

NEEM EXTRACT: A SAFE INSECT CONTROL AGENT FOR COTTON

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ABSTRACT

AZADIRACHTIN is a terpinoid chemical found in Meliaceae trees (e.g. White Cedar) but especially concentrated in the seeds of the Neem tree (*Azadirachta indica*). After considerable research in India, England, the U.S.A., Japan, Germany and Australia; plus three international conferences, it is generally considered that this molecule is our best hope for a safe and effective insecticide for the 1990's and beyond. It acts specifically on the sensory receptors of insects and their allies and also on their neuro-hormonal system, effectively disrupting their behaviour, growth, moulting and reproduction. The several modes of action of azadirachtin make it much more difficult for insects to become resistant to it. Not one case of an azadirachtin resistant insect species is known.

Work on azadirachtin in Australia has had to be done largely with neem seeds imported from Asia and Africa. However, vast areas of northern Australia are well suited to the establishment of extensive neem plantations. There are also several well established trees which have been seeding for years. Improved varieties have been imported from overseas in recent years and are being planted out in a wide range of localities. All aspects of neem culture, extraction and assay have been addressed by our lab. in collaboration with a range of experts. Currently there is the need for the establishment of about 10,000 Ha of good neem trees to supply the 1000 tonnes or so of azadirachtin needed by the cotton industry.

Purified azadirachtin concentrate of neem seeds (PAC) deals effectively with *Heliothis* and all other cotton pests that have been investigated. Azadirachtin has been shown to be entirely safe for mammals and appears to solve the problem of toxic residues and environmental contamination. The use of PAC as part of the PPS is described elsewhere in this conference.

My thanks to the many persons and bodies who have helped towards the development of an Australian neem industry.