

Gardening Articles for week ending 28th March 2015

Written by Wally Richards. [Photo]

NEEM TREE

In India there is a native tree botanically known as, *Azadirachta indica*, also known as Neem. It is a tree from the mahogany family Meliaceae.

Neem is one of two species in the genus *Azadirachta*, and is native to India and the Indian subcontinent including Nepal, Pakistan, Bangladesh and Sri Lanka.

Neem is a fast-growing tree that can reach a height of 15–20 metres (49–66 ft), and sometime to 35–40 metres (115–131 ft). Evergreen, but in severe drought it may shed most or nearly all of its leaves.

Products made from Neem trees have been used in India for over two millennia for their medicinal properties and many other uses. Neem products are believed by Sidha and Ayurvedic practitioners to be anthelmintic, antifungal, antidiabetic, antibacterial, antiviral, contraceptive and sedative.

Neem Tree oil is cold pressed from the kernels of the Neem Tree and 80% of India's supply of Neem oil is now used by Neem oil soap manufacturers. Although much of it goes to small scale specialty soaps, , large scale producers also use it, mainly because it is cheap.

Additionally it is antibacterial and antifungal, soothing and moisturising. Neem Soap can be made with up to 40% Neem oil. Well known brands include Nimglo (available in NZ) which can help with a number of skin conditions.

Once the kernels have been cold pressed, what is left is Neem Cake which is very dark with a distinct Neem Smell.

Some manufactures repeatedly cold press the cake to extract more oil then end result is a light brown coloured Neem Cake which has very little of the Neem benefits and insecticide properties left.

The dark Neem Tree Granules are best by far for using for control of pests and soil conditioning.

In India the Neem Cake is used as a Fertiliser and Soil Conditioner as well as assisting in the control of nematodes and other pests.

Neem Cake has an adequate quantity of NPK in organic form to aid plant growth.

Being a totally botanical product it contains 100% natural NPK content and other essential micro nutrients as it is natural the percentages of the components vary so we have; N(Nitrogen 2.0% to 5.0%), P(Phosphorus 0.5% to 1.0%), K(Potassium 1.0% to 2.0%), Ca(Calcium 0.5% to 3.0%), Mg(Magnesium 0.3% to 1.0%), S(Sulphur 0.2% to 3.0%), Zn(Zinc 15 ppm to 60 ppm), Cu(Copper 4 ppm to 20 ppm), Fe (Iron 500 ppm to 1200 ppm), Mn (Manganese 20 ppm to 60 ppm).

Neem Tree Granules are rich in both Sulphur compounds and bitter limonoids.

According to research calculations, Neem cake tends to make soil more fertile due to an ingredient that blocks soil bacteria from converting nitrogenous compounds into nitrogen gas.

It is a nitrification inhibitor and prolongs the availability of nitrogen to both short duration and long duration crops. This means improved growth when used at planting time.

Neem seed cake also reduce alkalinity in soil, as it produces organic acids on decomposition.

Being totally natural, it is compatible with soil microbes, improves and rhizosphere microflora and hence ensures fertility of the soil. It does not harm earthworms, in fact they thrive in it.

Neem Tree Granules improves the organic matter content of the soil, helping improve soil texture, water holding capacity, and soil aeration for better root development.

The Neem Tree Granules contains salannin, nimbin, azadirachtin and azadiradione as the major components. Of these, azadirachtin and meliantriol are used as antifeedants while salannin is used as an antifeedant for the housefly in India.

These are the properties that assist in the control of soil insect pests such as nematodes and grass grubs through the anti-feeding properties.

Success in their control will be determined by the amount of oil in the Neem Granules and the way to determine this is by the colour of them. Dark is very good where light brown/tan has less properties.

A interesting aspect with using Neem Tree Granules is their ability to control pest insects in the canopy of some plants.

I believe what transpires is this; you place Neem Tree Granules in the planting hole and on the soil surface when planting seeds or seedlings. (For existing plants you apply them to the root zone of the target plants.)

The Neem Tree Granules break down releasing all the properties previously mention and these are taken up by the roots of the plants.

This means nematodes and other insects attacking the roots will get a dose and stop eating to die of starvation. The properties trans locate up into the foliage of the plant which may effect insect pests feeding on the plant.

The properties are not needed by the plant so it starts converting them to carbohydrates (sugars).

If the plant is very efficient in this then likely there will little or no control on insects pest on the foliage feeding. On the other hand if the plant is lax in this, then there are excellent results in control.

The smell of the granules breaking down on the soil may also work to discourage some insect pests or confuse them as to whether the plant is a host or not.

Plants that they do not work on in regards to control on foliage include beans and cucumbers.

Plants that do have a good degree of control include brassicas, tomatoes, potatoes, citrus, roses and cabbage trees. Landscapers have told me that they have used Neem Tree Granules on many different types of plants in hedge, shelter and general plantings with very good results.

Its a matter of finding out for yourself as to what works in your garden and not.

One reader told me during the week that they were having good results from sprinkling Neem Tree Granules around their plants and seedling even to keeping cats off the gardens.

That is the first time that I have heard of this and likely the smell from the dark Neem Granules breaking down puts the cats off. I would like to hear if others have the same result but I doubt that it would work on all cats.

As you can see there are many benefits for your gardens using this natural product, soil conditioning, building up humus, feeding plants and protecting their roots and maybe their foliage as well.

Keeping cats and maybe vermin away from your plants as an extra benefit.

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Or Trademe member graham14