
Natural Method Beat Weeds

A new natural weed control could save foresters and farmers millions of dollars. Scientists from Landcare Research have developed a mixture of water, vegetable oil, stabilisers and a special fungus that could control gorse and broom. These two weeds are currently controlled using expensive chemicals or labour-intensive methods.

Dr Jane Frohlich, the scientist leading the research, says results from trials with the new spray are promising. The new spray is particularly effective against young plants and is capable of killing those less than three months old. Older plants have been severely damaged.

The key to the mixture is a fungus called *Fusarium tumidum*. This fungus is already in New Zealand. Spores, the seeds of fungi, are mixed into the water and oil solution. This is then sprayed on to weeds. The benefit of the fungal spray is that it is unlikely to affect surrounding plants unrelated to the target weeds and will not contaminate pathways with manufactured chemical residues.

More trials are needed before the spray can be commercially produced and used widely.



Pine Shoot Moth Update for Chile

The pine shoot moth, *Rhyaciona buoliana*, a pest from Europe was first found in Chile in Region X in 1985. It now covers the entire radiata pine estate. Larvae attack the apical shoots of trees mostly under 5 years old, causing stem deformations. Some of these can be eliminated by thinning.

Biological control is now getting on top of the problem, particularly in the South where the initial focus had been. This has included the introduction and mass release of the specific braconid parasitoid *Orgilus obscurator*. In addition a

complex of indigenous generalist parasitoids have been attaching the shoot moth. These include insects, birds, spiders, bacteria and fungi. Foresters also reduce the impact by removing infected shoots and by spraying, usually prior to the introduction of *Orgilus*.

According to Dr Dolly Lanfranco at the Universidad Austral de Chile the long-term outlook is positive as there is now less pine shoot moth in the South, where it was introduced, than in the North where it has more recently migrated to.

White-spotted Tussock Moth Eradicated

The white-spotted tussock moth, *Orgyia thyellina*, has been eradicated from New Zealand after an intensive programme called Operation Ever Green.

The moth was found covering a 30 square kilometre area of Auckland's eastern suburbs in 1996. The moth originated in the Russian Far East and scientists considered it posed a serious pest as feeding trials indicated it relished five major crop and amenity plant groups - Rosaceae, Salicaceae, Fabaceae, Fagaceae and Aceraceae. Black beech and to a lesser extent radiata pine were eaten by the moth.

The programme involved nine early morning sprays between October and

December 1996, plus the use of mist blowers in the heart of the infested area and a helicopter near Mt Wellington. This was followed, between January and April 1997, by 14 smaller areas of aerial spraying (3 square kilometres), plus some ground treatment. The amount of spraying became a major concern for some living in the area.

The development of a synthetic pheromone by New Zealand and Canadian scientists allowed an intensive trapping programme for male moths from December 1997. This has failed to detect a single moth. Recently the moths used in controlled feeding trials were destroyed.

Dothistroma Pine Needle Blight

Dothistroma pini is a needle blight which affects the health and growth of pine trees. Each summer affected forests around New Zealand are aerially sprayed with a copper fungicide to control the disease.

The Dothistroma Control Committee (DCC), a sub-committee of the NZ Forest Owners Association Inc (NZFOA), co-ordinates this spray programme on behalf of all forest owners. The Committee is concerned that forest owners or managers of small blocks may overlook the presence of the disease in their forests until serious damage to the stands has occurred. In addition, untreated stands create a source of infection to neighbouring forests.

The Committee's services are available to all forest owners — large or small, to ensure the best control of the disease in the

most cost effective manner.

The DCC purchase bulk supplies of copper fungicide at competitive rates on the world market; purchases spray oil; contracts inspections; and contracts aerial application of the spray.

The Committee, which is non-profit making, is also responsible for monitoring the programme and reviewing new research and developments which might improve the programme. The DCC members are from major forest growers, Forest Research, and Ministry of Agriculture & Forestry.

In order to ensure that the most competitive flying rates are received, the Committee requires requests for spraying to be made by mid-August of each year.

If assistance is required to assess levels of infection, contact a Forest Health Advisor

at one of the following offices of the Ministry of Agriculture and Forestry.

Kerikeri	(09) 407 5161
Auckland	(09) 303 3423
Rotorua	(07) 348 0089
Wellington	(025) 434 018
Nelson	(03) 544 8350
Christchurch	(03) 379 1040

Forest owners are urged to act promptly so that their forest can be scheduled on the work programme for this season. For enquiries or assistance with spray programmes contact:

The Secretary
Dothistroma Control Committee
P O Box 1035
ROTORUA
Ph/fax (07) 332 3454
or mobile (025) 885 940