burn leaves on some plant species. Also, after repotting, some plants can get stressed, and you should avoid treating those plants with neem oil.

However, neem oil is suitable for treating most species of plants. You can spray neem oil on plants such as fruit trees, ornamental houseplants, vegetables, herbs, and nuts.

How to Apply Neem Oil as a Soil Drench

Neem oil is also useful as a soil drench. Soaking the soil with a neem oil solution helps eradicate fungus gnats, treat soil fungus, and kill bug eggs and larvae in the soil. All you need to do is replace your regular watering with a neem oil mixture. Apply the soil drench every seven days to rid your plants of pest infestations.

To use neem oil as a houseplant bug prevention, you should drench the soil every three weeks.

Neem oil is so versatile that it works as a houseplant soil drench and a foliar spray for plants.

How Neem Oil Works as a Pesticide

Neem oil contains a natural contact insecticide and repellent called azadirachtin. This natural compound works by interfering with the lifecycle of many pests, bugs, mites, and insects. Neem oil disrupts insect feeding and reproduction, which reduces and eventually gets rid of pesky houseplant bugs.

A 2016 study reported that neem oil has over 100 active compounds, many of which have an insecticidal effect. Researchers found that azadirachtin inhibits feeding that eventually leads to weakness and death. Neem oil also stops pests from reproducing and weakens winged insects, so they have difficulty flying.
Another study in the journal *Scientific Reports* found that neem oil has lethal effects on many types of insects. Neem oil applications on insects inhibit growth and result in pest mortality.
Neem oil controls pests and insects in the following ways:

- Neem oil disrupts the laying of eggs
- Neem oil prevents larvae development
- Neem oil deters feeding on plant foliage
- Neem oil repels insects and larvae
- Neem oil is poisonous to insects in all stages of growth
- Neem oil inhibits the ability to swallow

The benefits of using neem oil as a natural insecticide are that it doesn't kill beneficial insects or pollinators. So, you can safely use neem oil in your garden or house without worrying about killing bees, butterflies, and ladybugs.

What Bugs Does Neem Oil Kill?

Neem oil kills insects that feed on plant leaves, and spraying whiteflies, aphids and mealybugs helps destroy them on contact. The natural insecticide azadirachtin in neem oil also kills bugs that have developed resistance to synthetic chemical pesticides. There are very few types of plant pests that neem oil isn't effective on.

Scientific research has found that neem oil is suitable for natural pest control on many levels. The most important way that neem oil kills bugs is by preventing larvae from developing. On some pests, neem oil has a repelling effect and prevents insects from feeding.
Here are some of the 200 pest species that neem oil kills effectively:

- Aphids
- Whiteflies
- Scale insects
- Thrips
- Fruit flies
- Colorado potato beetles
- Fleas
- Mosquitos
- Japanese beetles
- Various types of caterpillars
- Fire ants
- Weevils
- Squash bugs

Is Neem Oil Safe?

Neem oil is a non-toxic, natural pesticide that you can use safely in the home and garden. There is no evidence that neem oil is harmful to humans. Also, the active pesticide compounds in neem oil won't harm birds, bees, fish, or other wildlife. So, when used properly, neem oil is safe to use in organic and traditional gardening.

According to the National Pesticide Information Center (NPIC), neem oil can cause some skin irritation. However, there is no evidence that coming into contact with neem oil or azadirachtin causes cancer or results in other serious health issues.

How to Use a Neem Oil Spray on Plants

Spray plants with neem oil weekly to deal with pest infestations. For preventative pest control measures, spray plant foliage—including the leaf undersides—every three to four weeks. Because neem oil disrupts the pests' lifecycles, you must spray plants regularly to get rid of the bugs.

Here are some handy tips when spraying plants with neem oil:

- Always test a small area of the plant's foliage before treating the whole plant. Neem oil can burn some plant's leaves.
- Thoroughly coat foliage to target all insects and fungal diseases.
- Avoid spraying neem oil on plants in direct sunlight.
- Spray garden plants in the evening or early morning when the sun isn't so intense.
- Don't use neem oil to treat plants suffering from overwatering or underwatering.