

Wally's Weekly News 24th October 2009
Written by Wally Richards.

NEEM PRODUCTS, ARE THEY SAFE?

Recently a number of gardeners and garden centre staff have contacted me asking if products such as Neem Tree Oil and Neem Tree Granules are safe to use on food crops? This sudden interest, in the safety of these products, has come about from two sources in the Gardening Industry, one from a major supplier of gardening products whom has been stating that Neem may have possible carcinogenic aspects and birth defects and similar comments have appeared in publications by another company that advises on gardening/marketing aspects. The latter has in a publication suggested as an alternative a chemical product that is widely known to be carcinogenic and is only available in New Zealand for use on ornamentals such as roses. This chemical was once sold as Orthene and was removed by the distributor from the home garden market some time back. One concerned gardener called me directly from a garden centre when he was told by a staff member that they had been informed that Neem has carcinogenic aspects and possible birth defects.

After speaking to this gardener, later that day, he contacted me again with information that I was not aware of.

He told me that he had contacted NZFSA (New Zealand Food Safety Authority) and had also checked their web site found at <http://www.nzfsa.govt.nz/consultation/mrl/page-14.htm>

Extracted from the Web Site: It is proposed that an Maximum Residue Limits (MRL) exemption be set for extract of azadirachta indica when used as an insecticide for food producing plant species. It is proposed that Schedule Two of the NZ (MRL) Food Standards 2007 be amended to include the following; this will be the resulting entry for extract of azadirachta indica (Neem) in Schedule Two of the NZ (MRL) Food Standards 2007:

Amendment Rationale: The proposed MRL exemption represents a reassessment of the currently approved use patterns for extracts of azadirachta indica. Neem has a very low toxicity and represents a risk reducing insecticide. Neem's broadly defined good agricultural practice (GAP) means it is not required to be managed against a chemical concentration limit. It therefore does not require an MRL to regulate GAP.

Residues Information: Insecticide products containing Neem have been available in New Zealand for many years. Neem is derived from the oil of the Neem tree berries. The action of the insecticide is primarily derived from the presence of azadirachtin in the oil, although other components of the oil may cause synergistic or insecticidal effects.

Dietary Risk Assessment: Neem has been determined to be of very low toxicity. Extracts of Neem have been used historically in parts of Asia for skin and dental treatments for what has claimed to be over 2000 years. Parts of the Neem tree are consumed in certain Indian and Southeast Asian dishes. Neem is used in human medicine for skin and acne treatment and for the control of scabies and head lice. The active component azadirachtin has also been demonstrated to be of very low toxicity. Neem and azadirachtin do not represent a dietary intake risk from consumption of residues on treated food commodities.

Toxicological / Public Health Assessment : It has been determined that the use of Neem

as an insecticide for use on all food producing plant species is very unlikely to pose any health risks from consumption of the harvested commodity. **End.**

Thus NZFSA are seriously looking at making Neem Oil available for use on food crops with no need for registration. Currently in NZ there are 3 brand name Neem oils available, one is registered for food crops and approved for organic growers, and the other two are not registered at this time for food crops and state this on their labels. The reason being the costs and time involved.

Neem Tree Granules which are called Neem Cake in India do not come into the 'Do not use on food crops' category.

I found also the following on the Internet:

The natural insecticides, fungicides and bio-pesticides made out of Neem have many advantages. Research studies indicate that they are not harmful to humans or animals. The pests will not develop resistance over generations while the beneficial insects like butterflies, ladybugs, etc are spared. The soil is enriched, and Neem extracts leave no residue in the environment.

Insecticide - Neem extracts have been approved by the U.S. Environmental Protection Agency for use on food crops. It is non-toxic to birds, animals, beneficial insects or man and protects crops from over 200 of the most costly pests.

As a fungicide, Neem oil is mainly used as a preventative and when disease is just starting to show. It coats the leaf surface which in turn prevents the germination of the fungal spores. Neem oil is effective against rots, mildews, rusts, scab, leaf spot and blights.

Neem Cake, the by-product obtained in the process of cold pressing of Neem fruits and kernels is used as organic manure. It has adequate quantity of NPK in organic form for plant growth. Neem cake typically contains about 6% neem oil and min. 4% nitrogen, 0.5 % phosphorus and 0.5% potassium. Being totally botanical product it contains 100% natural NPK content and other essential micro nutrients. It is rich in both sulphur compounds and bitter limonoids.

According to research calculations, Neem cake seems 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. It also acts as a natural fertilizer with pesticidal properties. Neem cake organic manure protects plant roots from nematodes, soil grubs and white ants probably due to its content of the residual limonoids. Neem cake is widely used in India to fertilize paddy, cotton and sugarcane. It is harmless to earthworms - in fact earthworm populations are known to proliferate in plots treated with Neem cake. **End.**

All I can think of is that some chemical insecticide distributors to the home garden market would prefer gardeners to buy their products rather than use an effective natural alternative.

I believe that there is sufficient documented evidence to say that Neem products are safe to use and are a great natural asset for the home gardener to combat a wide range of insect pests and plant diseases without harming themselves or the environment.

Have a great Labour Weekend.

Problems ring me at 0800 466464 (Palmerston North 3570606)