

A One-Armed Paper Hanger

by Paul Martin, Director, Rainbow & Brown



Recently a Qantas Airbus A380, the world's biggest and flashiest airliner, had a wee technical difficulty shortly after leaving Changi International Airport in Singapore. One of its four giant Rolls Royce engines exploded.

Of course, as we all know from the safety briefings, or at least from the movies, the loss of an engine is no big deal to these modern jetliners. But in this case the pilot, Captain Richard de Crespigny, also had a few other issues to deal with. Parts of the exploding engine had blown clean through the wing, making some unsightly holes and damaging the flaps, leading edge slats, hydraulics and speed brakes. These are all bits that have a pretty serious influence on safely landing the plane, and landing was looking a fairly appealing option about then.

Worse still, the A380 had 80 tonnes of fuel on board; far too much for a normal safe landing even when everything was working. Which it very definitely wasn't, because as well as the various damaged flight surfaces, the flight crew soon discovered that they also had serious and unstoppable fuel leaks in the punctured wing tanks, plus there was now no way to jettison any fuel from the tail tank. And because the fuel distribution system was also no longer functioning, the aircraft could not be correctly balanced for landing.

Finally, just to complete the morning's joy for Captain de Crespigny and his crew, the fire protection system for one of the other engines was no longer working, the auto-braking system was damaged, the anti-skid system was non-functional and the reverse thrust capability of one engine was also lost (this slows the plane quickly on the ground, and is why we hear the engines roar like demented monsters seconds after touchdown). As you can't use reverse thrust on one side only without taking a rapid and unexpected trip to the carpark, that meant no reverse thrust could be applied at all.

So QF32 was facing a high speed landing (because of the excess weight and the damaged wing surfaces), an unbalanced aircraft, severely limited slowing ability once actually on the ground, and a continuous fuel

leak throughout the process, coupled with a compromised engine fire protection system.

One other little complication: there were 459 people on board.

While the crew figured all this good news out and worked out what to do about it, they had circled over the ocean for about an hour, getting rid of what fuel they could, and presumably making repeated trips to the toilet. And no doubt remarking calmly to the passengers that there was a minor malfunction and it might be best to just nip back to Singapore and have it checked out, just to be on the safe side. They may even have announced that the captain felt it wise to briefly halt the complimentary beverage service, at least in Economy Class.

Certainly, soothing and reassuring 'flight information announcements' would have been made, leading passengers to conclude that this sort of thing was all just part of the routine, and nothing to be much alarmed about. Meanwhile, up in the pointy end of the top floor (the A380 is a double decker), Richard de Crespigny must have been as busy as a one-armed paper hanger.

But Qantas is not the world's safest airline for nothing. They may have had a bit of bad luck with equipment just lately, but their aircrew training is as good as it gets. Captain Richard Champion de Crespigny did exactly as his impressive name suggests he would, and safely landed the aircraft back at Changi International in Singapore. No passenger was harmed, no drink was spilled. He stopped the aircraft with just 120 metres of runway left. That does sound like a lot (it's more than a full rugby field) but in fact it means that he used just over 97% of the available runway length to get QF32 stopped.

I have flown on an A380 aircraft, and I will again. When I do, and I settle in for the flight, I sure hope that I hear, "Good afternoon folks, this is your pilot Captain Richard de Crespigny..."

I think I might even give a little cheer. I'll certainly raise my complimentary beverage to him.

IN THIS ISSUE:

- **SPECIAL OFFER:**
GLYCERINE...

Save up to 25%!

Also:

- **CHRISTMAS & NEW YEAR CLOSE-DOWN DATES:**

Order now to beat the holiday rush.

- **EMAIL:**

Get fast access to savings and information.

- **3 NEW WEED FILES**

- Hydrocotyle
- Onehunga Weed
- Woolly Mullein

- **FULL PRODUCT RANGE:**

Details, Sizes & Prices

Christmas Holidays Close Down Period (Ho Ho Ho!)

*We're closing at 4:30pm on Thursday
23rd December and reopening at
8:30am on Wednesday 5th January.*

*Please order as early in December
as you can. Don't get caught
up in the usual pre-Christmas
freight and courier snarl-ups!*

**We'd like to thank all our customers
for your support. Your confidence in
us is what makes our business work.
So we thank you, and we wish you and
your family a happy and safe holiday
season, as well as a great year in 2011.**



***Rainbow & Brown Christmas
Outing, 2009.***

*Moments after this shot
was taken, the 'big dolphin'
being stroked under water
by the employees in front
was revealed to be a 4-metre
Great White shark. Brought a
whole new meaning to 'staff
downsizing'. This year we
are going for night bungy
jumping instead.*

Premium Glycerine at great savings!

We have obtained a source of top-quality glycerine and we're able to do a one-off special offer for our customers.

Glycerine is regarded by dairy farmers as the best emollient for use as an additive with teatsprays, where the glycerine emollient helps to maintain teat condition and to prevent teat damage. It is especially useful in adverse weather conditions, when teat damage is more likely, but can be effectively used throughout the whole season.

We are offering glycerine at savings of between 5% and 25% (depending on where you have been buying it).

No limit per customer, and the offer ends when the stock is sold out.

Here's the sizes & prices:

5L	\$60
20L	\$145
100L	\$650
200L	\$1055

These prices *include* both GST and delivery. Note that all sizes except for 200L are packed in cartons containing multiples of our popular 5L jerrycan style containers; the easiest pack size to handle for accurate and safe dispensing.



Featured Product for Summer...BUCKSHOT!

BuckShot is applied as a dry granule, directly to the weed or to the soil closely surrounding it. Carry some on the bike, tractor or ute to hit targets of opportunity anytime you spot them around the farm. It's the ideal product to use right through the summer, to deal with any individual weeds that have sneaked through your spring spraying programme.

It works by slowly penetrating into the soil around the roots, killing the target weed from below. BuckShot does no lasting harm to grasses, so as the weed dies off the pasture grass species will move in to naturally fill the gap.

BuckShot comes in a handy 5kg wide-mouth jar, but most people put some into a plastic milk bottle or into a special applicator, to carry and use their BuckShot more conveniently.

Improved Granules

The size and consistency of the granules has been further improved to make BuckShot easier to use

no matter how you choose to dispense it. This also gives you better coverage when applied to larger weeds, because it's more evenly dispersed around the base of the plant. So it works better, and you'll also probably use less product per weed.

What BuckShot Kills

BuckShot contains 20g/kg active picloram. It's very effective against ragwort, thistles, gorse, broom, blackberry, inkweed, docks, sweet brier, woolly nightshade and several other pesky weeds.

Great Value

BuckShot goes a long way, and handles a lot of different weeds with a minimum of fuss. Prices, including both GST and delivery, are:

5kg	\$77
10kg	\$148 (save 4%)
20kg	\$255 (save 17%)



The Good News

Email: fast access to savings and information.

We're now getting a lot more active in seeking out good deals, even if they are for a limited period and may only apply to some customers.

Savings Missed

For example, in this issue we have offered a terrific one-off special on glycerine. We had access to the product a month ago, but had to wait until our next newsletter to announce it. And as a result a lot of people who could have used the great savings didn't know about it in time, and purchased dearer glycerine elsewhere.

Only What You Want

The obvious solution to the problem is to use email. Nearly everyone has email these days, and used sensibly it's a great tool because you can be notified only about things that will be of interest to you. This can be special offers and savings, but it can also be technical information and advice as well. If we become aware of a new way to do some job, and we know that you're potentially going to benefit from knowing about it quickly, email is a great tool for giving you the good news.

What To Do Now

Simply send us an email. Just give us your name & address (so we can make sure we have identified the right customer), and select one or more of the special interest

categories listed below. Then we will send you the good news only if it applies to you, and you won't miss out on any great deals waiting for the next newsletter.

The categories:

Beef	Dairy	Forestry	Sports Ground
Deer	Cropping	Horticulture	Council
Lifestyle	Nursery	Contractor	Sheep
Vineyard	Other (specify)		

So your email might look like this:

To: email@rainbowbrown.co.nz

From: jsmith@strainerpost.co.nz

Subject: Email address

Message: John Smith, Dusty Road, RD6 Tirau, Phone (07) 555 1234, Dairy

And that's it! Takes about a minute to send that to us, and could save you plenty sometime very soon. **So don't delay; do it now!**

And note that we have created a special email address for you to send to: email@rainbowbrown.co.nz

By the way, your email address will never be provided to anyone else for any reason by Rainbow & Brown. It's between us, and it stays that way.

Which One? GrassMate versus Triclo

GrassMate and Triclo are presently the same price. This has happened following changes in the relative cost of certain raw materials.

And they both do much the same job; selective broadleaf and brushweed control in pasture, and at much the same use rates. Both are suitable for boom spraying pastures, including by air, but can also be used for spot spraying. Both are also very useful for lawn and fine turf weed control.

So what's the best way to choose between them for your situation?



- Grass and clover friendly.
- Target weeds must be growing vigorously, not stressed.
- Controls kikuyu at 2L/Ha, without pasture damage.
- Works well in spring, summer, but *not* in drought.



- Grass friendly, but damages clover.
- Controls ragwort & thistles better than Triclo.
- Good results even if target plants are a bit stressed.
- Year-round spraying (with SuperWetter added)

BOTH Triclo and GrassMate are now available at (incl GST & delivery):

2L...\$95 5L...\$195 20L...\$695

WHAT DOES WHAT? if

Here's a quick guide to what jobs each of our products are best suited for. We've also included the names of some other brands with equivalent actives & concentrations.

Product	Purpose & Comments	Similar Brands
Glyphosate 360g/L Glyphosate 450g/L	<ul style="list-style-type: none"> • General purpose spraying of grass and most broadleaf weeds. • Spraying out for pasture renewal or cropping. <p><i>Comments: No soil residues, no stock withholding, does not kill clover well.</i></p>	Roundup® ¹
MSF600 (600g/kg metsulfuron-methyl)	<ul style="list-style-type: none"> • Control of gorse, blackberry, scrub and most brushweeds. • Kills thistles and ragwort at the same time. <p><i>Comments: Damages most pasture grasses and really hammers clover. Does not damage native grass. Easily the most cost-effective product for aerial spraying of dense gorse etc.</i></p>	Escort® ² (600g/kg) Answer® ³ (200g/kg)
GrassMate (300g/L triclopyr & 100g/L picloram)	<ul style="list-style-type: none"> • Control of gorse, blackberry, and other brushweeds in pasture. • Kills thistles, ragwort and other broadleaf weeds at the same time. <p><i>Comments: Does not damage pasture grasses, but does damage clover. Can be used successfully from Spring right through Autumn.</i></p>	Tordon* Brushkiller ⁴
Triclo (600g/L triclopyr)	<p>Same as Grassmate, except:</p> <ul style="list-style-type: none"> • It's clover-friendly as well as grass friendly. • Works in Summer – strong growing conditions. 	Grazon* ⁵
BuckShot (20g/kg picloram)	<ul style="list-style-type: none"> • Granule for direct (dry) spot application to individual broadleaf (thistles, ragwort, etc) and brush weeds (gorse, blackberry, etc) in pasture. <p><i>Comments: Apply by hand, or from an applicator bottle or pogo stick, to "target of opportunity" weeds. Ideal to keep in ute, tractor or bike.</i></p>	Tordon* 2G ⁶
Ranger (750g/kg thifensulfuron-methyl)	<ul style="list-style-type: none"> • Control of buttercups and docks in pasture and cereal crops, and for conservation tillage. <p><i>Comments: Spring application is best, when pasture/crop growth is vigorous. Temporary reduction of pasture vigour often occurs. Minimise clover damage by grazing hard before spraying.</i></p>	Harmony® ⁷
Cobber (300g/L clopyralid)	<ul style="list-style-type: none"> • Control of hard-to-kill and multicrown thistles in pasture, plus weeds in cereals, brassicas & maize. <p><i>Comments: Very good mixed with MCPA where thistles have developed resistance to MCPA alone.</i></p>	Versatill® ⁹
Replicate (150g/L picloram and 225g/L clopyralid)	<ul style="list-style-type: none"> • Control of broadleaf weeds in fodder brassica crops. <p><i>Comments: Also excellent for use by air in radiata pine plantations.</i></p>	Radiate® ¹⁰
MCPA750 (750g/L MCPA)	<ul style="list-style-type: none"> • Control of thistles and broadleaf weeds in pasture and cereals. <p><i>Comments: Cost effective choice for early spraying.</i></p>	Agritone 750® ¹¹
SuperWetter (100% Organosilicone)	<ul style="list-style-type: none"> • Wetter/penetrant for use with herbicides when spraying woody or difficult-to-kill weeds, such as gorse, etc. Aids penetration, boosts herbicide performance, reduces rain risk. <p><i>Comments: Check herbicide label to see if organosilicone is specified. Don't use SuperWetter otherwise.</i></p>	Pulse® ⁸
SprayWetter (100% non-ionic)	<ul style="list-style-type: none"> • Wetter/penetrant for use with herbicides when an organosilicone is not specified. Performs the same jobs as SuperWetter, when spraying out pasture and less difficult weeds. <p><i>Comments: If organosilicone is not specified, use SprayWetter unless the herbicide label says that a wetter/penetrant is not required at all.</i></p>	Various brands

1. Registered trademark of Monsanto Technology LLC. 2,3,7: Registered trademarks of El du Pont de Nemours and Company. 4 5,6,9,10: Trademarks of Dow Agrosciences. 8,11: Registered trademarks of Nufarm Limited.

WEED FILE:

WOOLLY MULLEIN



Verbascum thapsus

DESCRIPTION

Woolly mullein is also known as Great or Common mullein, and is native to Europe, northern Africa and western Asia. It has been introduced to North America, Australia and New Zealand and has of course become a troublesome weed in those countries as a result.

It's a biennial or an annual plant, and can grow to 2 metres in height, although in NZ the height is usually up to about 60cm. Initially it appears as a broad rosette of thick woolly leaves (hence the name woolly mullein), followed by the emergence of an erect flowering stem that also supports further leaves.

The leaves are silver-grey in colour, quite thick and in the shape of a slightly pointed oval. They are up to 20cm long and 10cm across.

The rosette leaves have very short stalks, while the progressively smaller leaves on the erect flowering stem have no leaf stalks at all. The 'woolly' surface has the appearance of a thick woollen blanket, or of coarse felt.

The main (flowering) stem is thick, rigid and unbranched, forming a single tall spear.

Flowers are also stalkless and appear on the upper part of the erect stem. The flower is yellow, with five petals, and is up to 3cm in diameter. Flowering in NZ is from July to April.

The seeds are distributed from egg shaped capsules within the woolly sepals forming part of the flower. The seeds are abundant and have a long life in the soil. However, the plant is a poor competitor, and the seeds only germinate successfully in any real numbers if located in an area of dry and open ground.

HABITAT

Woolly mullein is found throughout both main islands of New Zealand, in particular in the drier areas. The plant's preferred habitat is roadsides and waste areas, railway track routes, dry and stony stream beds, stony and arid ground generally, lower tussock land and weak pastures.

MANUAL REMOVAL

It is fairly easy to remove by hand individual or sparsely-distributed woolly mullein plants, and this should preferably be done before viable seeds have formed. The removed plants should be taken from the site and disposed of in a

manner that takes into account the preference of woolly mullein for open and waste areas. So don't throw removed plants into a waste area; you'll only transfer the problem to a new and 'better' location, and thus make it worse in the process.

HERBICIDE CONTROL

Woolly mullein can be sprayed successfully whenever it is growing actively. However, the thick woolly coating on the leaves can be very difficult for the spray solution to penetrate, and is no doubt the reason why some people have experienced good results and others poor results, when using the same herbicide; the use of a wetter/penetrant is critical, and the spray coverage must be thorough or the plant can survive.

There are several choices for control:

- **Glyphosate** at 100ml/10L water using the 360g/L product (or 80ml using the 450g/L version), plus 10ml **SuperWetter** organosilicone penetrant. User experience is variable with this herbicide, probably due mainly to the penetrant issue. Glyphosate works at its best only during the flat rosette stage, because it is easier to get the spray nozzle right into the centre of the crown. Once the central stalk has appeared it is more difficult to achieve adequate coverage without also getting too much overspray and thus causing collateral glyphosate damage to other plants.
- **MCPA** at 50ml/10L water, plus 10ml **SuperWetter** organosilicone penetrant. Treatment during the early rosette stage is preferable.
- **GrassMate** at 60ml/10L water, plus 10ml **SuperWetter** organosilicone penetrant. This is the best option, because it is very effective against woolly mullein at all growth stages, and there will be no damage to grasses from overspray when treating the slender central stalk. However, this is also the most expensive option per litre of spray. It is very likely that woolly mullein seeds present at spraying will be rendered non-viable by the actives in GrassMate. Note also that GrassMate will suppress clover, although in the usual habitat of woolly mullein there is not likely to be any clover present.



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WEED FILE:

HYDROCOTYLE



Hydrocotyle spp.

DESCRIPTION

Hydrocotyle is the name used for several related and very similar species. They differ primarily in the shape of the leaf, and a selection of leaf details of the more common hydrocotyle is illustrated on this page. The various types can all be treated the same in terms of control, so it hardly matters whether or not you can tell them apart.

Hydrocotyle is a perennial, and is most often a problem in lawns and turf. It is a prostrate, ground-creeping plant, and left uncontrolled can form quite a dense mat of growth.

The leaves of all species are close to circular in shape, and generally up to about 10mm in diameter. In tightly mown areas (e.g. golf and bowling greens) the leaves can be much smaller however, while in entirely unmown areas the leaves will be larger – up to 20mm diameter. The leaf is dull green, and is partially divided into distinct segments; normally five to seven, although in one species it is three major segments. The leaf stalks are attached at the near centre of the leaf disc. In one case (*Hydrocotyle moschata*) the leaves are hairy, but just as with humans the presence or absence of hair is of little consequence.

The flowers are tiny and sufficiently inconspicuous as to be irrelevant to the identification of hydrocotyle. The fruit appears as small clusters of fruiting bodies, initially green but subsequently brown in colour and hairless. The stems of hydrocotyle are slender branching stolons, and readily take root at the nodes. It is by this method that the hydrocotyle creeps and invades so efficiently.

HABITAT

Occurs throughout New Zealand. In addition to being a common invader of lawns and turf, hydrocotyle often appears at native forest margins and clearings. It also sometimes becomes a problem in overgrazed pastures, in particular those in damper regions, when its low and densely matted growth will choke out and exclude other vegetation including pasture grasses.

SITE MANAGEMENT CONTROL

In some situations hydrocotyle can be

controlled or at least minimised by non-chemical means. In bowling greens the growth of hydrocotyle is most aggressive in damp patches, so removal of even very slight hollows and also avoidance of overwatering will usually be discouraging to hydrocotyle proliferation. In lawns the same is also true, although the presence of shaded areas of lawn can hardly be totally avoided, and this shade with its relatively greater dampness appears to encourage hydrocotyle. It will therefore usually be necessary to spray the hydrocotyle as well, at least in the beginning.

HERBICIDE CONTROL

Most lawn and turf herbicides are either ineffective or only partially effective. This includes MCPA, 2,4-D, mecoprop and dicamba.

The most consistently effective active ingredient is triclopyr, which is present in two herbicides that we recommend for hydrocotyle control. Application rates and costs are the same for these two, and the choice between them depends on the situation.

- **Triclo** at 2ml/10 square metres of lawn or turf, applied using a knapsack, handgun or if appropriate a small boom spray apparatus (such as a specialised greens/turf sprayer or a quad mounted system).
- **GrassMate** at 2ml/10 square metres of lawn or turf, applied using a knapsack, handgun or if appropriate a small boom spray apparatus (such as a specialised greens/turf sprayer or a quad mounted system).

In both cases the addition of a wetter/penetrant is not strictly necessary, but if one is available then add it at 0.1% of spray volume to get the best possible result, and to minimise the rain risk time.

Note: At the recommended rate, GrassMate is grass-friendly but will damage clover. Triclo is both grass and clover friendly. This difference will best determine which one is best for a given situation (in pasture you probably want to keep the clover, while in lawn you probably don't).



H. heteromeria



H. microphylla



H. moschata



H. tripartita



WEED FILE:

ONEHUNGA WEED



Soliva sessilis

DESCRIPTION

Onehunga weed hardly needs to be introduced to anyone in New Zealand, especially anyone who goes barefoot on the grass. Its nasty prickles are familiar to pretty much everybody.

Originating in South America, including at latitudes similar to New Zealand, Onehunga weed is so called here after the Auckland suburb where it was first reported.

It is a very low growing, creeping annual weed that forms expanding patches in lawns, turf and sports fields.

The plant is generally a winter annual, so that it germinates in the autumn, grows through the winter, flowers Oct-Dec, and produces fresh seeds (fruits) that are then spread by the feet and jandals of every innocent bystander who walks across the plant. But occasionally, as if its prickles were not irritation enough, Onehunga weed will instead germinate in spring, presumably in order to spread the joy more evenly over the year.

The leaves are 15-50mm long and finely divided, as well as being arrayed in branching segments, so that they have a feathery overall appearance.

Flowers are green and very small, and effectively inconspicuous within the leaf axils.

The fruit is not so inconspicuous, due to its being the source of the painful foot prickles that this weed is so well known for. The individual fruits, also known as the prickles, are small and oval shaped, about 3-4mm long and each with a sharp 2.5mm spine on one end.

The root system is fibrous and shallow, but the above ground stems are creeping and readily take root at the nodes, resulting in the spread of the individual plants to patches about 40cm across. The plant grows very low, and is usually beneath the cutting height of a mower blade.

HABITAT

Onehunga weed is common throughout the North Island, in particular the upper half. It does also occur, but to a much lesser extent, in scattered places in the upper and central South Island. The preferred habitat is of course lawns, as well as playing fields, parks, golf courses and sparse, stony pastures and waste areas.

HERBICIDE CONTROL

Most lawn and turf care herbicides do not work well against Onehunga weed. The usual phenoxy herbicides like MCPA and 2,4-D are ineffective unless boosted by the addition of other specialist actives like dicamba.

However, there are two recommended herbicides that are very effective:

- **Cobber** at 100ml/100L water for high volume spot spraying, or 1L/Ha for boom spraying. For knapsack sprayers use 25ml/10L water.

Note: Cobber herbicide is not for use in home gardens, and requires an Approved Handler certificate to apply in all circumstances. Treated plants or clippings must not be composted for at least 6 months after spraying.

- **GrassMate** at 2ml/10 square metres is a more suitable option for smaller scale use, and does not involve any grass clipping disposal or composting issues.

RESISTANCE

There have been some instances of strains of Onehunga weed becoming resistant to the actives in both Cobber (clopyralid) and GrassMate (picloram/triclopyr). If you experience a poor result with either of these products, or if the level of control over the years appears to be waning, alternate with an MCPA/mecoprop/dicamba mix to regain the upper hand. The resistant strain is much less common and appears noticeably sparser and more slender in the leaf than 'normal' Onehunga weed.

GLYPHOSATE 360 360g/L GLYPHOSATE AS THE ISOPROPYLAMINE SALT



ACVM No P5441

Non-selective herbicide for spraying out pasture, and general weed control.

- 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.....	\$51
10L.....	\$80
20L.....	\$143
200L.....	\$1227

GLYPHOSATE 450 450g/L GLYPHOSATE AS THE ISOPROPYLAMINE SALT



ACVM No P7223

Non-selective herbicide for spraying out pasture, and general weed control.

- 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.....	\$59
10L.....	\$90
20L.....	\$164
200L.....	\$1482

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



ACVM No P7027

For control of gorse and other scrub weeds in pasture, waste areas and forestry.

- The low-cost, proven choice for big and small jobs.
- 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	\$100

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

For control of brushweeds, broadleaf and erect weeds in pasture.

- Kills gorse, broom, blackberry, tutus, sweet briar, matagouri & lupins.
- Also controls broadleaf weeds, including ragwort, thistles, fennel, nettle and inkweed at 2L/Ha.
- Add SuperWetter penetrant year-round.
- 10-12L/ha for brush species, and 250-300ml/100L handgun (gorse rate)

2L.....	\$95
5L.....	\$195
10L.....	\$380
20L.....	\$695
100L.....	\$3395

MCPA 750 750g/L MCPA AS THE DIMETHYLAMINE SALT



ACVM No P8173

For control of thistles and other broadleaf weeds in pasture and cereals.

- Highly concentrated water soluble solution.
- Controls thistles of all species, especially in younger growth stages.
- Grass-friendly but higher concentrations damage clover.
- Economical at just 1.5-3.0 L/Ha use rates.
- Use late autumn through to summer.
- Works well with Cobber herbicide against resistant thistles.

5L	\$85
10L	\$140
20L	\$255
200L	\$2400

COBBER 300g/L CLOPYRALID as the amine salt.

ACVM No P7790

For control of hard-to-kill and multi-crown thistles in pasture plus certain broadleaf and brush weeds.
(Approved Handler certificate required)

- 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.....\$189
5L.....\$378
10L.....\$726
20L.....\$1349

GIBBER 900 900g/kg GIBBERELIC ACID

ACVM No P8002

Growth promoter to boost pasture production in cool weather feed shortage conditions.

- High strength powder applied at just 9g/ha dissolved in water. (9g scoop included).
- Rapid increase of dry matter (DM) production during spring and autumn feed shortfalls; increases of 30-60% can be achieved within just 3 weeks.
- Depending on underlying fertility and pasture quality, this increase can be 250kgDM/Ha extra.
- Cost effective at just \$14.16/Ha, simple to apply with any spray gear.
- Sizes: 45g (5Ha) trial pack and 270g (30Ha) regular pack.

45g\$77
270g\$434

BUCKSHOT 20g/kg PICLORAM GRANULES

ACVM No 7717

For direct spot application dry granule treatment of broadleaf, erect and brush weeds.

- 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\$77
10kg\$148
20kg\$255

**NOW
BACK IN
STOCK**

RANGER 750g/kg THIFENSULFURON-METHYL GRANULES

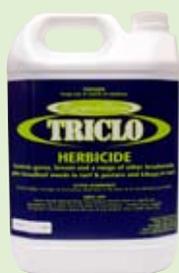
ACVM No 7668

For control of docks and buttercups in pasture and cereal crops.

- Selective herbicide for use in pasture, wheat barley and oats.
- Also controls oxeye daisy.
- Excellent added to Glyphosate when spraying out pasture.
- Apply by air or ground boom, and spot spray.
- Scoop and measuring cylinder included.
- Use at 20g/Ha, so 100g pack will treat 5 hectares.

100g\$97
1kg\$874

TRICLO 600g/L TRICLOPYR AS THE BUTOXYETHYL ESTER



ACVM No P7189

For control of brushweeds, broadleaf and erect weeds in pasture.

- Grass and clover friendly.
- Blackberry, broom, gorse, lupin, tutus, 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.....\$95
5L.....\$195
10L.....\$380
20L.....\$695

REPLICATE 150g/L PICLORAM and 225g/L CLOPYRALID BOTH AS MONOETHANOLAMINE SALTS



ACVM No P8050

For control of broadleaf weeds in fodder brassica crops and in Ratiata pine. (Approved Handler certificate required)

- Controls black nightshade, fathen, redroot (suppression), thornapple, woolly nightshade, fleabane, foxglove, fireweed, tree lucerne, wattles, gorse, broom.
- For brassicas apply at 350ml/Ha, by aerial, ground or CDA spray. Best results when applied to weeds at 2-8 leaf seedling stage.
- For Radiata pine use 2-2.5L Ha by air.

2L.....\$302
4L.....\$568

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.....\$74
5L.....\$164
20L.....\$603

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.....\$72
10L.....\$128
20L.....\$245

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 11th 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.

• 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. You can also subscribe to the free Weed Files library. 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 and Replicate herbicides. To apply MSF600, GrassMate, MCPA, 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 and Replicate herbicides or to apply them in any circumstances.



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