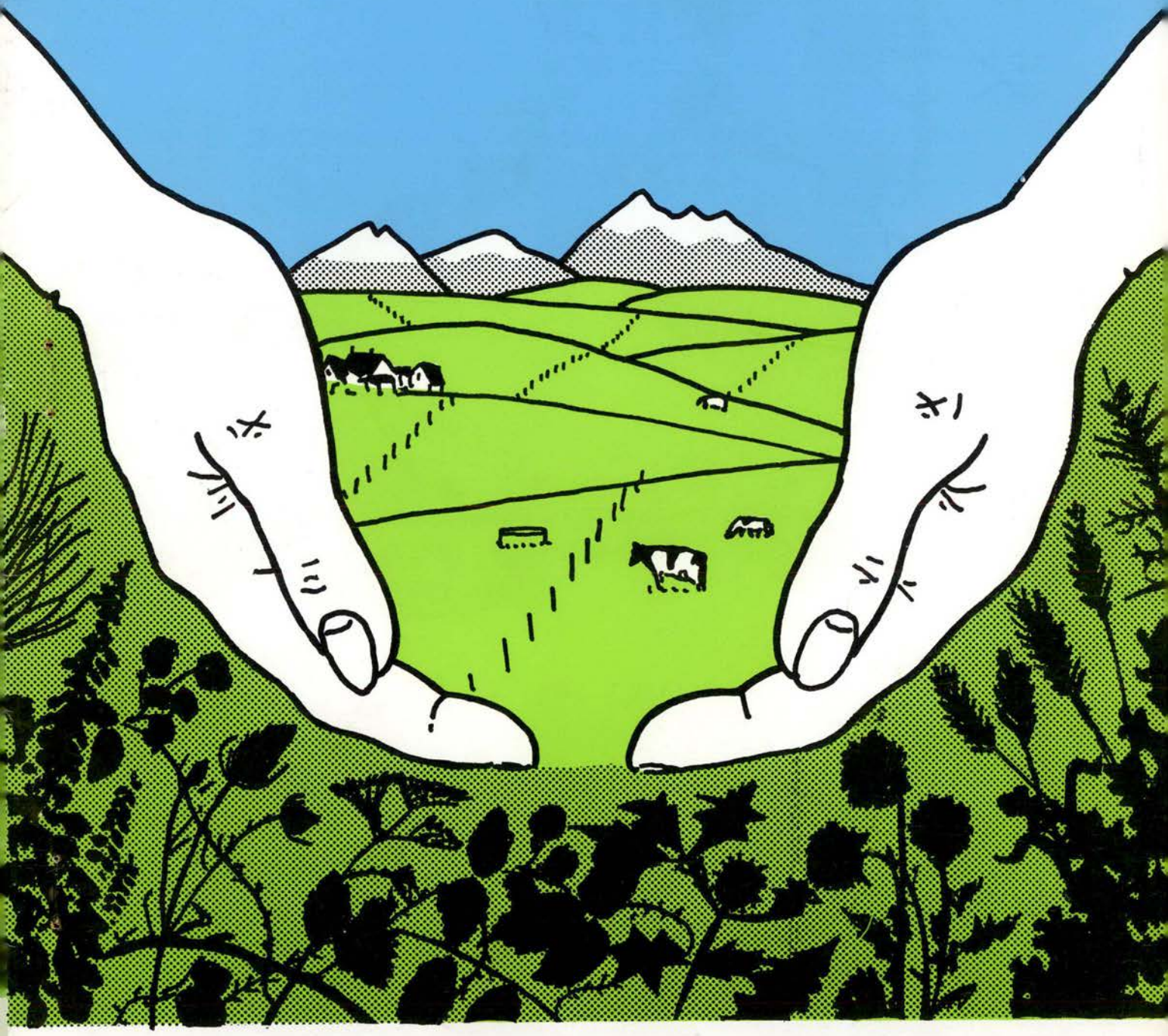
PROTECT

Vol. 4 No. 4



THE OFFICIAL JOURNAL OF THE INSTITUTE OF NOXIOUS PLANTS OFFICERS INCORPORATED

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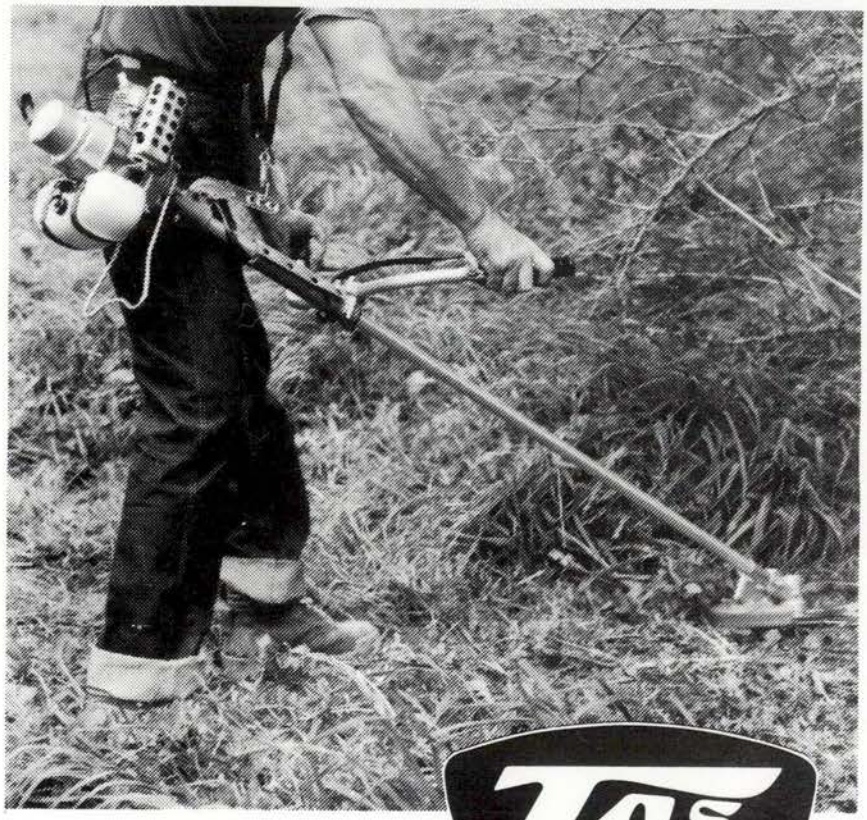

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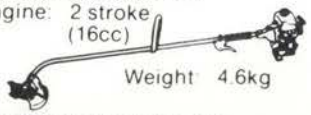

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PROTECT

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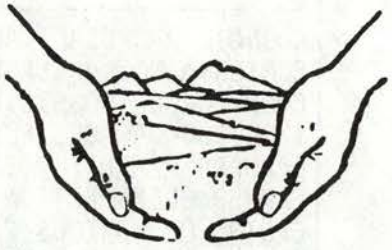

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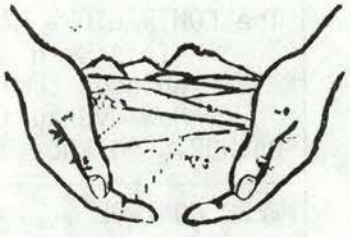

A section appears in this issue, commencing on page 45, but is ommitted in those copies sent to non-Institute subscribers.

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SPECIAL NOTE

The views expressed in this Journal are those of the individual and not necessarily those of the Institute of Noxious Plants Officers unless otherwise stated.

Ongoing Help for Cestrum Recommended

(GISBORNE HERALD 28-5-83)

A RECOMMENDATION for ongoing financial assistance to eradicate the toxic plant cestrum from sites in the Waikohu County will be made by the Hastings Noxious Plants Regional Co-ordinating Committee.

The district noxious plants authority has put up a case for continuation of subsidy money to assist in eradicating the dangerous plant. Some assistance is needed for chemicals and chainsaws.

The necessity to control cestrum has been recognised by the New Zealand Noxious Plants Council for the past year and it will be recommended that this be continued.

This decision follows an inspection of some of the plots at Whatatutu by committee representatives, including local member Mr Michael Dods. Federated Farmers member on the New Zealand Noxious Plants Council Mr Peter Franks, of Poverty Bay, was also present.

Noxious plants officers from Cook, Waiapu, Wairoa and Waikohu counties and other interested people made up the inspection party.

Cestrum found in the 1970s on two properties in the Whatatutu area has since 1982 been found on three other farms there. It is a plant that poses a serious threat to pastoral farming because it is toxic to sheep and cattle. Stock losses from the plant have already occurred.

Committee chairman Mr Noel Congdon from Hastings, said it was an extremely vigorous plant that seemed to need some initial shade and damp on which to thrive. However, it also grew in dry places, although favouring bush edges where stock had access.

REGROWTH

It had a very strong rooting system and could rejuvenate easily from stalks. In a damp situation it would regrow readily from stumps.

Cestrum produced an attractive berry for birds so was easily spread, he said.

Mr Congdon said there was a large range of chemicals which would kill the plant, but because these needed great care in the environment, evaluations to find one entirely suitable were continuing.

Chopping, burning and grubbing should be done first and chemical used on regrowth.

Its control required a big input of labour, he said.

Progressive work had been done over the past five years on the area first located and this was understood to be under control.

"So with a concentrated effort we are hopeful of eradicating the cestrum in all

known sites. But because we are uncertain we know all sites, assistance will be given with aerial surveys due to parts of the area being inaccessible," said Mr Congdon.

TAKING THE EDGE OFF THE THORNS

MURRAY TURNER'S READY SMILE is known by most Central Otago farmers. As noxious plants officer for the Vincent District Authority he sees many of them each year in pursuit of his quarry "the pure-bred sweet briar".

After eight years of extensive trials, he's convinced that the Velpar Spotgun system is the only way to control all but the densest infestations of this noxious plant.

"You can only describe the effect of Velpar and the Spotgun as phenomenal," he says. "In one trial we tried six replicates of six plots on the same day every month for two years at rates from 4 ml to 12 ml. At 8 ml we achieved a virtual 100 per cent result, regardless of the time of the year we treated.

"What it means is that a farmer or his staff can go out at any time of any day, in any month of the year and kill sweet briar. They can follow the label recommendation of 8 ml a plant, give it one shot and know its a dead briar."

Murray Turner and his quarry.

Though sweet briar control has been eligible for a noxious plants control subsidy since 1977, Mr Turner says the control programme is only now getting underway. "The farmers who are the hardest to convince about a new system, are now convinced that the Spotgun is the way to go".

In previous years he says there was considerable hormone spraying of sweet briar, but it wasn't all that successful. "I don't rule out spraying by any means," he says, "it's the best way to open up a really dense block, but in most situations the Spotgun has the edge. In fact, I maintain that if you can walk through the briar you treat it with Velpar and the Spotgun; it is still proving to be the most reliable, cost efficient one-shot cure for briar."

For sheep farmers - and most of this Central Otago land is first-class fine wool country - Velpar has the advantage that one of its first effects on a sweet briar is to make the thorns fall off. In contrast, hormones or rotary slashers leave thorny twigs to become tangled in fleeces.

Murray Turner says that some farmers have been concerned about Velpar leaching below treated plants on a hillside, and suggests that this point has been grossly over-emphasised in the past. Leaching of varying degrees does take place on some soils with a minimum of damage, unlike blanket aerial spraying where all legumes and other desirable vegetation is lost for several seasons. Regeneration of ground cover on areas left bare is normally quite rapid.

(I.C.I. TASMAN, FARM OUTLOOK WINTER 1983)

Oxygen weed danger to Waitaki Lakes

(TIMARU HERALD 2-7-83)

THE INTRODUCTION of the oxygen weed, lagarosiphon, to the Waitaki Lakes system is almost inevitable unless a more realistic attitude is taken to avoid it, according to Waimate County noxious plants officer, Mr R.B. McCaw.

Lagarosiphon is a popular aquarium plant which can be accidentally introduced to waterways extremely easily as a result of aquarium contents being carelessly disposed of or through pieces of the weed being transported to a clean waterway from elsewhere on boat engines and trailers.

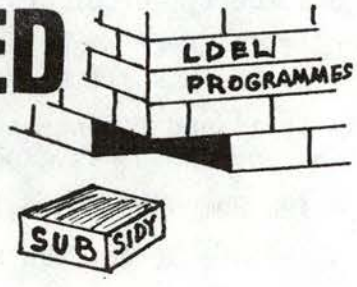
Once introduced it spreads rapidly, can clog the water intakes of hydro power stations and is difficult and expensive to control.

In a report to the Waitemate County Council Mr McCaw said if the weed found its way into the lakes the cost of its control to whoever was responsible would be considerable.

All lagarosiphon infestations in the North Island were only maintenance controlled and even the expense involved in this was "frightening", he said.

"The costs of an effective campaign to ensure that these weeds do not enter the lakes would be minute compared to the cost of attempting to control them should they arrive," Mr McCaw said.

CORNERSTONE REMOVED



The announcement on Budget night last year of the eradication of the noxious plants subsidy was particularly bad news to the Wairarapa's model gorse control scheme.

The Homewood-Langdale gorse control group has been using an effective weedkilling system that's easy on the farmer's and the taxpayer's pockets, since 1975.

BOVINE TB was at the root of the formation of the group, which includes 32 farms, covering 20,000 hectares.

The disease was being spread by opossums which lived in gorse, so the local Pest Destruction Board burned the gorse.

That reduced the TB problem dramatically, but left the question of how to stop the new country reverting.

The 32 farmers got together and formed a committee with Michael Bell as chairman, Brian Bodle as secretary and the local Noxious Plants Officer and MAF Advisory Services representative among the members.

Close subdivision, mob stocking and the micron mist blower were the answers they decided upon.

The cleared land was sown and the larger blocks fenced into eight to 12 hectare paddocks, using mainly electric grass fencing.

To check regrowth, ewes and lambs were set stocked on the clearer country at 12 to 14 ewes to the hectare from spring to September.

Hoggets were also used for control work at this time of the year.

The third feature of the group's system, the micron mist blower, is a standard mist blower with a low volume attachment.

The micron's main advantages are:

Gorse is killed all year round, using only 2,4,5-T at adjusted rates;

Micron use is limited only by extreme weather conditions;

Brian Bodle with the Homewood-Langdale gorse group's secret weapon, the micron mist blower

Access is possible to areas inaccessible to heavy ground equipment;

The herbicide is directed on to the target species, so clover damage is minimised;

Low rates of water and chemical are used, giving good kills with minimum chemical and little water transport.

Micron work is labour intensive, with labour amounting to about 70% of the total cost.

Allowance for this was made in 1980, when the Noxious Plants Council granted the group "special projects" status under the scheme, which was axed in the Budget.

Operators were allowed a subsidy on three applications for gorse and two for blackberry, broom or sweet briar.

If farmers' plans had been drawn up and approved before Budget night, the subsidy would still be granted.

It is understand that the subsidy was cut to save costs, but is the $7 million the Government is expected to get out of it worth it?

The Homewood-Langdale group thinks not.

"Before we got the subsidy, we were really struggling.

"I don't know if we could have kept going with it", says committee member Tony Denniston.

Michael Bell wonders about the wisdom of completely wiping out this one subsidy, rather than cutting back slightly in several areas.

"We would have had no objections if they had cut the subsidy by seven or ten percent.

"They should have made across the board cuts, instead of concentrating on one section", Michael says.

The group is puzzled that the Government is willing to threaten such a worthwhile, cost efficient system.

"Our method has achieved optimum results in the continuing maintenance of the gorse problem."

Brian Bodle makes the point that they're not just complaining about their own plight.

"We have taken up the issue on behalf of everyone else involved.

"It's the principle of gorse control we're following - not just our own interests," Brian says.

Their worry is that they won't get much support from other farmers is pressurising the Government for a replacement scheme.

"We are very much in a minority amongst farmers.

"Less than five percent have a major problem with gorse or blackberry, so we do not expect a great deal of sympathy from farmers in general," Michael says.

But this scheme has been described as a cornerstone of LDEL programmes, so with the growing concern about maintaining what has been gained under LDEL, he'll probably be surprised by the backing they get.

(by Victoria Smith - STRAIGHT FURROW)

Brier resurgence due to shooting of goats

THE SHOOTING of wild goats in the Lake County is causing a resurgence of briar growth, according to the District Noxious Plants Authority.

The authority has written to the Otago Catchment Board pointing out that the problem is mainly in the skippers, Dart and Rees Valleys.

"Goats are browsing animals and used to keep the brier down in these areas, but since the Forest Service has been shooting them the brier has come away with drastic results", the Lake County Council county clerk, Mr W. J. Byers, said in the letter.

"Run country farmers find it uneconomic to spend large amounts of money on helicopters spraying or hand-spraying to kill the brier whereas the goats are doing the job for them.

"With good fences to keep the goats off the tops and out of the native bush areas the goats could be managed. Trials in Central Otago have shown goats destroy the brier by constant browsing, through good management," he said.

However, the catchment board is against any relaxation of the goat shooting programme, according to the board's chief soil conservator, Mr J.W. Ramsay.

He said it is essential to keep the goats out of the areas like the Mount Aspiring National Park.

If goats are to be run to control brier, Mr Ramsay said it is essential they are controlled by fencing. The goats must be run in commercial flocks, with ear tags, and only one billy goat per herd, he said.

Any escaped animals would have to be notified, and liquidated by the Forest Service, he said.

(OTAGO DAILY TIMES 5-7-83)

MAY 1983
THE Contractor

Special chemical applicators' feature

Excerpts

"It's been a hell of an experience"

BARRY PEARCE will never forget April 13, 1980.

Repercussions of his work that day still hang over him, and his business, with the suffocating gloom of the grey wet autumn clouds beating across Lake Taupo.

And the outcome of a civil court action arising from the day's work offers an equally gloomy prospect for all who apply agricultural chemicals, whether on land or from the air.

Barry Pearce is managing director of Goldie Applicators Ltd.

The business uses three spraying units, two based on Toyota Landcruisers, and one tractor-and-trailer.

It employs Barry and a permanent hand all year, and casuals at seasonal peaks.

Annual workload is split evenly between boom spraying in paddocks, especially lucerne, and brushweed control.

Now farmers don't have as much money as they did, 80 per cent of the brush work comes from government contracts, and 90 per cent of the contracts come from the Department of Lands and Survey.

Barry bought Goldie Applicators Ltd 10 years ago and, all other things being equal, would be thinking about giving the game away. Ten years would be enough, he reckoned, when he bought in.

The business is typical of dozens, from one end of the country to another.

Typical also in that its work has to be done when conditions are right, which is how Barry and an employee came to be out spraying on Sunday, April 13, 1980.

To cut a long story – evidence occupied the High Court for 23 days – short, spray got into a glasshouse in which Geothermal Produce New Zealand Ltd was growing roses for export.

The spray used was the octyl ester or low volatile form of Weedone 245T. Barry's employee was driving a Landcruiser slowly along a fenceline, gun-spraying roadside broom on the other side of the fence.

Rose plants were damaged by the spray.

When Geothermal's action against Goldie and the Attorney General, representing the Department of Lands and Survey, went to court on July 26, 1982, Geothermal Produce was claiming over $1.6 million general damages and $44 000 special damages.

Mr Justice Prichard released his reserved decision on January 17, 1983, nearly four months after the case finally closed on September 24.

He awarded the plaintiff $667 000 general damages, $35 477 special damages, and $18 500 costs, with disbursements and witnesses expenses to be fixed.

The defendants were held to bear equal responsibility.

When The Contractor spoke to Mr Pearce three years after the spraying job, three months after the decision was released, things had not progressed to the stage of writing out cheques.

He said the Crown was considering an appeal. But the Sun Alliance Insurance company, which carried $250 000 insurance Goldie Applicators Ltd held through the group scheme operated by the chemical applicators section of the Contractors' Federation, was willing to call it quits.

Also yet to be resolved is a difference between the defendants. The contract under which Goldie Applicators Ltd was working required public liability insurance of only $100 000, and they claim that is the extent of their liability.

"It's still far from resolved."

The drawn out proceedings have had their impact on the business. Not in terms of lost work, but in time and countless other ways.

"Of course, it's absorbed a fair bit of time.

"The worse aspect has been having it hanging over us, like a cloud, the whole time.

"I don't think I've lost any work. In fact, we've had terrific support from our local clientele, and it hasn't affected our working relationship with the Lands and Survey people here either, which is good.

"But it's bloody hard to make any long term plans, for vehicle replacement and all those sort of things. We can't make any plans because we don't know the extent of the repercussions.

"It hits you in all sorts of ways.

"Because we haven't been able to re-

place plant we've had to pay more tax than we should have.

"It's difficult not knowing what your situation will be in three months."

The worst possible outcome is that the company's assets will be seized and sold to make up the difference between the insurance cover, and Goldies' share of the final payout. Mr Pearce hopes that won't happen, but. . .

"At least we're a limited liability company, which means they have to draw the line somewhere.

"I don't know what I'd do. People have said you'd just make an agreement to buy back the assets and carry on, but that's a hell of a thought after you struggled and scraped for so long, and done so much work to build up the business.

"To have to pay for it all over again . . . it's not a very comforting thought."

The judge listed nine counts on which the plaintiffs relied in their claim that Goldie Applicators Ltd was negligent; the list against the Attorney General was II.

Mr Pearce still disputes several of the counts, maintaining that conditions were safe for the spraying to be carried out.

For instance, the judge found negligence in "applying the chemical in conditions of southerly wind likely to carry the chemical towards the plaintiff's greenhouse"; despite the fact that Goldie Applicators called two expert witnesses about the force and direction of the wind on the day in question.

The judge discounted their contribution because "their observations were made at considerable distances from the . . .property, their evidence is necessarily of a general nature".

The most important count for the long-term outlook of chemical applicator contractors and others using similar pesticides was the last:

"Failing to give any advice to the plaintiff of the intention to spray a 245T mixture so as to enable the plaintiff to take appropriate precautions."

Late in the judgement, it is stated:

"Both defendants were seriously at fault in not ensuring that the plaintiff was notified of the intention to spray so he could, at least, close down the greenhouse."

If it is to be demanded that chemical applicators give advance notice of where they work and the chemicals they use to owners of all properties that might conceivably be affected by spray, the business would quickly become practically impossible.

For instance, local bodies regularly let contracts for urban street spraying and 245T in various formulations is regularly used for this work.

Is the applicator to advise every householder on the route of the date and time of spraying? Is the applicator to provoke the inevitable public outcry, however ignorantly based, of the use of 245T in an urban area?

The judge's requirement for notification seems one that is to all intents incapable of fulfillment.

Yet, because this case will certainly be cited in the event of future similar actions, lack of notification could again be used as evidence of negligence on the applicator's part.

Mr Pearce is particularly hot on the topic.

"This is the thing that really bothers me.

"I have done the correspondence courses, I'm a registered applicator, and know of no legal, moral or other obligation to notify glasshouse owners of what we're going to do.

"If they're going to make up the rules as they go along. . ."

Looking forward to another meeting with lawyers within the next few hours, and the likelihood of several more months before the issue is finally resolved, Mr Pearce is happy to talk about the last three years.

"It's been a hell of an experience, and I'm happy to do anything I can to pass on the lessons I've learned to other people.

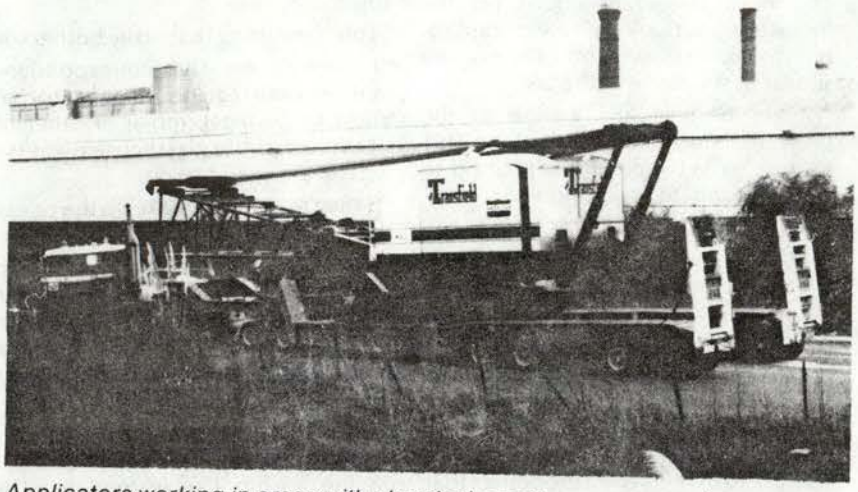
"There's no doubt about it, this case has been regarded as a test case right from the word go and the result has frightened a lot of people. I've had farmers saying it can't go on like this.

"Nothing's more certain than there's going to be other cases.

"I don't know how the guys working around Tauranga and Te Puke with thousands of acres of kiwifruit vines and other crops can even go to work in the morning.

"Taupo's a safe area. There's practically no horticulture or valuable crops around here. And look what happened to us."

Barry Pearce . . . for three years living with the consequences of an afternoon's work



Applicators working in areas with chemical sensitive crops may have to adopt mechanical weed control techniques to reduce the opportunity for roadside or orchard maintenance to damage crops

Changes coming to applicators methods and work

IT'S OFTEN said that equipment used for applying agricultural chemicals is little changed since pesticides first began to be widely used over 30 years ago.

That may have been true even five years ago, but it is much less so now.

The changes do not all involve big technology jumps like controlled droplet application, or electrostatic spraying.

Some techniques and technologies, developed for purposes other than agriculture, are adapted.

Others improve operator safety, by reducing contact with chemicals and the chance of poisoning.

And still others contribute markedly to fudging the already thin line between work carried out by chemical applicators and that done by agricultural contractors.

Microprocessors, tiny chips of silicon on which vast quantities of information can be stored and processed, have had such an impact on industry generally that it was only a matter of time before someone found a way of using them to help the chemical applicator.

Computers which measure the chemical applied and control the spraying equipment itself are becoming widely available.

Their main advantage is ensuring efficient use of expensive chemicals, particularly where under-application can mean pests are not killed and over-application can damage the produce being protected.

Interest in such devices was boosted overseas by a survey by the US 'Successful Farming' magazine, which found blundering by farmers and applicators cost a billion dollars a year.

Faults included inaccurate calibration, incorrect mixing, worn equipment, and simple errors such as failing to read the product label and all that implied.

The study confirmed the view long held by agricultural engineers, agronomists and chemical experts that the biggest problem with chemicals is the people who apply them.

"While chemical manufacturers are forced to spend eight to 10 years and commit an average of $1·5 million to develop, test and register a chemical, it appears farmers are reluctant to spend the few hours and dollars to maintain and calibrate equipment to apply that chemical properly."

Figures in the survey showed 60 per cent of applicators were more than 10 per cent off the estimated application rate, and a similar number made the same margin of error in mixing chemical.

Eighty per cent made calibration errors of at least five per cent, and nearly sixty per cent more than 10 per cent.

Another 40 per cent made mixing errors of at least five per cent, and 17 per cent had errors of at least 10 per cent.

"The reality of these findings is that four of every five sprayers isn't calibrated accurately and one of every three doesn't have the right mix in the spray tanks."

The cost of these errors in New Zealand would be proportionately higher than in the US because of the higher cost of chemicals, vehicles and other running charges.

Operators who have sorted out some of the complexities, and the equipment is getting easier to calibrate and operate all the time, are reporting very satisfactory results.

The efficiency gained should be reflected in business returns, with an even standard of work produced at minimal chemical costs.

The high toxicity of modern chemicals

is a problem for many applicators, and long exposure can increase sensitivity.

Cab pressurisation, air conditioning and filtering systems have over the years produced varying results. Some concentrated chemical in the the cab, while others were practically ineffective.

However, the increasing attention focussed on the long term effects of exposure to chemicals and dust is leading to the development of more sophisticated and effective filtering equipment.

Blurring of the line between agricultural contracting and chemical application is occurring as a result of two particular trends; the well-documented technique of minimum tillage cultivation, and availability of mechanical weed clearing equipment for chemical sensitive areas.

Chemical applicators are involved in the total vegetation control spraying of ground prepared for crop sowing by minimum tillage. Some used this work as a springboard into seed drilling, and developed that line.

It has also allowed farmers keen to use the technique to avoid having separate contractors for each operation and perhaps face problems in getting satisfaction if something went wrong.

A recently-available mechanical weed clearing device is likely to find work in chemical sensitive area, such as kiwifruit orchards and vineyards.

The Humus Cultimatic, a French machine, is powered by a tractor top and has two swivelling rotors at the end of a retractable arm.

A sensor at the end of the arm keeps the rotors, which work up to 15cm below the surface, coming too close to trees.

The manufacturers claim it can cover about 3 600 square metres an hour, at a working speed of 4km/h and a 90cm working width, replacing more than 80 people hand weeding.

Developments such as these are likely to become more common as the business of chemical application becomes more complex.

Few issues in practical agriculture today are creating as much argument as CDA — for controlled droplet application — spraying.

Too little is known about the technique and its efficacy, particularly in New Zealand conditions, for making reliable recommendations.

But that is changing quickly.

A lot of research effort, sponsored by chemical and equipment manufacturers, and the New Zealand Agricultural Engineering Institute, is going into CDA.

A working party involving representatives of chemical applicators, and chemical and equipment manufacturers, was late in 1982 set up to oversee progress toward the introduction of CDA in New Zealand.

In this article The Contractor explains what CDA is, how it works, and some of its supposed advantages and disadvantages.

"THERE IS often a tendency to regard any new development as the answer to all existing problems, and the CDA spraying technique is no exception."

Those words from Mr John Maber, head of the Agricultural Engineering Institute's Rukuhia station and one of the country's foremost CDA experts, sums up one of the technique's biggest problems.

It arrived in the marketplace with a fanfare that made it seem like the agricultural equivalent of a cancer cure. Brochure claims, unsubstantiated by trial evidence, included

- "Pesticide application rates can be significantly reduced. . . and still give the same or even better results. That means you'll still cover the same number of acres with fewer gallons of chemicals than you would with conventional fan-nozzle applicators."
- "Recognised as being the breakthrough in application techniques for more efficient economic pesticide use. . less wastage of chemical, less volume."
- "The CDA nozzle produces. . . tremendous savings in energy, chemicals used, water, time and labour are truly revolutionary."

The CDA principle is simple.

The conventional hydraulic nozzle produces a spray in which droplets vary considerably in size.

CDA equipment aims to produce droplets with a much smaller size range.

A frequently cited example of the performance difference comes from American research. It showed droplets hitting flying insects were never larger than 50 microns, while the conventional equipment produced 99 per cent of its spray volume in larger droplets.

It is obvious that equipment which could produce a large proportion of droplets smaller than 50 microns would more efficiently deliver chemical to the target.

Different targets require different droplet sizes.

For instance, drift control is an important factor in herbicide application. Equipment should produce large droplets – about 250 microns is common – when herbicides are used.

A CDA sprayer is any device which produces spray droplets of uniform size. The device that produces a totally uniform spray is yet to be invented, but certainly the droplet size range produced by CDA equipment is concentrated in a much smaller range than that produced by the conventional hydraulic nozzle.

The spinning disc rotary atomiser is the best known CDA sprayer in New Zealand. Hydraulic nozzles which produce droplets of which a similar size range spread are available (see accompanying article).

Claims for the technique, as already pointed out, concentrate on three major points; the need to use less

CHEMICAL APPLICATORS

Some CDA claims need tough scrutiny

chemical, the need for less water; and drift control.

The prospect of chemical savings is certainly open to debate.

Reports of big chemical savings do exist, but so do similar reports of failures resulting from trying to save too much.

It is apparent chemical manufacturers are having problems coming up with special label recommendations for CDA equipment.

Chemical company representatives and scientists attending the meeting which established the CDA working party late last year discussed the prospect of issuing reduced water rate recommendations. But none was particularly hopeful of cutting chemical quantities.

Recently returned from a trip to England, the registrar of the then Agricultural Chemicals Board, Mr Brian Watts, said each chemical and situation needed to be viewed on a case by case basis.

No or limited savings can be expected with soil applications, hormone herbicides, and fungicides; the prospects for insecticide savings are better, particularly against flying insects.

Work carried out by the Agricultural Engineering Institute at Rukuhia into the development of CDA equipment for kiwifruit spraying has pointed to a potential for savings. But further trial work is needed to confirm the extent.

Considerable evidence is amassing to show that water rate savings are possible in many situations, although again results are variable.

Work at Lincoln College using electric drive Micromax units at two metres spacing and a flow rate of one litre/min to each unit, and a ground speed of only 10km/h, gave an application rate of 30 litres/hectare. Typical boomspraying operations use 250 l/ha.

Results varied from good to unsatisfactory, depending largely on how the chemical worked on the plants. Contact killers did not perform as well as those working by translocation.

Much effort is now being concentrated on improving the distribution pattern both from units and the boom. Unit spacing has reduced to 1.3 metres.

The most obvious benefit of enabling reduced water rates would be to open the option of using lighter, less expensive, vehicles. Alternatively, contractors could stick with current equipment and cover larger areas between fills.

Consequent improvements in productivity, resulting from saving time now spent in travelling and tank filling, would be spectacular in some situations.

The Rukuhia kiwifruit sprayer is using a volume rate of 50 litres/ha, compared with conventinal rates of 2 250l/ha.

Overseas research has indicated that the optimum spacing is probably dependent on the liquid flow rates and disc speeds – two of the three elements which determine droplet size.

Some disputes exist as to the claimed reduction in drift.

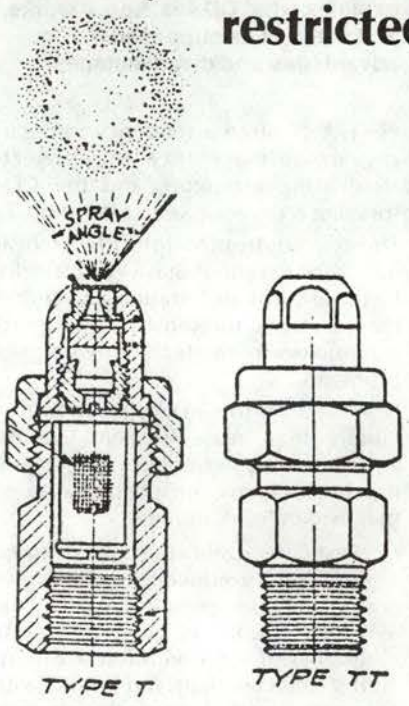
Obviously if the equipment is producing larger droplets than those from a conventional spray nozzle they will not travel so far. Again, the system's promotors and detractors can usually quote case for case against each other.

The technique seems certain to find a place in the increasingly complex and sophisticated task of applying agricultural chemcials.

At this stage however, it is difficult to be specific about the niche it will carve for itself.

And it may yet prove to be only a stepping stone along with the way to developments still in the laboratories of agricultural research institutes – or lying the back corner of a farmer or chemical applicator's shed.

New hydraulic nozzles make restricted droplet size range



Spraying Systems' Tee Jet TX nozzles capable of producing a droplet size range similar to that of rotary atomising CDA equipment

HYDRAULIC NOZZLES that produce a similar droplet pattern to that generated by rotary atomisers are now available.

And trials carried out in New Zealand with them are producing encouraging results.

The TeeJet TX nozzle series is manufactured by Spraying Systems Co of the US.

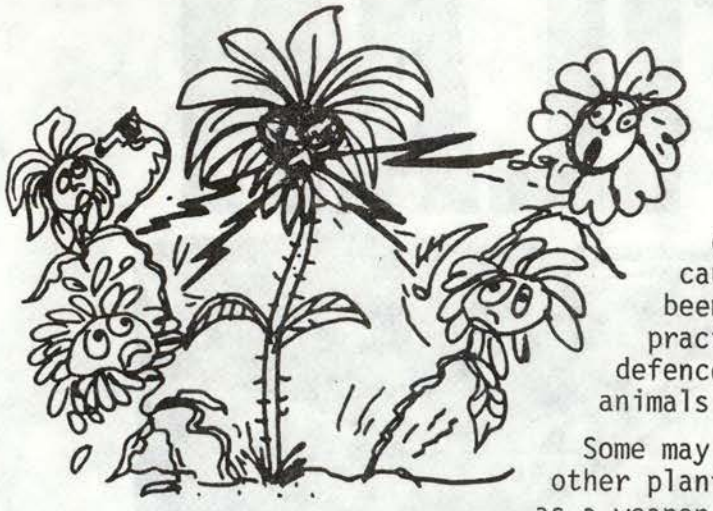
Manufacturers' performance records show the hydraulic atomising nozzles of various sizes can produce the regularly-sized droplets required for CDA.

Advantages over the spinning disc atomiser include lower cost, because of the nozzle's inherent simplicity.

It has also been suggested that the nozzles could be used in concert with conventional nozzles by adapting spray booms to take the increasingly common dual-nozzle fittings.

This suggestion does have problems in that it involves considerations such as pump outputs and pressures that would have to be adjusted.

ALLELOPATHY — WHAT'S THAT?



PERSUADING KILLER PLANTS TO TURN ON EACH OTHER.

Anybody who has had a brush with stinging nettles knows that plants can produce nasty substances. Because they cannot run away, it has been argued, it is sound evolutionary practice for plants to have developed defence mechanisms to deter predatory animals and insects.

Some may also make substances which harm other plants - not as a defence mechanism, but as a weapon of territorial aggression. Allelopathy, as chemical warfare between plants has been dubbed, is arousing commercial interest and scientific hackles.

The scientific rows centre on the role of such chemicals in nature. Proponents of allelopathy, such as Professor Alan Putnam of Michigan State University, have no doubts that the plant kingdom is a hotbed of warring tribes.

Critics argue that the mere fact that poisons can be isolated from plants does not demonstrate that they are effective weapons against other plants. There is no concrete evidence that they are produced in sufficient quantities to get through the soil undamaged and attack other plants.

This controversy does not worry chemical companies (America's Dow, for instance is putting money into Professor Putnam's work). They are interested by the agrument that studies of the toxic chemicals produced by plants could lead to new strategies for weed control.

Some of the top synthetic herbicides are known to be chemically related to natural plant materials. Many simple organic acids (e.g. acetic acid) inhibit seed generation: one reason why many fruits are acid may be to prevent their seeds germinating while still in the fruit.

Related compounds, whose molecules also contain chlorine atoms, were among the first synthetic herbicides. Because the chlorine atoms made the molecules resistant to microbiological degradation in the soil and so made them effective longer than the natural acids, they were labelled "persistent herbicides."

Many of the possible allelochemicals identified so far also inhibit seed germination.

Plants also produce compounds which may encourage seed germination. One such is the simple molecule ethylene, better known as a raw material in the production of many petrochemicals.

It has been suggested that it could be used to trigger "suicidal" germination. Applied to cultivated land before crops were to be planted, a dose of ethylene could encourage weed seeds to germinate while the weather was still cold.

Professor Putnam points out that sorghum produces allelochemicals which supress weed growth but do not harm crops- and it produces larger quantities when put under stress.

So it should make sense to grow sorghum in a field, to allow it to be killed off by frost and then to plant crops such as beans among the sorghum residues.

There are problems, of course. One is specificity. Ideally, chemical companies would like to identify allelochemicals that attack only unwanted species of plants.

As the critics of allelopathy point out, most of the natural chemicals known to date are not specific. Even when the chemicals do apparently discriminate- as in the case of the sorghum substances- difficulties could arise.

A plant immune to the deleterious effects of a particular toxic chemical may none the less absorb and store it. Many of the plantpoisons are also harmful to animals or, at least, unpalatable. It is no good having a crop that flourishes but cannot be used.

(From "The Economist", London as reported in the Christchurch Press: 6-83)

SOME PLANTS MAY WEED THEMSELVES. For example, few weeds grow near sunflowers or Jerusalem artichokes.

There is a word that describes the situation. According to plant physiologist Gerald Leather of the United States Department of Agriculture Science and Education Administration it is "allelopathy".

Sunflowers and Jerusalem artichoke, botanical cousins, "are among an elite group of plants that noticably control competitors by secreting toxins, says Leather. Only oats, walnut trees, some varieties of cherry and cucumber, and some wild plants are known to do much of their own weeding.

In greenhouse tests by the USDA at Frederick, MD, extracts of sunflower plants inhibited the growth of many common weeds by 50-75 per cent. The weeds included jimsonweed, velvetleaf, johnson grass, curlydock, red sorrel, common ragweed, purslane, Pennsylvania smartweed, wild mustard and lambsquarters. The exact chemicals working for sunflowers have not yet been identified.

Leather says allelopathy could eventually help plant breeders give many crops the ability to control weeds; it could develop safer and more "host specific herbicides from the chemicals of wee-hating plants".

Some day also, extension agents might be able to recommend that crop rotations include certain plants that will provide long-term suppression of specific weeds.

Leather says the allelopathy may help explain why pole beans or potatoes don't seem to do well near sunflowers, or why certain plants are compatible with some plants than others.

(TIMARU HERALD: May 83)

Aquatic plant imports may bring trouble

PEOPLE WANTING to import aquatic plants should be aware they could be importing trouble.

The possibility of the plants introducing new pests or diseases is relatively low, but the plants themselves can pose a serious weed risk.

Speaking at the recent aquatic weeds seminar at Massey University, Min. of Agriculture and Fisheries scientist, Miss H. Hampton, explained MAF's role in monitoring and controlling, where necessary, importations of aquatic plants.

People were interested in importing aquatic plants for a number of reasons, Miss Hampton said.

"These include plants for aquaria, gardens, effluent purification, or crops," she said. "Most importations are made by warm water aquarists."

The introduction of all plant material into the country is controlled by MAF, Miss Hampton explained. Plant material for growing is brought in under a permit and inspected by the agriculture quarantine service on arrival.

Factors including the weed risk of the plants were assessed before a permit could be issued.

Considerations such as whether the plant was likely to overwinter, how aggressive was its growth, and its possible effects on hydro lakes, drainage systems, stock ponds, recreational areas and other waterways, had to be made.

Another factor was whether the plant could be readily identified from vegetative material.

"If there is any doubt about potential weediness or our ability to identify it from vegetative material, entry is normally declined," Miss Hampton said.

Despite all the precautions new plants were sometimes smuggled in, she said. On two occasions aquatic plants were found concealed in the false bottom of a container of tropical fish from Singapore, the main source of supply for warm water aquarium plants.

Experience had also shown discrepancies between the plants for which a permit had been issued, and the plants that actually arrived.

"For this reason three plants from every bundle of aquatic plants that arrive in New Zealand are sent to us at the Levin Plant Health and Diagnostic Station," Miss Hampton said.

If the plants were not as indicated on the permit and were of a type which would normally be refused entry, they were destroyed. The same applied if the plants could not be readily identified.

"This right to destroy unknown and-or unacceptable material has been exercised on several occasions."

(DAILY POST (ROTORUA) 6-7-83)

NOXIOUS PLANTS ACT CRITICISED — 6/10 —

THERE ARE A LOT OF problems with the Noxious Plants Act, according to noxious plants council deputy chairman John Forrest.

Prosecutions under the Act were made difficult because it had been interpreted in a variety of ways by district court judges, Mr Forrest told the Matamata District Noxious Plants Authority.

"In the long term, if we make enough noise, the district court judges will come to a consensus and agree amongst themselves, because otherwise it will make fools of them", he said.

Following a lengthy discussion the authority voted to make submissions to the noxious plants council and formulate a remit - for the Counties Association Conference next August - calling for amendments to the Act.

According to at least one judge, the Act is "poorly worded", Mr Forrest told the authority.

He was critical of a statutory provision for the Matamata County Council or any local authority, to constitute a separate authority for the purpose of dealing with noxious weeds.

Under the Act "the authority is not the county council, it is an entirely different authority," Mr Forrest said. "The county clerk has no jurisdiction of the Noxious Plants Authority and although the county council pays the noxious plants officers, they are appointed by the authority which means they are not employed by the county and not covered by insurance," he said.

County Chairman, Ian MacKenzie, said the biggest problem was finding a method of issuing a final notice on an offender to clear noxious weeds. Judges had refused to accept that public notices in newspapers or registered mail were adequate notification, he said.

"We (the council) have spent $2,300 in prosecution costs this year and we have not had anything back in return," he said.

"And in the case of sharemilkers there are various interpretations held by judges as to who is the occupier - the owner or the sharemilker."

It usually takes a year between the deadline for clearing noxious weeds and the time a case comes to court, Cr MacKenzie said.

In the meantime, adjoining properties cleared of weeds become re-infected with the spread of seeds during the summer and germination the following season.

Cr MacKenzie said the authority had considered bringing spraying contractors on to properties causing such problems, but there was no guarantee of recovering spraying costs.

"We put that idea to Federated Farmers and they were dead against having to pay for someone else's weed eradication costs through their rates," Cr MacKenzie said.

Mr Forrest said the Rangitikei weeds authority had recently succeeded in a prosecution following the issuing of a final notice published in the Wanganui Chronicle.

But in the same county sometime earlier, another judge had dismissed a very similar case because the newspaper notice was inadequate.

District court judges are generally unable to appreciate the seriousness of the problem, and the financial burden, a few irresponsible property owners are on other ratepayers, Mr Forrest said.

(THE WAIKATO TIMES 12-4-83)

LIME BLAMED for Nodding Thistle Spread

IT APPEARS PEST BOARD poisoning carrots are not the only carriers of nodding thistle seed; lime being brought into the Maniototo area from Totara has also been proved guilty.

A letter to the Maniototo County Council from the Hawkdun Pest Destruction Board described how the seed has appeared after lime has been introduced to a farm.

Hawkdun Board secretary Mr W.F. Pedofsky described in the letter the situation one farmer has discovered.

"Mr W.J. Becker reported that during 1979/80 he took delivery of a large load of lime from Totara and now there is considerable evidence of growth of very mature nodding thistle plants all around the area where the lime had been dumped.

"Until now he could never understand the source of the odd nodding thistle which he found in various places on his property, but now the source of these has been established.

"The Board felt that it was important to inform your council of this report as for many years it has been felt that poisoning carrots being supplied to Pest Destruction Boards in Central Otago area were virtually the only source of pollution of nodding thistle," the letter stated.

(CENTRAL OTAGO NEWS 26-4-83)

JUST WHOSE PROBLEMS ARE WEEDS?

CHAIRMAN OF THE REGIONAL NOXIOUS PLANTS CO-ORDINATING COMMITTEE, Mr Geoff Miller, considers that infestations of noxious plants are the problem of the local authority.

"I did a lot of thinking today as to whose problem the noxious weeds is, the farmer who has the weeds, his neighbour whose property is getting infested or the local authority.

"I came to the conclusion that it is the local authority. They are the ones that want the weeds cleared," he said at Matamata County's district noxious plants authority committee meeting earlier this year.

"The owner of the infested property does not think he has a problem, and a $1000 fine a year is less than what it would cost to clear the weeds."

Mr Miller told the Council that he did not believe in prosecuting property occupiers except as an absolute last resort.

He considered that local authorities and their noxious plants officers were there to advise people on how to clear their weeds, not prosecute them.

Mr Miller said the noxious plants officer should go to farmers who had problems and help them to overcome the problems.

But Matamata County Council disagreed with Mr Miller.

"He (the noxious plants officer) has got to inspect the whole county", said county chairman, Mr Bert Temm.

"If he had to go around giving advice to every farmer he would never get his job done. Properties change hands all the time.

"He is available every Friday afteroon for ratepayers to visit or telephone him for advice. We feel it is up to the owner to make the contact," Mr Temm said.

Mr Miller said this was not working. The farmers that needed help were not getting in contact with the noxious plants officer because they did not think they had a problem.

"But how do you deal with this type of person?" Mr Temm asked. "The only redress the council has is to prosecute them."

The noxious plants officers, Mr Ray Iremonger, said he would have no more success advising people is he visited them.

"These men have all the answers. They are not interested in any advice. They don't think they have a problem."

In the case of some of the more difficult offenders, not only does the noxious plants officer visit them, councillors do as well.

"When we go to public meetings, members of Federated Farmers get up and ask, 'what are you doing?' They want direct action, not us just going around advising," Mr Temm said.

"When you buy a farm you should already know what to do and if you need advice, go and get it.

"There is no way you can get people to work if they don't want to," committee chairman, Cr Ian MacKenzie, said.

The council also received three letters in open committee and one in committee asking the council what was being done about the weed problem.

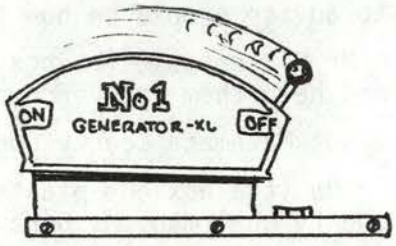
The three letters dealt with in open committee were all from ratepayers who were tired of having to clear weeds which had been encouraged by negligent neighbouring farmers.

The letters asked when these neighbours were going to be taken to court or otherwise dealt with.

"If someone was fined the maximum of $2,500 plus $250 a day for a continuing offence, they would soon start clearing their weeds," Cr Ed White (Okoroire riding) said.

(PUTARURU PRESS 8-2-83)

GENERATOR TRIPS OUT



OXYGEN WEED from Lake McLaren is causing problems with the recommissioning of the Ruahihi power station.

The No.1 generator tripped out on Saturday night with an overheating main thrust bearing, the Tauranga Joint Generation Committee manager, Mr H.M. Binney, said today.

This was probably caused by weed blocking the water cooling system of the bearing, he said.

The bearing was stripped yesterday but the white metal surfaces showed no sign of damage.

Mr Binney said it was not known whether the machine would be assembled and running by tonight, when it had been hoped to have the station back on full commercial generation.

The problem began last week when the Lake McLaren level was pulled down, but not below the ordinary operating levels, Mr Binney said.

Weed began coming down the canal and blocking the forebay screens.

These are now being cleared two or more times a day because of the weight of the weed build-up.

Ministry of Agriculture and Fisheries officials will look at the problem and give advice on how it can be cleared.

(BAY OF PLENTY TIMES 13-6-83)

COUNCIL PROPOSAL CALLED RADICAL

PROPOSALS TO SET UP A noxious plants management committee of the Whakatane District Council have been hailed as radical.

At April's council general purposes committee meeting, Cr John Rainford said the move, proposed by the noxious plants subcommittee, could have far-reaching implications.

"This would be a radical change in the council's committee system," he said. "A principle is involved."

At its meeting earlier in April the noxious plants subcommittee which at present reports to the general purposes committee, recommended a management committee be set up with advisory staff on hand from the Ministry of Agriculture and Fisheries, the Whakatane County Fruitgrowers' Association, Federated Farmers and weed-spraying contractors, as well as the senior noxious plants officer.

It also recommended the committee function independently of the general committee by reporting directly to the council and that it meet bi-monthly with power to copy expertise when required.

These recommendations were adapted by the general purposes committee but have yet to be approved by the full council when it next meets on April 27.

Councillors recommended the finance committee consider an allocation of $5,000 for a management committee in the 1984-85 estimates and that the money be put in a special fund.

Cr Rainford said he was unsure whether he would like to see the subcommittee become another of the council's standing committees.

The subcommittee chairman, Cr John Yeoman, said such a move would speed up the present system.

Cr Clive Smith: "I can't see why it has to report to the general purposes committee. The sooner we get away from wasting time, the better."

(THE WHAKATANE BEACON 13-4-83)

CONTORTA NOT A CLASSIFIED WEED

(At least.... not in Marlborough)

THE "WEED" PINE, pinus contorta, may not now be declared a class B noxious plant by the Marlborough District Noxious Plants Authority.

Yesterday the authority received assurances from the Forest Service and the Marlborough Catchment Board that they would abide with a set of rules aimed at keeping contorta under control.

The meeting was at the request of the National Noxious Plants Council.

Earlier meetings stemmed from farmers' fear that contorta plantings in the Wye catchment and elsewhere might spread like those in the central North Island.

The Forest Service promised not to use contorta if this can at all be avoided. It will also monitor its spread and eradicate any seedlings if this is the wish of an adjoining land owner. The board accepted responsibility to remove any seedlings within 200m from the boundary of adjoining properties.

The noxious plants authority will now write to the Minister of Works and Development, who is in charge of the National Water and Soil Council to ascertain whether all parties agree with the control measures. If so, the authority may desist having pinus contorta classified as a noxious weed.

The only disadvantage of this would be that it could not stop the sale or planting of the pine by the public.

(MARLBOROUGH EXPRESS 24-6-83)

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Velpar Liquid is a highly effective brush killer for use in a variety of applications. Together with the Du Pont Spotgun it has been developed specifically for New Zealand farming conditions as an ideal method of treating sparse populations of troublesome brushweeds.

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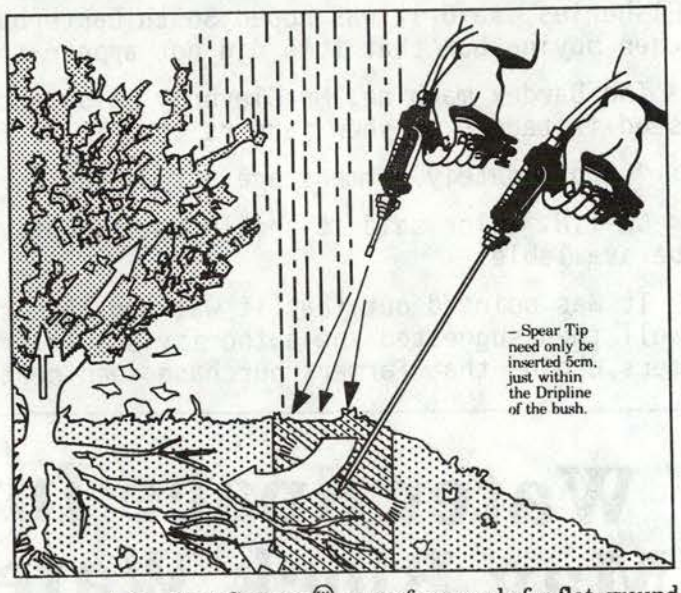

▲ Du Pont Spotgun™ on-surface nozzle for flat ground. Spear for sloping ground to minimize run-off.

Velpar Liquid/Dose Rate Table

	WEED SPECIES	0-1 Metre Height	1-2 Metre Height	For Larger Bushes
Easy To Kill	Ragwort	2-4ml	–	8 mls per metre within the dripline around bush
	Woolly Nightshade	4 ml	8 ml	
	Tauhinu	4 ml	8 ml	
	Blackberry	4 ml	8 ml	
Harder To Kill	Sweet Briar	4 ml	8 ml	8 mls per metre within the dripline around bush
	Boxthorn	4 ml	8 ml	
	Hawthorn	4 ml	8 ml	
	Seedling Gorse	4 ml	–	NOT RECOMMENDED
	Seedling Broom	4 ml	–	
	Barberry Suggested Rates	4 ml	8 ml	
	Privet Suggested Rates	4 ml	8 ml	

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WILD OAT-FREE SEED DEMAND SLOW

TIMARU HERALD 16-5-83

DISAPPOINTMENT WAS EXPRESSED at a May meeting of the Strathallan and Districts Noxious Plants Authority that demand for wild oat-free seed appeared to be low.

Mr Doug Cleverly, the senior field officer with the Ministry of Agriculture and Fisheries, said it was hoped South Canterbury farmers would opt for this seed when buying but that this did not appear to be the case.

The Bardex machine, Mr Cleverly said, extracts wild oats from seed. The tested seed is tagged to show farmers that it is free of wild oats.

"Unfortunately farmers are not asking for this seed when buying", he said.

Cr T.H. Esler said it should be imperative that nothing but Bardex tested seed be available.

It was pointed out that it was too late to do anything this year. Cr L.M. Maxwell then suggested the authority should write to South Canterbury Federated Farmers urging that farmers purchase seed certified free of wild oats.

Water Space Invader May Block Waterways

SALVINIA, BILLED ON a poster as "The Water Space Invader", completely destroys the water quality, deprives it of oxygen and ends up like an oxidation pond making it useless for stock.

It is a weed which has appeared in the Hobson County. Mr Brennan, County Engineer, again brought this weed to the Hobson County Council at a meeting in June. "It is important to get it declared a Class A weed, but we can't afford to sit around and wait for that," he said. "It is a particularly dangerous weed - even if only five percent is left after attempts to remove it, it comes right back very quickly."

It forms a mat on top of the water half a metre thick, he said, and doubles its own growth amazingly fast. An Australian test had shown in mid summer its leaves could double in just over two days and in mid winter in 40 to 60 days.

Stock cannot drink the water but can be attracted to other weeds growing through the Salvina mat and can sink through and possibly drown.

The weed was first discovered in NZ in 1963 at Western Springs and although it is not known how it got there it is used for fish tanks and ornamental pools. If the plant is emptied out on wet ground or near water it simply takes off, he said.

MANY IN NORTH

About 36 sites have been identified so far in NZ and 32 of these are north of Auckland.

One infestation in Hobson County is known, but Mr Brennan believes that now the danger is apparent, a close inspection of waterways will reveal other sites.

It is fortunate we have an excellent system of drainage districts which gives us the means to control our waterways he said, but it is still a matter of urgency that Salvinia be declared a class A noxious plant.

The overall responsibility is the governments to do this and so make eradication urgent with the aid of government funds.

Property owners have a grave responsibility also to detect the plant, notify the council and initiate control.

The time to tackle it is now while the problem in the county is low. There is a need to embark on an education programme so that people can recognise and report any suspect plant to the county.

With the co-operation of aquarium societies and retailers it is hoped this potentially dangerous source of Salvinia may be eliminated also.

Councillor V. Trounson thought there was some power which could be brought to bear when a weed was under consideration for a noxious weed classification.

It was established a letter had been sent to the minister about it.

(NORTHLAND TIMES 27-6-83)

COURT ORDER POSSIBILITY?

MATAMATA CHRONICLE 21-4-83

MATAMATA COUNTY STAFF may investigate the possibility of having district court judges place a court order on property occupiers who have failed to clear their properties of noxious plants.

The court order would mean that the occupiers could face a charge of contempt of court if they did not clear the weeds within the time prescribed by the district judge.

A county ratepayer has written to the county asking if this type of court order could be placed on occupiers.

Councillors were told of a case, several years ago, where a district court judge placed a court order on a property owner at Lichfield.

ORDERED CLEARANCE

The property owner was fined only $75 plus costs but the Judge ordered him to have his property cleared within a month.

It was pointed out at the county district noxious plants authority committee meeting that the judge had ordered the clearance of the weeds and that the county could not demand certain sentences from court judges.

But it was recommended to full council that the county staff investigate the possibility of this type of sentence being imposed.

"We do not want to prosecute property occupiers," Cr Ned Bennett (Putaruru riding) said.

"We do not want the fines. We just want the work (weeds cleared) to get done."

Matamata County Council has also decided to have the names published of property occupiers they are taking to court.

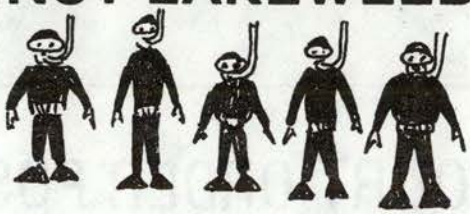
It is hoped that the threat of having their name in a newspaper will encourage more occupiers to clear their properties of weeds.

Chairman of the noxious plants authority committee, Cr Ian MacKenzie, also hopes that pressure from neighbours will help.

A number of property owners who keep their own properties cleared and are sick if reinfestation from their neighbour's property frequently telephone Cr MacKenzie or the county chairman, Mr Bert Temm.

"If people would only ring the blighters concerned rather than the chairman or myself some more pressure could be put on them," Cr MacKenzie said.

DIVERS TO BE USED AGAINST LAKEWEED



DIVING TEAMS are to be used this winter in the battle to rid Lake Wanaka of oxygen weed, or lagarosiphon major.

This will be a follow-up to an intensive hand-weeding programme which Albert Town contractor, Mr F. Venema, is just completing.

Dr Brian Coffey, a scientist at the Ruakura research centre near Hamilton, told a meeting of the Guardians of Lake Wanaka of the new strategy this week.

He said that for the last few years, known patches of weed had been pulled out annually on contract in the autumn by a diver using suction devices in Roy's Bay, between the boat harbour and the Rippon Lea shore opposite.

To combat regrowth, it is now planned to use diving teams throughout the year as necessary, working under Mr Stuart Thorne, of the Mount Aspring National Park Board staff.

"I think the next 12 months will show more success than any previous 12 monthly period," Dr Goffey said. "I'm very happy with the status of the project at present."

In recent years, no chemicals have been used in the campaign against the choking weed, but Dr Coffey gave details of a new technique discovered by a colleague, Dr J.S. Clayton.

GEL CARRIER

He has developed a gel carrier for the herbicide diquat, which is squeezed into the water like toothpaste. It dissolves in the weed canopy instead of dispersing above it.

This method could probably be used effectively against elodea, another weed which grows mainly in the boat harbour in Wanaka, but which is not as much of a threat as lagarosiphon, Dr Coffey said.

The chairman of the Guardians, Mr Arthur Scaife, read a letter from the Minister of Lands, the Hon J.H. Elworthy, which said his department's aim remains eradication of the oxygen weed.

There was some surprise expressed at the meeting about an apparent lack of interest on the part of the electricity division of the Ministry of Energy in clearing the weed from the Clutha River before it began posing the problems which have beset the Waikato hydro lakes.

Mr Scaife said: "We appreciate the tremendous effort the electricity division put in during the early stages, but later we were told it was considered more economical to put in grilles and barriers than to spend money on weed eradication.

CONCERNED

"We get a little more concerned at that attitude."

The commissioner of the environment, Mr Ken Piddington, who was present at the guardians meeting, said he was unaware the electricity division was not as interested as it might be in clearing the weed from the upper reaches of the Clutha.

The meeting welcomed Mr Elworthy's assurances and thanked Dr Coffey for his report on the plans to expand the eradication effort in the lake waters.

On the problem of duck itch in Lake Wanaka, Dr Ian Blair suggested chemical manufacturers should be tapped both for research funds and possible solutions.

He said the money made available to Dr Warren Featherston of the University of Otago to continue his studies last summer, while appreciated, was hardly enough for travelling expenses.

Dr Blair said: "We believe the problem is one that deserves major research impact and funding from several sources, including the chemical companies."

The research and science committee of the Guardians was authorised to follow this up with Dr Featherston, with a view to getting him more money and staff assistance.

Mr Peter Gordon, of Cardrona, was appointed representative of the Guardians on a new Wanaka control committee of the Lakes County inland waterways authority.

(OTAGO DAILY TIMES - 16-4-83)

$700,000 DAMAGES FOR RUINED ROSE CROP

A TAUPO HORTICULTURE company was recently awarded more than $700,000 in compensation for damage done to an export rose crop when 2,4,5-T herbicide was sprayed by a chemical applicator.

Goldie Applicators Ltd, of Taupo, and the Lands and Survey Department were defendants in the action brought by Geothermal Produce Ltd.

Mr Justice Pritchard awarded $667,000 general damages, $35,477 special damages and $15,500 costs in a reserved decision, after hearing the case in the High Courts in Rotorua and Auckland between July and September 1982.

Geothermal claimed more than $1.6 million in general damages, and $44,477 in special damages.

Mr Justice Pritchard said an employee of Goldie Applicators sprayed 2,4,5-T on broom on Lands and Survey property adjacent to the Plaintiff's greenhouse on April 13, 1980.

The plaintiff claimed a rose crop in the greenhouse was damaged, and called witnesses who said the damage was consistent with that produced by 2,4,5-T.

He also claimed that the damage occurred at a time when the company was in a critical state in the development of a large horticultural enterprise. Profits from the greenhouse were lost, and would be affected for several years.

Both defendants denied the damage was caused by the herbicide, and said the rose venture was not a sound commercial undertaking on the verge of success but that the plaintiff was insolvent.

The judge held that both defendants were negligent in not warning the plaintiff. He had no doubt that the horticultural aspects of the enterprise were in good shape at the time of the spraying, but that its financial aspects were less healthy.

(The CONTRACTOR)

RAGWORT CONTROL

Using M.C.P.A/2,4-D

SIMON AND ANNE LOVELOCK were settled on their Southern Wairarapa 160 acre dairy farm, one of two settled on the Onoke farm settlement, by the Lands & Survey Department in June 1980.

Initially, settled with 100 cows plus replacements, stocking rate has risen to 130 cows for 1983-1984 season.

Ragwort control has proved vital to increase production. A brief account of their methods follows.

• Taking over this property in June 1980 we were faced with a massive ragwort problem. During that first season, we attempted control by spot spray applications of 50D Tordon, covering the bulk of the property twice.

It became evident by late summer in 1981 that we were fighting a losing battle, due to the amount of seed germinating. After spending nearly $1,000 that first

year we decided after consultation with the local N.P.O. Gerry Pearson to try boom spraying the worst affected areas with a mixture of 2,4,-D and M.C.P.A.

Due to wet conditions in June 1981, we opted for a helicopter to apply the spray, approx 40 acres were treated. Results were very encouraging with large cabbage-state plants starting to die off after about ten years. Longer term results proved spectacular, with the worst affected treated paddocks becoming virtually clean by late spring. Follow up spot treatment with hand-held weed wipers proved an effortless job.

Following this success the next winter a further 50 acres was budgeted for. 10 acres of the previous years paddocks were re-sprayed, as further seedling plants had appeared.

Spraying was carried out by a local contractor using a 4WD vehicle fitted with a conventional boom-spray in late June. Timing of application was considered important. Too early would have meant further immature plants would germinate after spraying.

Results further reinforced our belief that we had at the least an effective control agent.

On the debit side we did experience some clover damage, which proved mainly temporary. Pastures had recovered by late spring.

This did mean a deficit of grass in early spring, however, pasture flat weeds have been eradicated and the additional grass growing where ragworts previously were, more than compensated for any clover damage.

For the future we intend trying lower chemical rates on less severly affected areas and possibly use strategic boom spraying of paddocks with only small areas affected.

A breakdown of cost per acre involved is detailed below:

GROUNDSPREAD:

Contractor	$6.00
Chemical 3/4 pint double strength 2,4-D	$2.77
1½ pint M.C.P.A.	$3.70
TOTAL COST PER ACRE:	$12.47

FARMERS FINED

NORTH ISLAND

Paul Reginald Ryder, a New Plymouth adviser, was fined $300 for not eradicating gorse on his Rennell Street property.

A noxious plants officer, Mr George Zrinyi, said the defendant had been served notice to eradicate all the gorse on his property.

It was now a severe problem, said Mr Zrinyi. The neighbouring properties were being affected.

Judge Dalmer convicted and fined Ryder $300 on the charge, with $20 court costs and $75 solicitor's fees.

(DAILY NEWS 27-5-83)

SOUTH ISLAND (THE PRESS 28-5-83)

A Port Hills farmer, who said in the District Court yesterday that he was breeding Angora goats with the objective of raising a flock capable of producing quality mohair and meat, was prosecuted for a breach of the Noxious Plants Act.

The defendant, Thomas David Flint, of Sumner, was convicted of a breach of the act on March 1, by failing to comply with a notice served on him on January 17 requiring him to eradicate broom and gorse for a distance of 20 metres from the boundaries of his land, before February 28.

He pleaded guilty.

The property concerned comprised 31.5 hectares of land situated in Lyttelton borough.

The charge carries a maximum penalty of $2,500, and $50 a day for a continuing offence.

In imposing the fine of $150 Judge Paterson said that the legislature had raised the maximum penalty substantially. The consequences of breaches in regard to the possible spread of noxious weeds, had to be recognised.

However, the defendant had not ignored the regulations and was prepared to follow the over-all plan directed by the authorities. He had sought to do it in his own way, although that had not been as rapid as the authorities desired.

Mr P.F. Whiteside, who prosecuted for the Banks Peninsula Noxious Plants Authority, traversed the circumstances of the offence, in which he said a noxious weeds officer had discussed with the defendant in January, last year, the situation of gorse and brown growth on his land, and the requirements of clearing 20m back from boundaries.

The defendant said that he did not wish to use poison spray but would cut weeds around the boundaries, with the idea of using goats of eradicate the growth.

Subsequent inspections showed little progress in clearing the noxious weeds, and there was growth and flowering and seeding of plants.

The defendant said that he was conscious of noxious weeds , the problem of soil erosion and the provision of suitable ground cover when broom and gorse was removed. He had liaised with the DSIR, Ministry of Agriculture and Fisheries, and North Canterbury Catchment Board in an effort to solve these ancillary problems.

He said that he had a deal of experience with the control of noxious weeds by goats, a property he owned at Clifton, which was formerly heavily infested, was now cited frequently by Christchurch noxious weeds officers as a very good example of the ability of goats to control broom and gorse.

The defendant said that his Lyttelton property was in very bad condition when he took it over in 1981. He had been unable to graze the whole area at first but had achieved effective control by goats where he could graze them.

He said that with fencing of the land having been completed and the whole area able to grazed he was confident of fully controlling the noxious weeds. ■

FARMER SEEKS ACTION

Mr Blake

THE QUESTION of the noxious plants problem in Horowhenua was highlighted in May when prominent farmer Collis Blake addressed the Rural District Council to explain why he had withheld his rates.

"I took this action because of the lack of the County acting on my behalf," Mr Blake said.

"It cost me $600 (penalty rates) but I don't regret it. Please protect my property from weeds."

Mr Blake said there were several farmers not spraying their properties for noxious plants. He said that some had complied after he had spoken to them, but others hadn't.

"Please achieve something on these noxious plants," he asked the council. "I've no intention of letting my life's work and heritage go down the drain."

He described the area in which he was farming as a "disaster area".

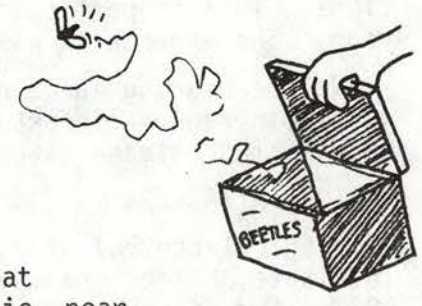
"If you took the same attitude with the people who work for you as you did for me (referring to the penalty rates), you'd solve it," Mr Blake said.

Cr Law said: "Our members are doing a very fine job against the odds. Some of the offenders are some of the most prominent farmers in this area."

Councillors pointed out the difficulty of prosecuting offenders under the Act as it stood. There were four bodies involved, from Government down to council, and it could take six months to get a prosecution before a court.

(The Times-Horowhenua ; 31 May 1983)

Ragwort 'FLEA BEETLE' Liberated



A NEW WEED-CHEWING bug crawls about Canvastown paddocks.

It is the ragwort flea beetle, specially imported from Oregon to eat its fill on ragwort, thereby controlling this noxious weed.

The bug was put to work for the first time in New Zealand toward the end of April. Miss Sue Scheele, a field worker with the entomology division of the DSIR at Lincoln, released two lots of beetles, one at Inchbonnie, near Lake Brynner, and the other at Canvastown.

The scientist in charge of the project, Miss Pauline Syrett, plans to liberate the immigrant widely where ragwort is a problem.

Ragwort is a groundsel (senecio jacobaea)that flourishes in high rainfall areas. It has rosettes of bright yellow flowers. The plant is poisonous to stock, though sheep can tolerate it. Occasionally sheep are used to control young growth. Their digestive enzymes neutralise the alkaloids of ragwort to some extent. Too much, though, and even sheep may keel over.

FEEDS ON ROOTS

Not so the new flea beetle (longitarsis jacobaeae). It feeds on the root of ragwort during winter and has been used to control the noxious weed in California and Oregon.

Miss Syrett was appointed to the entomology division two years ago and has been studying biological control of ragwort. She got the beetle from Dr R.B. Hawkes, of the U.S. Department of Agriculture at Salem, Oregon. That was in November 1981 and longitarsus has been in quarantine since.

Actually, like some other exterminations in America, the beetle was introduced from Italy to control heavy infestations of ragwort in California and Oregon. According to reports, it is effective.

During its quarantine at Lincoln, the beetle's condition and habits were closely studied. It proved to be healthy and showed no liking at all for native groundsel species. This and the knowledge from tests overseas ensure that the beetle will not attack crop plants. It can survive only on ragwort.

Actually young beetle cause the damage.

Miss Syrett says the beetle goes through only one generation each year. Adults lay eggs in the autumn and grubs feed during the winter on ragwort root grown. They pupate in spring or early summer.

The 230 newly released adults at Canvastown have probably done their bit for the new generation already. During the summer the adults are not very active. They nibble on ragwort foliage but not enough to do much damage to the weed. In autumn they start to chew mouthfuls to get into proper condition for their nuptials.

The larvae cause the damage through this winter feeding.

Miss Syrett warns it will take some time for a new species to build up sufficient numbers to be effective. The beetles have at adapt to New Zealand conditions. This is particularly true of an insect which has only one generation per year. She expects it will take some years.

"We are rearing large numbers here at Lincoln which we aim to distribute more widely in ragwort-infested areas throughtout the country next autumn. We shall be visiting release sites periodically to see how the insects are surviving."

OTHER ATTACKERS

Biological control of ragwort was pioneered in New Zealand by the Cawthron Institute, Nelson she says. Two insects were introduced during the 1920s and 1930s, the cinnabar moth and the ragwort seedfly. The moth is well established in the Wairarapa and the seedfly is widespread throughout the central North Island. Neither have succeeded in controlling ragwort alone.

It is hoped that they will be assisted by the new beetle.

"The combination of two insects, cinnabar moth and ragwort flea beetle, has been used very effectively in Oregon," says Miss Syrett.

The Marlborough District Noxious Plants Authority was unaware of the Canvastown project but accepted the extra help with gratitude. In fact, noxious plants officer, Mr Ron Feron, assisted with the introduction of the beetles but had not yet reported the event.

The authority, through its officers, attacks ragwort on several fronts in several ways. At Rai Valley, Canvastown, Linkwater and Koromiko it helps farmers organise P.E.P. workers to grub and spray the weed.

In the upper Wairau Valley and along Northbank it is pressing farmers and the Forest Service to tackle the problem and in Opouri Valley it will experiment with a special chemical brew. It authorised the spraying from a helicopter of an infested area with "Bert's Brew", a combination chemical brewed up by the Wairarapa noxious plants officer.

(THE MARLBOROUGH EXRESS 3-5-83)

Pesticides still best control

PESTICIDES are still the most effective control method for most insect pests, weeds and diseases, despite the research effort into alternatives.

Spraying is the most common way of applying pesticides and the usual philosophy of spray application has been to completely wet the target and hence ensure total cover. As a result high application rates have been necessary.

Recent research has shown that total wetting is not necessary for control of insects, fungi or weeds. Evenly placed droplets of the correct size and amount of active ingredient over the target area are adequate.

In a new Aglink from the Ministry of Agriculture and Fisheries, Mr L. Anstis of Controlled Droplet Applications NZ Ltd, looks at the use of Controlled Droplet Application (CDA).

This has been defined as the technique of applying the correct size and number of droplets for a given target to optimise use of the minimum volume and dose of chemical to achieve effective control.

Mr Anstis says the actual selection of the drop size and application rate to be used is a science in itself. Research is underway to obtain the optimum combination for different spraying situations.

"In practice the drop size is determined according to the task and conditions," he says. "Spray application rates are selected on the basis of coverage, and chemical rates according to the fatal dose levels."

According to Mr Anstis, for maximum efficiency of chemical and carrier, the drop size selected should be the smallest that is suitable for the target being sprayed and the weather conditions prevailing on the day of spraying.

The Aglink contains tables showing optimum droplet size ranges for selected targets and total application rate of 60 drops per cm of target area for different drop sizes and leaf area index.

(DAILY POST : Rotorua -6-7-83)

EASING OF NOXIOUS PLANTS BURDEN URGED

Mr Strickett

THE GOVERNMENT is being urged to reinstate the noxious plants subsidy scheme in an effort to maintain the viability of farm development in New Zealand.

The removal of the scheme, announced in last year's Budget, is placing further burdens on an already flagging agricultural industry, according to the Institute of Noxious Plants Officers' President, Mr Graham Strickett, of Richmond.

Mr Strickett met with the Minister of Agriculture, Mr MacIntyre, last Friday, seeking reinstatement of the scheme, or the availability of government funds to help local authorities in their work.

"The removal of the scheme is putting increasing burdens on a flagging agricultural industry in maintaining farm production and a reduction of the spread of noxious weeds," he said.

Despite the problem of noxious weeds being a serious and widespread problem in New Zealand, particularly in the South Island, it appeared that it was one of the first things to be cut when the Government faced liquidity problems.

However, while Mr MacIntyre has given no assurances that the scheme will be reinstated, he said he would take the matter up with his Ministry and report back "in time" to the institute.

Mr Strickett, a senior plants officer with the Waimea County, claimed that all the money expended to date on eradicating noxious weeds would be wasted unless the impetus was maintained through government funding.

"The scheme had worked well in the past eight years, but all the money used in an effort to develop farm land is going to be wasted unless the impetus for noxious weeds plant control is maintained.

"The scheme has enabled existing farm land to be maintained and extensions into new development blocks have been successful.

"We have been making a lot of inroads into that area, and now it will all be lost," he said.

The Government has spent about $60 million on the scheme since it was first introduced in 1975.

"As officers working on the field we have the most contact with the farmer and what is happening on the land, yet we were not consulted about the viability of the scheme before the Government decided to remove it."

Unless it was reinstated officers would be forced to spend more time trying to convince land occupiers to "spend their few pennies" on eradication: or serve notices under the Noxious Weeds Act.

"This means people going to court, and money lost through court procedures is money lost to noxious weeds control," he said.

"We want the implementation of the scheme reassessed, and if necessary, with tighter controls, to give the land occupier the opportunity to maintain the pastoral land and development of new land."

Mr Strickett said the value of the scheme had been endorsed also by Federated Farmers.

"If there is no satisfactory response from the Government, then we will take the matter further through the Noxious Plants Council, while also seeking help from local authorities which we serve."

(DAILY MAIL 30-5-83)

AQUATIC WEED SEMINAR

A "WET WEEKEND" took on a different meaning for about 100 people at a Massey seminar last month.

They spent three days discussing aquatic weeds. Carping about pesky plants in ponds and at portages was the prescribed practice.

Participants from regulatory agencies, research organisations, environmental concerns, catchment and drainage boards and chemical companies evaluated the problems caused by weed infestations in drains, reservoirs and waterways, and proposed appropriate solutions.

The seminar made use of some of Massey University's expertise (aquatic weeds are included in their agronomy department courses in weed science). The programme was designed as a follow-up of an aquatic weeds course which had been organised by the Ministry of Agriculture and Fisheries in 1973, and featured a substantial number of contributions from MAF and DSIR scientists, as well as from boards, contracting companies and other services.

Subjects covered at the seminar included everything from identifying the weeds to controlling them by spraying, mowing and biological controls. The effective and proper use of herbicides also evoked considerable response from the participants, who variously advocated more effective enforcement of regulations and more education for the users of the products. The legal responsibilities of those using herbicides, in cases of liability for damages, also caused considerable debate.

Dr Giles Ivens, convenor of the seminar, noted that in the past 10 years estimates of the cost of control of aquatic weeds in New Zealand had risen from about $400,000 to $4 million; he felt that increasing costs were becoming a substantial hindrance to effective control.

Legislation had been strengthened to further restrict the importation of potential weeds, and the same type of chemicals were being used, but with better effect because of improved methods of application. More had been learned about biological control. No major new weeds had appeared in the decade. Improvement in control would depend upon increased awareness of the problem.

(EVENING STANDARD (PALMERSTON NORTH) 8-6-83)

FURTHER CALL TO OUTLAW PRIVET

N.Z. HERALD 20-5-83

THE AUCKLAND CITY COUNCIL'S WORKS COMMITTEE wants the unpopular privit tree declared a class B noxious plant.

The committee recommended in May that the city should apply to the Noxious Plants Council to have privet declared noxious.

The committee said the council should set out in its application a programme for eradicating the plant within the city's boundaries.

Described as an aggressive and invasive plant and the possible cause of allergic reaction among some people, large-leafed or tree privet is well established in the Auckland Domain, around the Orakei Basin and around the Meola Road sports fields.

If privet is declared a class B noxious plant the Government may fund the programme for its control or eradication.

★ IN 1972 a visitor to an American Indian reservation was told one of the Indians had a phenomenal memory, so he decided to test him.

After the customary "How" from the Indian, the visitor asked: "What did you have for breakfast on June 2, 1953?"

Without any hesitation, the Indian grunted "Eggs."

Five years later the man again visited the reservation. Seeing the same Indian, he said politely: "How."

"Fried," replied the Indian.

★ "I WON'T be using the car tonight, Dad! So now's your chance to clean it!"

★ "TAKE an egg," said the home economist on the TV cookery show, "and carefully perforate the basal end. Then duplicate the process at the apex. Then, applying the lips to one of the apertures, forcibly exhale the breath and thus discharge the shell of its contents."

Grandma got up and turned off the set. "I can't understand these new-fangled ways," she said. "When I was a girl we just poked a hole in each end and blowed!"

GOATS PROVING THEIR WORTH

KAITUNA

JUST HOW EFFECTIVELY goats can control gorse in infestation was well demonstrated on a Banks Peninsula farm recently.

R.H. (Bing) Thorne, and his family, farm 440 acres in Kaituna Valley and on a lot of it gorse and goats are meeting head on in battle.

Those who attended the field day, organised by the Canterbury branch of the New Zealand Mohair Producers Association, saw 20 hectare blocks of what had been solid gorse, inpenetratable to sheep or cattle, opened up with pasture becoming established.

The method of using goats for gorse control is not new but Bing Thorne decided, when the family bought the farm nine years ago, to use a control system which incorporated spraying - mainly by helicopter to begin with - and dry sheep.

But by March 1980 he decided the sheep were not doing the job and he bought 50 feral goats. In May 1980, he bought 213 more and goat farming in Kaituna Valley had really arrived.

All the goats bought that year were females and the original 250 produced 342 more in the form of first cross Angora kids.

Numbers peaked at over 1000 recently but Mr Thorne sold some young wethers and

Mr Bing Thorne, of Kaituna Valley, Banks Peninsula, and some of his extensive herd of first-cross Angora goats. Mr Thorne outlined to a recent field day organised by the Canterbury branch of the Mohair Producers' Association the progress made by the goats in opening up severely gorse-infested hillsides on his property.

so it will not be until next kidding when the numbers will exceed 1200.

Numbers and control, through fencing, are the key to the success Mr Thorne has had with gorse.

The goats are stocked at rate of about 10 to the hectare so plenty of pressure is applied. The gorse flowers are favoured by goats and they go to extreme lengths to obtain these.

He told those at the field day that the goats work in teams to obtain the flowers of bushes over a metre high.

The heaviest in the team pushes at the bush until it bends and then others stand on it to hold it down, making all the flowers accessible.

In one area inspected during the field day only two or three bushes, in an area of easily 25 hectares, were flowering.

Electric fencing has not been exclusively used because a previous owner had established conventional fences with 10 wires but no droppers.

These were milled by Mr Thorne from trees cut on the property and he spent weeks stapling on 3500 droppers.

Barbed wire is used to keep goats off strainer stays and electric wire is used at the top and bottom of boundary fences.

Cattle yards on the property were converted to handle the goats and a shearing board built in an old hay barn.

Trees have been planted in areas where erosion could be a problem and these plantings really reveal one of the major drawbacks with goats.

Mr Thorne said the goats attacked the poplars and willows he planted the same way as the gorse - by ring-barking the trees.

The plastic sleeves used to protect young trees from sheep and cattle do not work with goats so Bing will devise some other form of protection.

He wondered what the gorse blocks will look like in 10 years time. At present the goats are reducing the gorse problem down to relatively minor proportions but obviously young seedlings will keep emerging.

Mr Thorne conceded he may be farming gorse for many years to come but he did not see this as being a real problem.

Goats, he said, were proving to be more profitable than sheep - with mohair and meat - so carrying on farming Angoras made good economic sense.

At present he is also running 800 Perendale ewes on the clean blocks higher in the farm and these will probably stay a part of the farming policy.

Mr J.R. Bulman, inspector for the Banks Peninsula Noxious Plants Committee, supported what the Thornes were doing in Kaituna Valley.

He said he was impressed with the effect goats were having on the gorse and on steeper areas, where erosion could be caused if spraying was carried out.

The most important factor was a responsible farming attitude. Goats needed to be controlled and farmers had to ensure gorse, and other weeds, did not spread to

neighbouring farms.

Integrating sheep into the gorse control would be a problem and these would probably need to be farmed separately, he said.

He congratulated Mr Thorne on the job being done.

MAHIA

DEVELOPMENT OF blackberry-infested hill country with herbicides can be a very expensive business.

Ministry of Agriculture and Fisheries researchers monitoring the development of a hill block at Mahia believe intensive farming of goats may be a cheaper alternative.

The Mahia development of scrub-covered country into pasture has been closely studied. The technical officer in charge of the Hastings Pastoral Research Group, Mr Geoff Crouchley, said blackberry was the dominant weed.

"From our observations one of the most favoured types of vegetation for the goats is blackberry, and clovers are probably the least favoured plant", he said.

"Goats readily eat blackberry at all times of the year with stems of up to 15mm being grazed."

Mr Crouchley said the goats were opening up large areas which had previously been densely covered with blackberry.

"This means the sheep run on the property aren't getting tied up in the blackberry, so sheep performances are being improved tremendously," he said.

"Although legumes are eaten, the goats don't graze them very hard, so this allows for good establishment of oversown clovers.

"As well as the blackberry, the goats eat all types of grasses, gorse, and the various types of thistle present.

"The goats are also helping clear up the gorse, as well as causing browsing damage to the gorse, the goats are helping in its eradication by physically damaging it," he said.

"The gorse seedlings are readily eaten. but old established bushes, are only browsed occasionally."

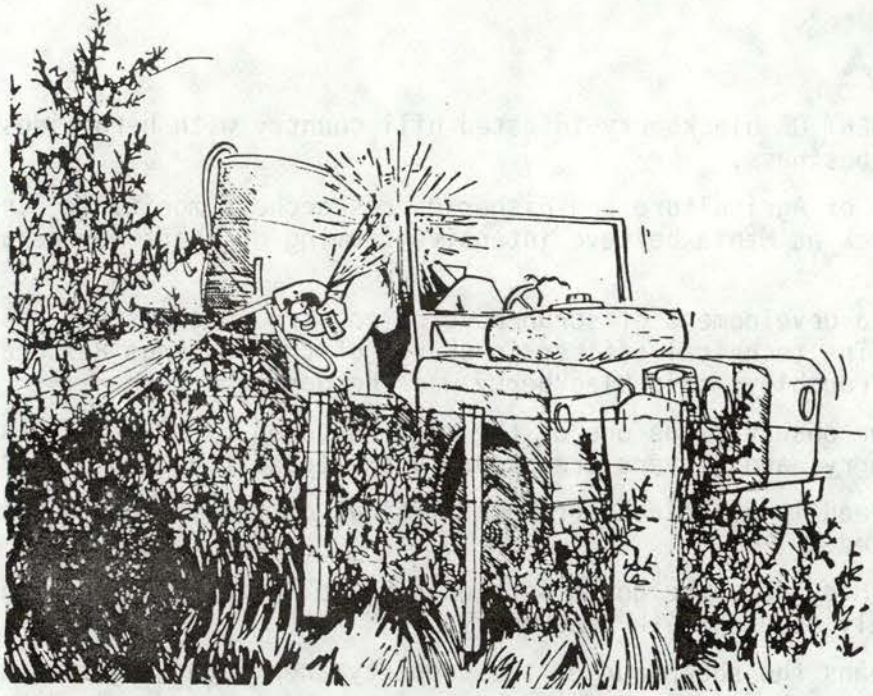
About 1500 feral goats are being run on the property and these are now being upgraded for meat production.

(WANGANUI CHRONICLE 23-4-83)

★ A MONASTIC order was low on funds and decided to set up a fish and chip shop opposite the Monastery gate.

The first customer came into the shop smirking broadly and asked the brother on duty: "Excuse me, are you the fish friar?"

"No," said the brother. "I'm the chip monk."



KEEP YOUR SPRAY EQUIPMENT TROUBLE FREE:

- **Calibrate and test before use**
- **Check that pumps, hoses, valves, regulators, gauges, filters and nozzles are working properly**
- **Repair leaks, blockages, etc.**
- **Clean after use**
- **Store safely**

AgLinks on various aspects of Agricultural Chemical Application and Equipment Maintenance are available from Media Services, Ministry of Agriculture and Fisheries, Private Bag, Wellington.

Extension Bulletins on Calibration Procedures and Spray Recording Sheets are available from New Zealand Agricultural Engineering Institute, Private Bag, Hamilton.

The Agricultural Chemicals Board, Private Bag, Wellington.

A PROBLEM PLANT OF TOMORROW

PAMPAS GRASS (Cortaderia)

by
DON RHODES

Rodney District Noxious Plants Authority

PAMPAS IS A GRASS of the South American species Cortaderia. It is not Cortaderia toetoe a native of New Zealand, which is a swamp grass. Cortaderia toetoe does not grow as tall or as large and has a different flower head, nor does it spread to the same extent as pampas. First reported in 1925 (Cheeseman) as a garden escape, by 1940 it had established itself and was speading in waste places and railway cuttings. In the late 1930's and early 1940's it was recommended for planting as stock feed with thousands of seedlings being dispatched throughout the North Island.

Pampas is showing up throughout the Rodney County particuarly following road works, and on other roads as a result of seed spread. Palatable to stock if grazed heavily by cattle or goats, pampas is no problem. Pampas makes a good shelter belt, but is unsatisfactory for horticulture land as it harbours rabbits, rats and opossums. If grown within two metres of a fence pampas will eventually push the fence over. Grown too close to rains, it will block them.

Wind-blown seed can be a problem to houses nearby. Widespread seeding in newly established forestry has a smothering effect on trees the second year after planting.

CONTROL METHODS

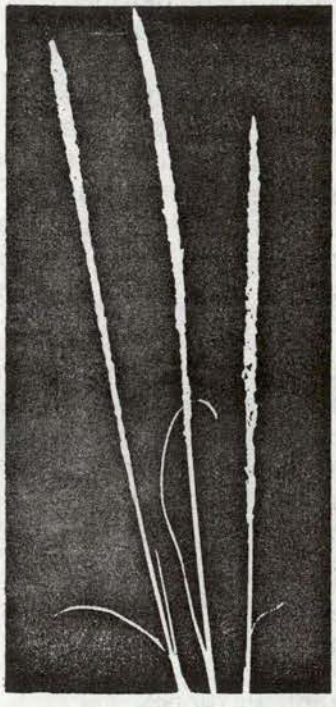
Seed spread is so profuse and germination so extensive that prompt eradication of established isolated plants on roadsides is important.

GRUBBING	When ground conditions are dry enough for plant to dry out. Smaller plants only. Be careful of pampas leaf cutting ability. Grubbing of seedlings may prepare a seed-bed for further germination.
BURNING	Will remove bulk of growth, but not kill the plant. If burning older plants be careful, for a fierce fire will burn out of control.
BULLDOZING ETC.	Very effective, but the bulk may need to be removed by burning before bulldozing out the stump.
GRAZING	Heavy grazing by cattle will keep it in check and remove the bulk. Goats give the best control, killing most plants.
SPRAYING	Pampas leaves are very shiny, so a sticker-wetting agent is necessary. Spray for complete coverage to full wet. 1.5 kg Dowpon (2,2-DPA) per 100 litres of water plus plenty of sticker.

While pampas plumes on our roadside may be an attractive sight, and pampas is a palatable stock food, the disadvantages of its massive seed spread and rapid growth outweigh its overall contribution to our environment.

MORE ON RATSTAIL

from A.I. POPAY - Scientist
M.A.F. - Palmerston North



There has been some correspondence on the subject of ratstail in two recent issues of PROTECT. I thought that I ought to bring to the readers' notice some work on ratstail that was published by Ned Honore in 1970 in the Proceedings of the 23rd N.Z. Weed and Pest Control Conference.

Ned carried out several trials over a number of years and concluded that the best way of eradicating ratstail was to spray the pasture with 2,2-DPA at 1.5 kg active ingredient per ha. Many products are available with 2,2-DPA as the active ingredient- most contain 74%, 2,2-DPA and would therefore need to be applied at about 2 kg of product per ha.

2,2-DPA, at these rates, has little effect on desirable pasture species (no oversowing would be needed after treatment) and is quite cheap. Ned Honore treated a large area infested with ratstail in this way and followed the treatment up with heavy stocking and topdressing. There was very little re-invasion of the pasture by ratstail for at least six months.

ENCORE

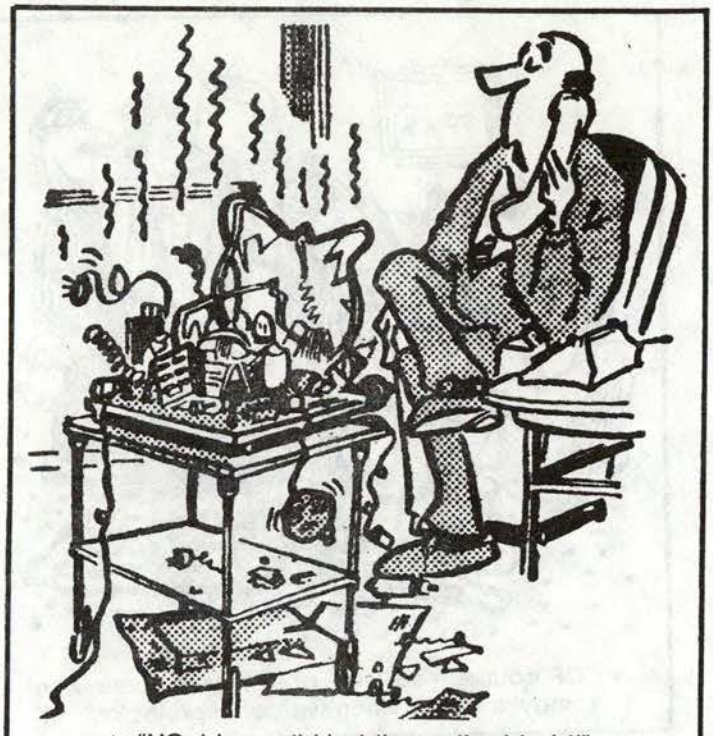
★ TWO old bachelors in the outback were comparing notes on domestic arrangements — housekeeping and cooking, in particular.
One said, "I got one of them cookery books once, but I never could do nothin' with it."
"A bit too much of that fancy stuff in it, was there?"
"Yer could say that. I jist didn't have the equipment. Them recipes usta always start, 'Take a clean dish ...' and that was the end of that."

ENCORE

★ A small girl went out to where her father was working in the garden and said, "Daddy, what does sex mean?"
Daddy scratched the side of his jaw and wondered if he'd heard right. After all, the child was very young. He said, "What does what mean?"
"Sex."
"Why ... er ... why do you want to know what sex means?"
"Because mummy told me to tell you lunch will be ready in a couple of them."

the FUNNY PAGES

★ "I KNEW it was a mistake to ask him about his operation!"



★ "NO, I haven't tried the vertical hold!"

★ "AND have you anything planned for today, Betty?"

★ "OF course, you'll be able to see more what they're about when we get a projector."

★ "IT'S all right to kiss the bride — but not six months after the wedding."

★ "I'M a bird imitator," the entertainer told the booking agent.

The agent roared in anguish. "Bird imitations went out with button-up boots and bustles," he snarled. "You'll never get work with bird imitations."

"OK, OK, don't get excited about it," said the entertainer. Then he put on his hat and flew out the window.

★ THE tramp was arrested for vagrancy.

"You can't do this to me," he protested. "I've got a job — I work in the domino factory."

"Well, why aren't you at work?" asked the policeman.

"I put the spots on the dominoes," said the tramp, "and today's the day they make the double blanks."

★ "YOU must have stretched it putting it on."

Whether it's for tough perennials or annual weeds Roundup® gets to the heart of the problem.

For cost-effective results on a wide range of weed infestations, Roundup® herbicide combines the broad spectrum control you need with the safety that's so important to both the user and the environment.

Already Roundup can be used with confidence on any of the following weeds:

Barley Grass	Browntop
Volunteer (self-set) Potatoes	Californian Thistle
Couch	Australian Sedge
Kikuyu Grass	Glyceria
Paspalum	Floating Sweet Grass
Rushes	Mercer Grass
Blackberry	Cutty Grass
Annual Weeds	Tall Fescue
Nodding Thistle*	Bracken
	Ragwort*

*Registered for Ropewick application only.

Always read and follow label directions before use.

Roundup® - the list is growing all the time.

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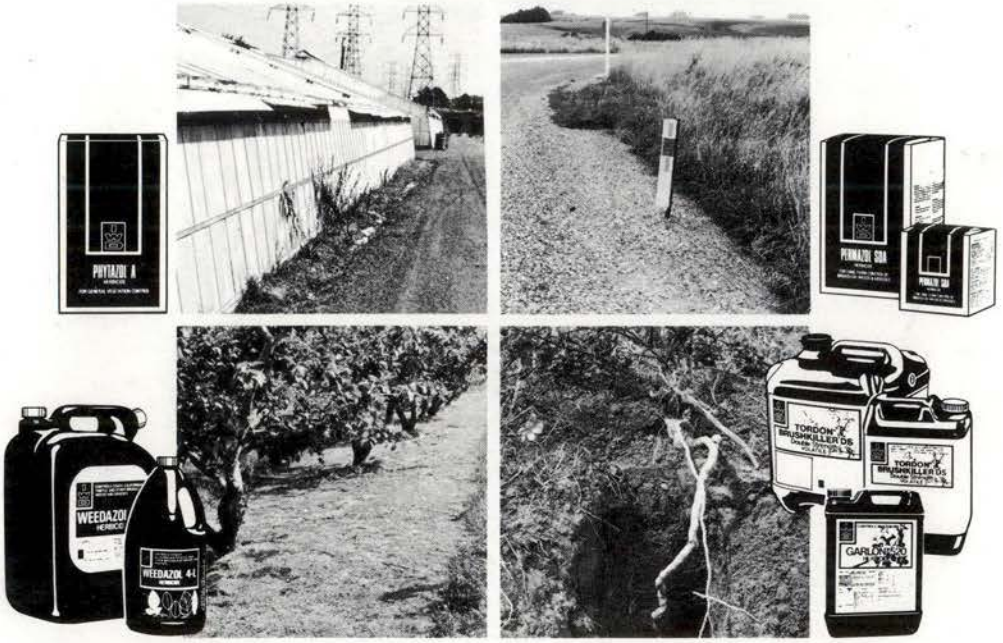
NOBODY NEEDS WEEDS



IWD weedkillers provide effective, low cost control.

PHYTAZOL® A herbicide. For cost-efficient control of broadleaf weeds and grasses around buildings, yards and storage compounds.
WEEDAZOL® 4-L herbicide. Ideal for parks and reserves and for brushweed control in hormone sensitive areas.

PERMAZOL® SDA herbicide. Long term weed control along highway shoulders and around marker posts, bridge abutments, etc.
TORDON® BRUSHKILLER DS and **GARLON® 520** herbicide. Get to the root of the brushweed problem where hormone spraying is acceptable.

Remember too, the IWD range of supportive weedkillers — **IWD PARAQUAT** for quick knockdown of weeds and effective control in dry drains: **SIMAZOL® 5A** herbicide with its low solubility for long-term residual weed control: and **DOWPON® 740-SP** grasskiller. Note that **MULTI-FILM® X-90** spray additive is recommended for all applications.

Discuss the problem with your IWD representative.

IVON WATKINS-DOW LTD
Private Bag New Plymouth

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PARAQUAT is a restricted poison S3 Pt 11.

JIW 5504

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