

Six things that make you go “Huh?”

by Paul Martin, Director, Rainbow & Brown



Here's a list of things that baffle me. Things that make no sense to me. Things that make me shake my head in bewilderment while exclaiming, "What the ...?"

1. The Stock Market. It has a day of big losses and the world reels. Ten billion dollars has vanished. That night on TV we see grave economics experts explaining that 'the market' is concerned about the impact of the cold snap or the heat wave (sometimes both) on pork belly futures, and warning that this looks like the start of a major downturn.

The next day the market recovers, ten billion dollars reappears, and that night the very same experts appear on TV to explain that 'the market' is encouraged by the latest balance of trade figures from Upper Volta, and that this looks like the start of a major upswing. These experts, and indeed 'the market', know nothing. Really; not anything at all.

2. Actors. Not only do they hold elaborate and glittering ceremonies at which they give each other awards just for doing their jobs, and then make gushing speeches thanking each other at length for making it all possible, but they also expect billions of us to watch it live on TV. And guess what? We do!

And while we're on the subject, how is it that the writer of a novel gets his name in big print right on the front cover, but the person who writes a movie script gets his name slipped into the credits for a half-second, way down between the Best Boy and the Caterer?

3. Label Warnings. When I was a boy you could buy a double-barrelled shotgun and the only label on it said "Remington". Now you can't buy a lawn sprinkler without finding an attached 4-page litany of all the improbable ways you can harm yourself with it. These absurd safety warnings even appear on safety equipment; I bought a pair of clear safety glasses with a

sticker that, among other admonishments, warned me against using them as welding goggles.

I also saw a precautionary warning for a product that said, "Do not use this product if you cannot read and clearly understand the precautions in the information leaflet", and this warning was printed ... yes, in the information leaflet.

And someone sent me a hairdryer warning label statement that said, "Do not use in the shower or while sleeping." Or how about the baby stroller that says, "Warning: Remove infant before folding for storage"?

This warning-against-everything madness also affects our own labels. Agchem labels are now so densely covered in warnings, precautions and obscure admonitions that there's no apparent difference between a product that might make you sneeze, and a product that will give you cancer, deformed offspring and leprosy. The warnings are now so numerous and so incomprehensible that almost nobody reads them. Which is why we see so many sneezing lepers at Fieldays.

4. 'For Your Convenience'. Whenever a bank or an airline or a big store removes some service or facility that was highly valued by customers, they replace it with a sign saying that it has done so for the convenience of customers. An ATM that I had found very handily located was removed without warning, and replaced with a notice saying, "For Your Convenience the nearest ATM is now at our City Centre Branch". What?

5. Pointless Lists. I'm not crazy about people who make pointless lists of things. "Ten Things I Hate". "Twenty Things I Love". "Six Things That Make Me Go, Huh?" And I especially dislike it when the person making the list can't remember the last thing on the list.

6.

IN THIS ISSUE:

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Autumn savings on
4 Herbicides

• **4 NEW WEED FILES**

• **ALSO:**

- Blackberry revisited
- Barberry revisited
- Kikuyu Tips
- And Much More

• **FULL PRODUCT RANGE:**

Details, sizes & prices

Blackberry Spraying Revisited



In our last newsletter we reported on the question of *not* using a wetter/penetrant when spraying blackberry. Some authorities claim that the penetrant may cause leaves to drop off the bush, which can reduce herbicide uptake into the main body of the plant.

We suggested that you follow this advice, partly because of this alleged leaf-drop risk, and partly because it's been fairly widely accepted that blackberry can be successfully sprayed without a penetrant anyway. Our thinking was that if it's not doing anything to help, and may be doing something to hinder, why use it?

We've since been contacted by quite a few customers who say that they always use a penetrant (usually SuperWetter), get a great kill and have *never* seen leaves drop off soon after spraying. Of course, they accept that they may well get those same results without a penetrant, but they prefer not to change a successful approach. Fair enough.

We also had a very interesting email from Bill Jackson, a customer who is a retired Shell Agrochemicals man. Bill did many herbicide field trials in NZ on blackberry and other species. He reports that blackberry in coastal areas subject to salt spray or mist were not satisfactorily killed by the herbicide unless an organosilicone-type penetrant was added, and even then in salt-mist prone coastal areas (e.g. East Coast, Hokianga, etc) a higher rate of herbicide application was required.

Bill questions the wisdom of leaving out the penetrant, based on that extensive experience in many areas of NZ. He does not report ever having seen leaves drop early after spraying with a penetrant.

Bill also stressed that his experience with Shell showed that it is essential that blackberry is not slashed/cut before spraying. If you're going to spray, leave the bush alone beforehand.

What Now?

We are amending our position. *Our advice will be to use a penetrant when spraying blackberry.* We'd also like to appeal to all customers to report their experiences to us by answering three questions: Did you get a good kill? Did you use a penetrant? If so, did you see any sign of early dropping of leaves?

Once we have a good cross-section of feedback, we'll report the results via this newsletter.



Price Increase on SuperWetter

Effective from April 1st, we have to increase the price of SuperWetter, our organosilicone penetrant. The reason is that we've been hit with a double-whammy; the US\$ price of the material has gone sharply up, while the value of the NZ\$ has gone down. Not a happy combination of circumstances.

The increase is around 20%. Here's the new prices, incl GST and delivery:

2L...\$72 5L...\$160 20L...\$590

AUTUMN SALE

Great savings for your Autumn spraying.

We're having a "What Economic Downturn?" sale, to celebrate the arrival of Autumn and the beginning of the economic upturn. How do we know that the worst is over? Because we think it's about time. Don't you?

RULES OF THE SALE:

- Sale begins April 1st & ends May 29th (earlier if sale stocks are sold out).
- No limit per customer on any product, but it's first-in-first-served.
- All Sale prices *include* GST and delivery.
- Sale invoices must be paid in 7 Days after receipt of the goods.

1. GLYPHOSATE

The world price of glyphosate continues to be erratic, and the latest raw materials prices are unexpectedly a bit lower again. However, just as we go to press we have been notified of another *increase* for our next consignment of materials, with more increases apparently to come, so we are now pretty sure that our glyphosate prices will rise again before the end of autumn.



	Regular Price	AUTUMN SALE	Your Saving
5L Glyphosate 360	\$80	\$65	\$15
20L Glyphosate 360	\$215	\$185	\$30
200L Glyphosate 360	\$1955	\$1675	\$280
5L Glyphosate 450	\$90	\$75	\$15
20L Glyphosate 450	\$255	\$215	\$40
200L Glyphosate 450	\$2290	\$1975	\$315

3. RANGER

A specialist product for docks and buttercups (including giant buttercups). Although Ranger is more of a Spring product, we've got some at a good price right now, so that's an opportunity for a special. It's boom sprayed at just 20g/Ha.



	Regular Price	AUTUMN SALE	Your Saving
100g Ranger	\$95	\$75	\$20
1kg Ranger	\$855	\$650	\$205

2. COBBER

A great product for those hard-to-kill thistles, including Californian thistles, in pasture, used either alone or in conjunction with your other thistle sprays (2,4-D & MCPA). Cobber is also great for spraying brushweeds and broadleaf weeds around shelter & ornamental trees (most tree species are not harmed by Cobber).



Note: Very limited stocks available.

	Regular Price	AUTUMN SALE	Your Saving
2L Cobber	\$185	\$170	\$15
5L Cobber	\$370	\$340	\$30
20L Cobber	\$1320	\$1250	\$70

4. MSF600

The best and most cost-effective product for gorse, blackberry, scrub and all the brushweeds. Also brilliant for thistles & ragwort in a wiper, or for spot spraying.

Note: We're pretty sure that the price of this product will increase before Spring.



	Regular Price	AUTUMN SALE	Your Saving
2kg MSF600	\$250	\$230	\$20
5kg MSF600	\$625	\$550	\$75

'Cheap Chinese Crap'

Recently a customer had a partly-disappointing result from a gorse job done by a spray contractor. When the customer complained, the contractor claimed it was due to the 'cheap chinese crap' that was used on the job. The customer responded by saying that all the gorse he'd sprayed himself using the same chemical was 100% dead, as was the gorse he'd sprayed with it the previous year and the year before that, but the contractor was unmoved.

Of course, we all know that the contractor's position is based on what he's told by the multinational chemical company that supplies him. They're hardly likely to be complimentary about alternate suppliers who have forced them to drop their prices (and of course their profits).

What they don't tell the contractor is that they get some of their own raw materials from the very same source. Nothing wrong with that of course; materials from places like China and India are these days meeting the highest international quality and registration standards, and have been doing so for years.

But it did cause me to reflect on the price that these herbicides sell for now, versus what they sold for 10 or 15 years ago, when there was often just one brand available.

I remember when one very popular herbicide was about \$400 for 20 litres, back in the late 80's. That would equal about \$660 in today's dollars. And yet it currently sells for less than a third of that amount. It's much the same story with several other widely-used herbicides. They cost less than half of what they used to. I wonder why?



Weed Files

In this Newsletter we publish the next four Weed Files. This brings to eleven the available titles in our free reference library of handy fact sheets about identifying and controlling common weeds.

Subscribe

The Weed Files are also available as full colour, single-page PDF files that you can download to your computer and also print out if desired. Just go to our website and click on the "Subscribe" button near the top of the home page. Fill out the very simple form that appears and we'll email to you all the current titles, plus you'll automatically receive all new or amended titles as they are published. We're planning on having 30-40 titles in the series, published over the next year or two.

Tell a Friend

You're welcome to get a friend to subscribe to the Weed File library. They just use the same form on the website to subscribe. It's free, and if they subsequently become a customer you'll get the Referral Rewards discount off your next order (see back page for details).

Ragwort Seeds

We're often asked if herbicides kill ragwort seeds.

The concern is that if you spray a ragwort in flower, will the plant be able to release viable seeds in a desperate attempt at immortality?

A study into the matter was conducted by AgResearch and reported in the Journal of the NZ Plant Protection Society. They sprayed ragwort and nodding thistles at three stages of development: flower in bud; flowers partly open; and flowers fully open. They used 600g/kg metsulfuron-methyl (i.e. MSF600) at label rates.

The report states that seeds subsequently collected from flower heads at all three stages of development failed to germinate. In a recent discussion with us, one of the researchers indicated that when sprayed at the immature stage (when the seed is still milky) the seeds will probably be killed by glyphosate and 2,4-D as well as by metsulfuron.



New Info about Darwin's Barberry

Glyphosate can be used for spraying the dreadful Darwin's Barberry, as an alternative to the herbicides we specified in the first version of our Barberry weed file.

One of our customers with a farm in the Wairarapa's eastern hills, Rob B, points out that the *New Zealand Agrichemical Manual* lists glyphosate for Darwin's Barberry, and he tells us he has used it successfully in knapsack spraying at 100-110ml per 10 litres. Like other herbicides, it needs thorough coverage. We're updating our Barberry weed file to include glyphosate.

Darwin's Barberry often grows on very steep banks that aren't grazed, just the place for native tree regrowth. Rob says the two can grow together for a time, and on the margins the Barberry's spikes can even protect natives temporarily from browsing stock, but it soon distorts or smothers the natives. Glyphosate spray, of course, kills the natives too, so if you're one of the increasing number of people who wish to foster native regeneration, you'll have to use the chainsaw and loppers and take along a more concentrated herbicide to paint the Barberry stumps.

Thanks for the excellent new info, Rob.

Kikuyu Control in Pasture

In this issue there's a new Weed File about Kikuyu. But just in case you're not paying close attention to those Weed Files, here's a couple of highlights that can improve your control over this pesky invader.

1. If spraying out kikuyu-infested pasture with glyphosate, you'll get best results if you DO NOT use an added penetrant. Sounds strange, but there are plenty of customer reports to support its truth.
2. To selectively spray kikuyu *without* damage to grass or clover, use Triclo herbicide at 2L/Ha during Autumn, ensuring there is sufficient soil moisture for reasonable grass growth conditions. To completely eradicate kikuyu from pasture you may have to do one or two similar follow-up applications at 4-6 week intervals.

WEED FILE: BRACKEN



DESCRIPTION

Bracken - *Pteridium esculentum*

Bracken is a perennial fern with fronds up to 2 metres high, and can form extremely dense stands. The fronds tend to die off in late autumn, although they often then remain standing for some years. New fronds emerge in the spring, so that established stands of bracken are a mix of old and new growth. Old frond litter forms a dense mat beneath the canopy, and chokes out all other growth.

The fronds have the distinctive fern shape and structure, with narrow segments perpendicular to the rib from which they grow. The stems are typically erect at first, but as they become larger and heavier they will droop over and when established bracken is growing thickly it can force fences to the ground.

The plant has an extensive, spreading root system of thick, dark-coloured rhizomes and fine roots. They form a thick network, usually in the top 15 to 20cm of the soil. This underground network is one of the reasons that bracken is hard to completely kill, at least in a single treatment.

The rhizomes have buds from which the new fronds emerge, and also give bracken good drought resistance as well as the means to regenerate efficiently after fire; this latter ability can be used against the plant, as is discussed below in the section on spraying.

Freshly opened fronds are a bright lighter green, but as they age through the year they become darker and harder.

The spread of bracken is achieved via spores that form on the underside of the fronds, and can be windblown over a reasonable distance. These spores will normally germinate only in moist conditions.

Bracken is known to be toxic to animals, although the bracken type in New Zealand does not appear to be as toxic as is reported for some ecotypes from other countries. Stock in NZ will eat it in moderation, but this should be permitted only in spells to prevent the toxic effects that can result from prolonged exposure. Younger cattle are thought to be most at risk.

Bracken is also known to be carcinogenic, and has been linked to cancers to people in constant proximity to large infestations in some other countries such as Wales. We're not

aware of any case of a carcinogenic link being established in New Zealand, however.

PHYSICAL CONTROL

Bracken is susceptible to cultivation, although it is generally growing in situations where cultivation is difficult or impractical. Repeated slashing and mowing is also effective in keeping the spread of bracken in check, and in allowing pasture species to compete. In light infestations, heavy treading by cattle will then minimise survival of freshly emergent fronds.

It is possible to eradicate bracken without chemicals over several years if it is progressively burnt and then extensively stocked with sheep in small blocks using a rotational grazing model to thoroughly control emerging regrowth. The system is reported to be effective, but must be diligently followed for up to five years until 100% eradication is achieved.

HERBICIDE CONTROL

The best time to spray bracken is from January to June, when fronds are fully unfurled, but before the plant suffers frost browning (thus June may be too late in some areas). Dense thickets with high trash content and low leaf-to-root ratio are best burned in spring, and the fresh regrowth sprayed in the autumn.

- **MSF600** sprayed by air at 170g/Ha plus 1.5L **SuperWetter** penetrant in 300L water.
- **MSF600** sprayed by hand at 35g/100L water, plus 100ml **SuperWetter** penetrant.
- **Glyphosate 360** sprayed by hand at 1L/100L water by hand, or 9L/Ha by boom, in both cases also using 100ml **SuperWetter** per 100L water.

Notes:

Glyphosate is preferred if hand spraying in close proximity to valuable trees including orchards, because it has no soil residual effect. Nevertheless, the spray must be shielded to prevent drift or overspray.

MSF600 will not kill most native grasses, providing some incentive for stock to penetrate the dying thickets, which smashes down the bracken and minimises regrowth. Overall, **MSF600** is the most cost-effective spray on bracken.



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WEED FILE:

KIKUYU



DESCRIPTION

Kikuyu – *Pennisetum clandestinum*

Kikuyu is a perennial grass originating from north and east Africa. It is quite invasive, and spreads via creeping stems (stolons) above the ground, as well as similar rhizomes below the ground. Kikuyu prefers warm, moist and sunny conditions, and is particularly prevalent in Northland, but also occurs further south at least as far as Taranaki.

It is capable of growing and spreading in areas where most grasses perform poorly, including sandy sites, bare clay, roadsides and waste areas. Once established in these marginal locations it will spread out into pastures.

At the seedling stage it is hard to distinguish from ryegrass, but identification becomes clearer by December, when the stolons begin to rapidly elongate ... they grow as much as 25mm a day in Dec to Feb. The leaf blades are long, and are hairy at the point where they join the stem. Colour is a light yellowish green.

Prior to December, kikuyu has a reasonable feed value and is valued by some farmers for its drought resistance, although it needs to be carefully managed to avoid rapid loss of quality after mid-summer, and also because it can at times be poisonous.

Because it quickly grows into a dense mat, kikuyu can smother out all other species, and also provide a habitat for crickets, army worms and black beetles.

The spread of kikuyu occurs mainly due to clippings, stolon fragments and seeds transported by machinery and the hooves of stock. Rhizome fragments are also spread by cultivation. It appears that kikuyu does not seed in some more southerly locations, which does make eradication easier in those areas. In Northland, where kikuyu does seed well, the seeds are known to last up to seven years in the soil.



PHYSICAL CONTROL

Grazing provides some measure of control, but if the kikuyu forms a dense mat of stolons over a large area it should be mulched or mowed in April right to ground level, in order to expose the soil for re-grassing (e.g. with ryegrass).

If smaller patches are physically removed by digging, all broken rhizomes must be removed or they will regrow. The difficulty of doing this, and of subsequent disposal, makes the process largely ineffective in most cases.

HERBICIDE CONTROL

When spraying out pasture:

- **Glyphosate 360g/L** sprayed at 6L/Ha. Note that 6L/Ha is a higher rate than is normally required for spraying out old pasture. The 'normal' Glyphosate rate of 3-4L/Ha is NOT ENOUGH to kill kikuyu... the use of 6L/Ha is *essential* to get a satisfactory result.
- **Glyphosate 450g/L** sprayed at 5L/ha. Equals the same effective application rate as for the 360g/L version above, when adjusted for the higher concentration.

Wetter/Penetrant: When spraying kikuyu with glyphosate of either strength (360 or 450g/L) you'll get best results if you DO NOT add a wetter/penetrant.

Herbicide performance will also be improved on dense infestations if you first cut it and then spray the more vigorous fresh regrowth.

Selective spraying in pasture:

- **Triclo** herbicide, boom sprayed at 2L/ha during autumn, when there is enough soil moisture to ensure that growth conditions are good. This spray is both ryegrass and clover friendly, and so avoids the need to replace pasture that is in otherwise good condition, as long as the kikuyu has not become too dominant. It is possible to eradicate kikuyu using this method, but it will require one or possibly two similar follow-up treatments at 4-6 week intervals.

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WEED FILE:

OXEYE DAISY



DESCRIPTION

Oxeye daisy - *Leucanthemum vulgare*

Oxeye daisy is a perennial weed that grows most commonly in waste areas and roadsides, but is also often found in poorer or wetter dairy pastures. It's not generally a problem in sheep pastures because sheep will readily eat it, whereas cows will not do so.

It is quite a difficult plant to control where no sheep are present, because it is not very susceptible to the selective herbicides most commonly used in pastures, such as MCPA and 2,4-D.

Oxeye daisy has very conspicuous white flowers, up to 6cm in diameter and with bright yellow centres. The plant is a rosette at the base, but grows quite tall (much taller than the regular daisy) during the main flowering period from August to May, when the flowers appear at the end of clumps of long upright leafy stems.

The leaves are dark green and hairless, or very sparsely haired, and are quite deeply lobed. The rosette leaves at the base of the flowering stems are up to 12cm long and 2cm wide and appear on stalks, while the leaves on the flowering stems are smaller, narrower and have no stalks. They are also less prominently toothed on their edges. The root system consists of short rhizomes, which contributes to the difficulty of control.

As well as the smaller common daisy, the oxeye daisy can be confused with stinking mayweed and scentless chamomile due to the somewhat similar flowers, but both of these have distinctly different, very finely divided leaflets.



PHYSICAL CONTROL

The only practical non-herbicide control treatment is from grazing by sheep.

HERBICIDE CONTROL

Boom Spraying:

Both MCPA and MCPB are largely ineffective. 2,4-D boom spraying does give some modest level of control, but the plants often recover and regrow. The

best time to boom spray oxeye daisy is in the spring, when the plants are actively growing.

- **Cobber** herbicide sprayed alone at 1L/Ha, or added to 2,4-D at 100-200ml of Cobber per hectare, will control oxeye daisy, but will result in some clover damage.
- **GrassMate** sprayed at 2L/Ha is effective and grass-friendly, but will also result in some clover damage.
- **Ranger** herbicide, normally sprayed at 20g/Ha in the spring to control docks and buttercups, has also shown good promise to control oxeye daisy at the same time, although there may be some regrowth.

Spot Spraying:

There are several effective products for spot spraying, although all will do some clover damage, and one (MSF600) will also damage grass.

- **Cobber** herbicide spot sprayed at 100ml/100L using a high volume gun, or at 25ml/10L in a knapsack.
- **GrassMate** spot sprayed at 6ml/L with a knapsack.
- **MSF600** spot sprayed at 5g/100L using a handgun, or 1g/10L in a knapsack.

Wetter/Penetrant:

When spraying by boom or hand, the addition of 100ml SprayWetter penetrant will maximise herbicide performance, especially when growing conditions are not ideal.

Weed Wiping:

Where terrain allows, weed wiping is an excellent solution to the problem of avoiding clover damage. When the oxeye daisy plants are in their erect stage of growth, and especially after the pasture has been grazed down, weed wiping is both an effective and very inexpensive option.

- **Glyphosate** applied in a weed wiper at 1 part glyphosate to 2 parts water.
- **MSF600** applied in a weed wiper at 2-3g/L of water.

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WEED FILE:

RAGWORT



DESCRIPTION

Ragwort – *Senecio jacobaea*

Ragwort is normally a biennial plant that germinates in autumn, and then flowers, seeds and dies between 1 and 2 years after germination. However some plants, especially if they have been mowed, slashed or ineffectually sprayed, become multi-crowned perennials and are more difficult to kill.

During its first year ragwort is a rosette, but the flowering stage sees it form upright, leafy, flower-topped stems that rise to 50-120cm above ground level.

The flowers are distinctively bright yellow and are clearly visible from some distance away.

Ragwort prefers well-drained, fertile soils and thrives where pasture is weak or open. It spreads via its prolific seed output; one plant can produce over 100,000 seeds, and seed will remain viable for more than 10 years.

Ragwort is a poisonous plant that can be extremely toxic to cattle and horses, but less so to sheep and goats which will often eat it without harm. Susceptible animals will normally avoid eating growing ragwort, but this does lead to poor pasture utilization because they will also avoid grazing close to the plants.

Another problem is that as ragwort dies it becomes both more palatable and more toxic, so it is critical that stock are kept out of a paddock with sprayed ragwort for at least 2-3 weeks while the danger passes. For the same reason, incorporating ragwort plants into silage or hay is very dangerous to stock.

PHYSICAL CONTROL

Grazing systems with sheep or goats will usually prevent ragwort domination of pasture, but in dairy and cattle-only systems this is not feasible. Maintaining dense pastures will minimise seed germination, but on dairy units in winter and early spring this is difficult due to pugging.

Grubbing or pulling of ragwort plants is ineffective up to the early flowering stage because any root fragments remaining in the soil will re-grow. From late flowering this regrowth becomes less likely, and physical removal is more useful. However, it is essential that flower heads of removed

plants are burned to destroy the seed.

Mowing is never recommended because the cut ragwort plants will re-grow, generally in the form of much harder to kill multi-crown perennials.

HERBICIDE CONTROL

Generally the control of ragwort requires the use of a two-stage approach; spot treatment of larger and multi-crown plants through autumn, and then boom spraying of seedling and rosette-stage plants in winter. Some follow-up spot treatment of any survivors can be required through the next spring.

The boom spraying of seedlings stage is best done with 2,4-D which does minimal clover damage, especially as it's done in winter.

For the critical spot and follow-up treatments in autumn and spring there are several options:

Spot Spraying:

- **GrassMate** herbicide spot sprayed at 6ml/L. This is grass friendly, but will damage clover.
- **MSF600** brushweed spray, spot sprayed at just 2.5g/100L for rosettes and smaller plants, or 5g/100L for multi-crown plants. This is not a grass-friendly option.

Note: If grass damage is NOT a concern, then by far the cheapest and most effective spray is **MSF600**. Ragwort at all growth stages is extremely susceptible to this active ingredient (in Australia, where native grass pastures are not susceptible, this herbicide is successfully aerial sprayed over dense ragwort infestations at just 20g/Ha).

Dry Spot Treatment:

- **BuckShot** granules applied dry at 2g (half a level teaspoon) to the crushed centre of each plant.

Weed Wiper

- **MSF600** applied in a weed wiper at 1g/L of water is extremely effective against ragwort plants once they have sufficient volume standing erect above the pasture level. Hard grazing prior to application will allow the best results because of lower wiping height. Make double passes, in opposite directions.



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GLYPHOSATE 360 360g/L GLYPHOSATE AS THE ISOPROPYLAMINE SALT



ACVM No P5441

Glyphosate is the world's most popular and trusted herbicide.

- Safe to use, fast acting, non-toxic & economical.
- No residual effect in soil; drill new seed in 2 days.
- Withhold stock 2 days to allow penetration through plant.
- Use 1L/100L (hand) or 3-5L/ha (pasture).
- Add SprayWetter penetrant for best results.

5L.....	\$80
10L.....	\$130
20L.....	\$215
100L.....	\$1025
200L.....	\$1955

AUTUMN SALE

See page 3 for details

GLYPHOSATE 450 450g/L GLYPHOSATE AS THE ISOPROPYLAMINE SALT



ACVM No P7223

More concentrated for maximum economy

- Same user-friendly benefits as Glyphosate 360 (above).
- 25% stronger so goes 25% further (20L = 25L of the 360g/L product).
- Use 800ml/100L (hand) or 2.4-4L/ha (pasture).
- Add SprayWetter penetrant for best results.

5L.....	\$90
10L.....	\$158
20L.....	\$255
100L.....	\$1225
200L.....	\$2290

AUTUMN SALE

See page 3 for details

MSF600 Gorse & Brush Spray 600g/kg METSULFURON-METHYL



ACVM No P7027

The low-cost, proven choice for gorse and brushweeds.

- Water-dispersible granule, easily soluble.
- Safe to handle, non-toxic to humans and animals.
- Gorse, blackberry, manuka, scrub, bracken, ragwort & thistles.
- For gorse use 20g/100L (hand), 500g/ha (aerial).
- Add SuperWetter penetrant for best results.

200g	\$55
500g	\$78
1kg	\$125

AUTUMN SALE

See page 3 for details

GRASSMATE 300g/L TRICLOPYR AS THE BUTOXYETHYL ESTER plus 100g/L PICLORAM AS THE AMINE SALT in the form of an emulsifiable concentrate



ACVM No P7417

Grass friendly control of brushweeds and broadleaf weeds in pasture.

- Kills gorse, broom, blackberry, tutus, sweet briar, matagouri & lupins.
- Also controls broadleaf weeds, including ragwort, thistles, fennel, nettle and inkweed.
- Add SuperWetter penetrant year-round.
- 10-12L/ha for brush species, and 250-300ml/100L handgun (gorse rate)

2L.....	\$130
5L.....	\$245
10L.....	\$450
20L.....	\$795
100L.....	\$3650

COBBER 300g/L CLOPYRALID as the amine salt.



ACVM No P7790

Controls hard-to-kill thistles in pasture.

- Kills Californian, nodding, winged and variegated thistles incl large rosette and multicrown plants.
- Mix with 2,4-D or MCPA where thistles resistant to those herbicides exist.
- Also useful in cereal, Brassica and maize crops, plus forestry, orchards and shelter belts..
- Use 1-2L/ha by boom or 100-200ml/100L spot spraying. Also good for wiper application.

2L.....	\$185
5L.....	\$370
10L.....	\$710
20L.....	\$1320

AUTUMN SALE

See page 3 for details

BUCKSHOT 20g/kg PICLORAM GRANULES

ACVM No 7717

Granular herbicide for direct spot application.

- Controls ragwort, nodding thistle, gorse, inkweed, broom, docks, hemlock, sweet brier, woolly nightshade, tutsan, blackberry.
- Convenient and safe; apply by hand, by pogo stick applicator, or by applicator bottle.
- Carry Buckshot on the bike, tractor or ute for opportunistic spot weed control.
- Use 2g per plant or 30-55g/sq.m

5kg\$65
 10kg\$110
 20kg\$200

RANGER 750g/kg THIFENSULFURON-METHYL GRANULES

ACVM No 7668

Selective herbicide for use in pasture, wheat barley and oats.

- Controls buttercups (annual, creeping and giant) and docks.
- Scoop and measuring cylinder included.
- Use at 20g/Ha, so 100g pack will treat 5 hectares.

100g\$95
 1kg\$855

AUTUMN SALE
 See page 3
 for details

TRICLO 600g/L TRICLOPYR AS THE BUTOXYETHYL ESTER

ACVM No P7189

Controls broadleaf & brush weeds without pasture damage.

- Blackberry, broom, gorse, lupin, tuts, fennel, sweet brier, Old Man's Beard, plus most broadleaf weeds in pasture.
- Apply in warmer months during active growing conditions.

- Add SuperWetter for gorse and all woody species.
- Brush weeds use 10L/ha or up to 300ml/100L by hand.
- Broadleaf weeds in pasture use 2L/ha or 200ml/100L.

2L.....\$125
 5L.....\$235
 10L.....\$405
 20L.....\$705

SUPERWETTER 100% ORGANOSILICONE WETTER-PENETRANT

Boost spray performance on woody & hard-to-kill species

- Assists penetration, especially into stressed and dusty plants.
- Reduces rain risk period, normally to under an hour.
- Boosts herbicide performance by aiding in translocation.
- Use at 100ml/100L, or 500ml-2L/ha depending on species.

2L.....\$72
 5L.....\$160
 20L.....\$590

SPRAYWETTER 100% NON-IONIC SURFACTANT WETTER-PENETRANT

Maximises herbicide performance in all situations

- Permits faster & more thorough penetration into plant.
- Reduces rain risk period, normally to under an hour.
- Use when herbicide directions do NOT specify a SuperWetter.
- Use at 100ml/100L, or 500ml-2L/ha depending on species.

5L.....\$70
 10L.....\$125
 20L.....\$240

THE BACK PAGE

• Rainbow & Brown

Rainbow & Brown Ltd is a privately-owned NZ company. Our factory and office is in Rotorua. We're now in our 10th year of operation, and have been growing strongly every year. We have customers all over New Zealand, including farmers, horticulturalists, spray contractors, nurseries, commercial and private gardeners, and many other businesses. Our products are sold direct, with no retailers, agents or middlemen involved, which is why our prices are so attractive ... it is effectively the "wholesale" price, direct from the manufacturer.

• People

The directors of Rainbow & Brown are Paul & Chris Martin, who've both been involved in the NZ agricultural chemicals business for nearly 20 years. Both are actively involved in running and building the business. If you phone us, your most likely contact will be Rachael, our office manager. If you call in at the factory, you'll also meet Clinton, the factory manager. We're just a small family, but a happy one.

• Ordering

You can order anytime by phone, online at rainbowbrown.co.nz, or by fax, e-mail or by letter. If you call on the freephone number, you may at times get an answering machine. That means we're already on the phone, or doing something else. Or it may be after office hours (see below). Please just leave your name and number, and we'll soon call you back. Or if we've already got all your details, just leave your order (*with your name and phone number*) on the machine.

• Delivery

We send your order within 24 hours. Delivery will usually take between 1 and 4 days. If it hasn't arrived after that time, *call us* immediately so we can track it down for you. Delivery of orders of 60 litres or less will normally be to your door, including rural delivery addresses. However, delivery of larger orders will be to the nearby freight depot or drop-off point we will arrange with you when you place your order.

• Factory & Office Hours

If you want to collect your order from our Rotorua factory, you're welcome. It's at 68A Tallyho Street. Open hours are 8.30 to 4.30, Monday to Friday (9.00 to 4.00 May-July).

• Payment

We send your invoice by mail, the day we send your order, so you'll know when it was shipped. Payment is due on 20th following month, and you can send a cheque or use direct payment to a/c No: 123155-0066374-00. The bank account number is also on both your invoice and your statement. We send statements out in the first week of each month.

• Referral Rewards

Word-of-mouth is the best advertising, so if you recommend us to someone who then becomes a new Rainbow & Brown customer and mentions your name, we'll thank you with a \$10 discount off each different product in your next order. So if you order four different items, you now get a \$40 discount (previously \$10).
SMALL PRINT: The discount doesn't apply to products on special.

• Website

Check out our website for full details and labels of all our products, plus Safety Data Sheets, and a small library of useful reference articles.
It's at www.rainbowbrown.co.nz

• Approved Handler Certificates (ERMA)

You do NOT need an Approved Handler certificate to purchase any current Rainbow & Brown product except for Cobber herbicide. To apply MSF600, GrassMate, Ranger or Triclo in a "wide dispersive manner" (i.e. by boom spray), or apply it commercially (i.e. you're a contractor), or over water (i.e. you're a dickhead), you DO need an Approved Handler certificate to apply it, but you DO NOT need a certificate to buy it. You need an Approved Handler certificate to buy Cobber herbicide or to apply it in any circumstances.



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