

It's logical, really

by Paul Martin, Director, Rainbow & Brown



"A new scientific study has concluded that smoking may cause mental illness. The study found that people suffering from psychosis are three times more likely to be smokers."

I heard this recently on a TV news programme. The report caught my eye (actually, it caught my ear; I wasn't watching, merely listening) because it's a classic example of how misinterpreting the evidence - what was *found* - can lead to a logical error - what was *concluded*. Because the study apparently did not consider the reverse hypothesis: that mental illness may cause smoking.

Spotting errors of logic is a kind of weird hobby of mine, not least because I sometimes catch myself making them. We all make them, unless we are white-bearded old logic pedants named Aristotle. So it's forgivable.

Except, that is, for one that I can never overlook with a devil-may-care dismissive wave of the hand, and that one concerns Begging the Question.

So as I haven't thought of any other sparkling subject matter for this column, I reckoned you might appreciate a fascinating lecture on the topic of begging the question. Of course you would! Who could resist a thrill like that?

Begging the question comes from the Latin *petitio principii*, which actually means something like 'arguing the source'. So if you make an argument for which the only proof is that contained or implied in your statement itself, you are begging the question. It's a kind of circular argument. Example: 'If it wasn't illegal, it wouldn't be prohibited by law.' This actually says that the reason it's illegal is because it's illegal. A somewhat limited argument, that fails to address why it should be prohibited in the first place,

Another example, this one slightly slipperier: It is argued, and widely accepted, that organically grown food is the healthy choice. In fact, it's not even argued any more; it's taken as read. So a sticker stating nothing more than the word 'Organic' justifies a higher price. But it begs the question. The implied argument assumes that all organic produce is in fact measurably healthier. And

when you look carefully into that question, organic-equals-healthier is not necessarily always the case. Although some of the time, it may be.

A political example now (and politicians are a reliable source of every kind of logical error). The earnest politician in the empty suit declares, 'Our party will raise taxes on the rich, which will fund our generous programmes to assist the poor.' This blithely assumes that raising taxes on the rich automatically increases overall government revenue. And the reality is that it generally doesn't, as has been demonstrated many times and in many countries.

So that's what begging the question is, but what about what it isn't? Misuse of the term is pretty much universal, especially in the media.

Example: In his newspaper column, a rugby journalist observes that the All Blacks have been undefeated in their last 30 tests, and then says, 'This begs the question: Is this the greatest All Blacks team of all time?' But that's not begging the question at all. He misinterprets the term to mean, 'It sorta makes you wonder.'

And now a politician again: 'The Honourable Member refers to the remarkable economic progress of Hong Kong, which begs the question of why can his government not do the same for this country?' But no, it doesn't beg the question. It may perhaps *raise* that question, but that's not the same thing at all.

I know what you're thinking by now: So what? Why does it matter, except to a few dusty old logic bores? And if almost everyone is wrong about what begging the question means, doesn't that mean that they're right after all, by democratic process? For example, everyone thinks that 'terrific' means very good when it originally meant terrifying, and all the dictionaries have been obliged to agree: so terrific now means very good indeed. But it no longer means terrifying, because we all decided to misuse the word. It's linguistic molestation, by popular decree.

Which naturally begs the question, are the current All Blacks the greatest of all time?

IN THIS ISSUE:

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Dollar Drop Forces Price Rise

Only affects some products

The NZ dollar has been slipping downwards for a while now. It's lost 22% against the US\$ in the past 12 months, and 12% in just the past three months.

All very good news for some, but a savage thrashing for us because we have to buy everything in US dollars.

So we must now adjust some retail prices. It affects just four products so far, because we don't buy everything at once. And sometimes we can ease the pain by taking forward cover (otherwise known as tossing a coin, because half of the time you lose). And sometimes we can convince suppliers to swallow a bit of the exchange rate loss. And then we can eat a bit ourselves. And when all that's exhausted, it's your turn to take a wee bite of what's left. Alas.

The affected products are:

- **Glyphosate 360** liquid - up by about 7%
- **Granny** glyphosate granules - up by about 7%
- **MSF600** brushweed spray - up by about 13%
- **BuckShot granules** - up by about 8% (however, there's also good news about BuckShot; see separate article in this issue)

At the moment it looks as if we can hold those new prices, and the current prices of our other products, through the spring and into summer. That's if we believe the economists and banks. Do we believe them? Don't bet on it! But actually that's not true, because we do bet on it; we have no choice.

These prices are effective immediately, and include GST and delivery.



DECISION Spring Special

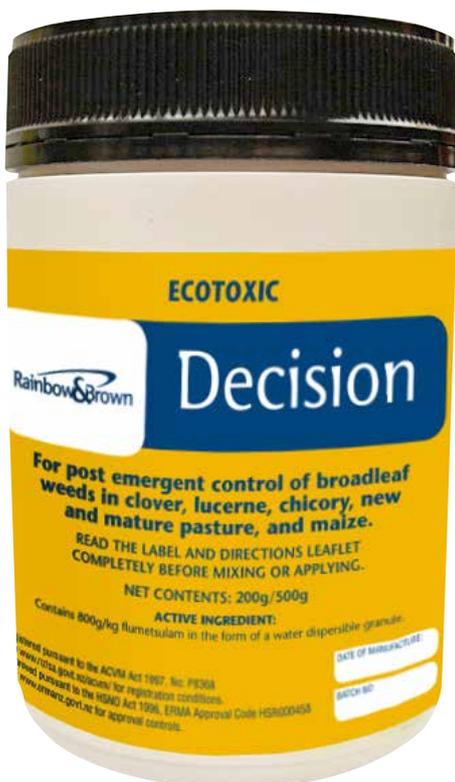
Buttercup Control at our Best Price!

Decision is clover-friendly, which makes it a great product to control buttercups - both annual and perennial types - in dairy pastures. Buttercups respond well to spring treatment, and a single annual application of Decision will normally give full-season control.

1kg Special...\$469.20 (normally \$552.00)
You Save \$82.80 (15%)

Decision also controls many other weeds in pasture, including several that are not controlled by MCPA, MCPB and 2,4-D. Decision can be tank mixed with those herbicides if required.

It's a water-dispersible granule containing 800g/kg flumetsulam. It dissolves readily, and is easy and safe to handle. It's also highly concentrated, which minimizes packaging and shipping costs (because a little goes a long way), and simplifies handling and storage on the farm.



Annual Buttercups

- 50g of Decision per hectare, applied pre-flowering (that's \$20.40 + GST per hectare)

Giant Buttercups

- 60g of Decision per hectare, applied pre-flowering. (\$24.40 + GST per hectare)

Other Weeds Controlled

Chickweed, Spurrey, Wild Radish, Hedge Mustard, Redroot, Cleavers, Nightshade, Fathen, Shepherd's Purse, Mallow, Creeping Cress, Yellow Gromwell, Stinking Mayweed, Wireweed, Sorrel, Field Pansy, Henbit, Willow Weed, Oxeye Daisy.

New Formula Buckshot

Now more free-flowing



BuckShot is the granular herbicide containing picloram, a very efficient broad-spectrum active ingredient. It's applied dry around the base of large weeds in pasture, and controls even big ragwort and multi-crown thistles, among others.

BuckShot is very popular, but has given some flowability problems in some dispensers, especially plastic bottles etc that are often used as a convenient way to have the product available at all times on the bike or tractor, ready for any targets of opportunity that you happen to come across while doing some other job.

We have modified the manufacturing process to create a more uniform and free-flowing granule, and tests so far indicate a significantly improved ability to flow out of a dispenser without clogging up in the neck (not your neck; the dispenser's).

BuckShot is convenient because it's always with you on the bike, available when you need it. And as it's a dry granule that's applied as-is, so it doesn't go off like herbicides that have to be mixed with water before use (most of which have a fully-effective life of just a day or two once mixed).

It controls difficult-to-kill perennial weeds including ragwort, broom, thistles, gorse, tutsan, sweet brier and blackberry, and many other species. And it does so at all stages of growth, making it ideal for spot-treating big weeds that have survived or been missed in your seedling spraying programme.

BuckShot is available in 5kg, 10kg and 20kg sizes, and is normally applied at around 2g per large plant, or 30-55g per square metres for small clumps of target weeds.

• 5kg ... \$82.80 • 10kg ... \$149.50 • 20kg ... \$241.50

Prices include GST and delivery.



BOOST SPRING PASTURE GROWTH

Spring is the ideal time to use Gibber growth promoter. It's economical, produces great results fast, and is a proven winner during the early season feed pinch.

What is Gibber?

It's a natural growth promoter called gibberellic acid. It's been used for many years in horticulture, but only in recent years has its use on pasture become more common.

How does it work?

By boosting cell expansion in grass and clover, resulting in faster growth as well as lusher and more substantial foliage. The boost is typically up to 60% *additional* dry matter production. Pasture sward is denser, with less bare spots and much better pugging resistance when grazed. Check the pictures below (and note the boot toes for scale).

How fast does it work?

Extra growth becomes clearly evident from about 7 days after application (leave a small area untreated to see for yourself the remarkable difference). The boost effect on pasture growth then becomes more and more pronounced until it reaches its maximum effect at about 21 days after application.

Is Gibber just for rotational grazing systems?

No, although it certainly does suit them best of all because of its 3 weeks' effective growth-boost cycle. But useful additional pasture growth can be achieved under any grazing system, and customers using less intensive grazing have still achieved very pleasing and cost-effective results. The ideal, however, is to apply Gibber within a few days of fairly hard grazing.

What's the ideal soil temperature range?

Gibber works best when soil temp is between 6°C and 18°C. And the maximum difference between treated and untreated pasture occurs when soil temp and thus 'normal' growth rate is at its *lowest* ... i.e. just when you need it the most!



How often can you apply Gibber?

Gibber is not a fertiliser, and you must have decent soil fertility to obtain and sustain the best results. In trials there was no discernible loss of growth response after three or four consecutive applications. Customers have successfully used six applications per paddock per year.

What's the ideal application method?

Boom spray or rosette spray works best. Around 100L of water per hectare will allow uniform spray coverage.

Cost per Hectare Lower than ever before!

Our latest price is the lowest ever, and makes the cost per hectare just \$5.77 plus GST per treatment.

SPRING SPECIAL

A 270g pack treats 30ha and costs \$198.95 incl GST & delivery

For August & September ONLY, order:

- Two packs for \$356.50 (save 10%)
- Three packs for \$508.30 (save 15%)

UNTREATED - AFTER 20 DAYS



TREATED - AFTER 20 DAYS



WEED FILE:

TWIN CRESS



Twin cress – *Lepidium didymum*

DESCRIPTION

Twin cress is a common annual weed that mainly germinates in spring and autumn.

It starts out as a rosette, but when mature it sprawls outward at ground level on leafy stems for 40cm or so. At that stage it can form a fairly dense mat.

It's a member of the brassica family, so is related to cabbage, kale and similar plants.

The leaves are feathery and very finely divided. The colour is a slightly yellowish green. When crushed, the leaves have a very strong, pungent smell (more on that below). Lower leaves are stalked, but upper leaves are stalkless.

Flowers are very small, just 1-2mm, usually white but hardly noticeable as flowers. After flowering, the plant produces fruit in very distinctive double pods about 2-2.5mm in size, and it's from these double pods that the plant gets its common name of twin cress. Each side of the pod contains one seed, and the pods separate as they become fully mature.

The root system is a taproot, fairly long for the initial size of the plant.

MILK TAIN

As mentioned above, the crushed leaves have a strong, unpleasant smell. And because the plant is readily eaten by stock, this persistent odour can cause severe milk taint problems. Twin cress is one of the most severe and common causes of milk taint downgrades, and can lead to total rejection of milk from affected farms until the problem is solved.

HABITAT

Twin cress is commonly found in new and open pastures, crops, waste areas, cultivated ground, heavily pugged paddocks, and around stock tracks and camps where pasture cover is sparse.

It is rarely found in well-established, dense pastures, because it is a poor competitor and won't successfully establish in such mature pastures.

HERBICIDE CONTROL

The plant is well controlled, especially when young, by most selective herbicides. The problem is to control it without excessive clover damage. This limits the use of broad-spectrum sprays like **GrassMate**. That's why it's best to treat twin cress while it is young, when it is still susceptible to less damaging sprays.

When seedlings are very small, MCPB is effective, and is not going to damage establishing clover.

- **MCPA750** used at 2-3L/ha is effective against rosettes, but only at the cost of some clover suppression. Grazing hard before spraying to remove clover leaf will minimise the damage, as long as the pasture is sufficiently established to tolerate a fairly hard graze.
- **2,4-D Granules** applied at 1-1.5kg/ha will control twin cress seedlings, and at 1.5-2kg/ha will control rosettes including larger rosettes than MCPA750 can deal with. This will cause some clover damage, however.
- **Decision** used at 50g/ha is effective against twin cress at all growth stages up to and including the 4-leaf stage, and has the advantage of being a clover-friendly treatment.

Caution: After spraying with any treatment, the plant becomes even more palatable, while retaining its milk-taint properties. So it's essential to keep milking stock out for three weeks after spraying.



WEED FILE:

BATHURST BUR

REVISED: AUGUST 2015



Xanthium spinosum

DESCRIPTION

Bathurst bur is a very nasty weed that is subject to Pest Plant Management in several regions of New Zealand. Details for your region, including your responsibilities, are available from your regional council.

In spite of its name, Bathurst bur originates not from Australia's V8 Mecca, but from South America.

It's an erect, multi-branched annual herb growing to about a metre in height. The upright stems carry distinctive yellowish triple spines to 3cm long, grouped in opposite pairs at the base of each leaf. The stem itself is stiff and downy, and whitish in colour.

The somewhat similar Noogoora bur lacks the triple spines of Bathurst bur, and also has larger leaves.

The leaves of Bathurst bur are slender and sharply pointed, up to about 10cm long, and are dark green and shiny with white mid-ribs on the upper surfaces, but pale and dull on the undersides.

Flowers are pale green, small and inconspicuous. Flowering occurs from December through to April.

The root system of the Bathurst bur consists of a long taproot.

The fruit is what gives this plant its name (well, the second part of its name). These are the woody oval shaped burs, up to 13mm long, and covered with a layer of thick hooded prickles that hook firmly to clothing and to the wool of sheep. It is by this tenacious method that the Bathurst bur is mostly spread; inside each bur are two seeds.

As well as having an obvious detrimental effect on wool, the burs are irritating to the skin of shearers, and damage the combs of the shearing handpiece. The sharp and difficult-to-remove burs also cause foot damage to stock. The seedling plant is also poisonous to stock, in particular to horses and pigs. And to round out the rap sheet of this unpleasant pest, the Bathurst bur is a host of fungal diseases of common horticultural plant species.

HABITAT

Although not a common plant, Bathurst bur occurs in parts of Northland, Auckland and

Hawkes Bay, less frequently in the lower half of the North Island, and also at scattered sites throughout the South Island.

It invades pasture, especially in high-fertility and warmer coastal areas, and is also found in waste land, arable land, summer crops and horticultural sites. It is frequently seen around stockyards, gates and races; the areas where the animals carrying the bur concentrate.

MANUAL CONTROL

Isolated plants can be grubbed out and must be removed and burned, because the burs of a dead plant will still drop to the ground and deposit the seeds within. The seeds remain viable in the soil for many years. For that reason even patches of Bathurst bur that are sprayed (see below) must still be manually removed and destroyed after spraying.

HERBICIDE CONTROL

Spraying before burs are formed is essential to reduce the chances of regrowth. Sprayed sites, especially if burs were present at spraying, will need to be monitored for several seasons to intercept any fresh germinations early. And it is essential to not allow any sprayed plants with burs to remain on the site even if dead.

Spot Spraying

All situations where spraying is required will effectively be spot spraying jobs, whether of a few individual plants, or of patches of denser plants. Remember that this is a notifiable pest plant, and some local authorities will provide control resources. Several herbicides are effective, and the choice comes down to what product is on hand and, to a lesser extent, the situation in which the Bathurst bur is growing.

- **Granny** at 45g/10L water.
- **Glyphosate 360** at 100ml/10L water.
- **GrassMate** at 60ml/10L water.
- **MSF600** at 1g/10L water.
- **Cobber** at 25ml/10L water (DO NOT use Cobber in home gardens)

In all cases when spraying, add **SuperWetter** penetrant at 20ml/10L water to ensure thorough penetration of the herbicide into the plant.



WEED FILE: BINDWEED

REVISED: AUGUST 2015



Great Bindweed

Pink Bindweed



Pink Bindweed – *Calystegia sepium*
Great Bindweed – *Calystegia silvatica*
Field Bindweed – *Convolvulus arvensis*

DESCRIPTION

All of these related species are part of the same family, and are also known as **CONVOLVULUS**.

This Weed File concentrates on the Great Bindweed, but refers to the others where they are distinctly different. However the Herbicide Control section is relevant to all of them.

The Great Bindweed is a very robust climbing and sprawling perennial plant that grows to 3 to 4 metres in height. It occurs throughout New Zealand, and originated in Southern Europe. The Pink Bindweed is common through the North Island and the Upper South Island. However these two species readily cross and a hybrid version with pale pink flowers is now very common on roadsides, drains and hedgerows.

The flowers are very large, white and trumpet shaped, up to about 80mm in diameter. The Pink Bindweed has flowers of similar shape, but slightly smaller and, not surprisingly, pink. The Field Bindweed's flowers are smaller still (30mm diameter), but can be either white or pink.

The leaves of all the Bindweed species are distinctly arrow or shield shaped, with the Great being largest of all (180mm long) and the Field being smallest (40mm).

The stems are hairless and twisting, and often purple tinged where exposed to sunlight. These stems form a dense and convoluted mass (hence the alternate name *Convolvulus*) that twines in an anti-clockwise direction when viewed from above. These stems twist around structures, fences and other plants, giving the Bindweed its characteristic climbing ability.

All of the Bindweeds have an extensive

underground rhizome structure that is very persistent and damage tolerant, and it is this feature that makes the Bindweeds very difficult to control because they can recover quite readily from both physical and chemical trauma. The plants will normally die back above ground during the winter, but in spring will regenerate with fresh and fast-growing aerial growth from the rhizome system.

MANUAL REMOVAL

Grubbing or digging out is rarely effective in the long term, due to the ability of the plant to regenerate from remaining sections of the rhizome system. Small individual plants may be removed manually if care is taken to also remove the whole underground structure, and all plant material must be removed from the site. Overall, however, it is better to use herbicides to kill the plant in situ.

HERBICIDE CONTROL

Stump Swabbing

Cut the stem close to the ground and remove the cut foliage and stems for mulching. The fresh-cut stump must be liberally swabbed with one of the following:

- **MSF600** at 5g per litre of water.
- **Glyphosate 360** at 100ml per litre of water.

Spraying

- **GrassMate** at 60ml per 10 litres of water, applied anytime to whole plant.
- **MSF600** at 5g plus **SuperWetter** at 10ml per 10 litres of water.

IMPORTANT: Because of the ability to regrow from the rhizome system, it is essential to follow up with a second spray programme once any regrowth or fresh growth has become evident. This second spray treatment will normally provide a high level of control with very little further regrowth.

GRANNY 800g/kg GLYPHOSATE AS THE MONOAMMONIUM SALT

ACVM No 7499

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

- The stronger, smarter and most economical glyphosate option. 9kg is equal to 20L of G360.
- Water-dispersible granule, easily soluble.
- 4.5kg bag minimizes packaging disposal.
- No residual effect in soil; drill new seed in 2 days.
- Use just 425g/100L water (knapsack 65g/15L) for general spraying; 1.4-2.2kg/Ha for pasture spray-out.
- Add SprayWetter penetrant for best results.

2.25kg ...\$52.90
4.5kg\$73.60
9kg\$117.30

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.....\$46.00
10L.....\$73.60
20L.....\$117.30
200L.....\$998.20

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\$31.05
500g\$46.00
1kg\$78.20
10kg ctn (5 x 2kg bags)
.....\$552.00
30kg+ - Ask for quote

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.....\$98.90
5L.....\$197.80
10L.....\$356.50
20L.....\$598.00
100L...\$2875.00

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 \$75.90
10L \$132.25
20L \$241.50
200L . \$2277.00

2,4-D GRANULES 800g/kg 2,4-D dimethylamine salt as WATER SOLUBLE GRANULES

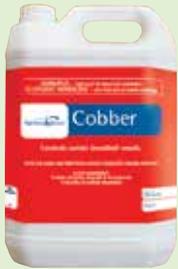


For control of broadleaf weeds in pasture and cereals

- Non-volatile formulation greatly reduces spray drift risk.
- Non-smelly, easy to handle, water soluble granules.
- Convenient 2kg foil bags for easy dispensing.
- Controls thistles and ragwort at seedling and rosette stages.
- * Minimal clover damage, especially with winter spraying.
- Use 1-1.5kg/Ha in cereals, 1-3kg/Ha in pasture, depending on target species.

10kg carton (5 x 2kg bags)
.....\$120.00

COBBER 300g/L CLOPYRALID as the amine salt.



ACVM No P7790

For control of hard-to-kill and multi-crown thistles in pasture.
(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.
- Use 1-2L/Ha by boom or 100-200ml/100L spot spraying. Also good for wiper application.

2L.....\$149.50
5L.....\$276.00
10L.....\$529.00
20L.....\$977.50

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.
- Just \$5.77/Ha, apply with any spray gear.

45g\$42.55
270g\$198.95

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.

5kg\$82.80
10kg\$149.50
20kg\$241.50

DECISION 800g/kg FLUMETSULAM IN A WATER DISPERSIBLE GRANULE



ACVM No P8368

Control broadleaf weeds in new and established pasture, as well as for lucerne, chicory, clover and maize crops.

- Clover-friendly control of annual & perennial buttercups in pasture.
- Good for autumn and spring application.
- Also controls chickweed, cleavers, mallow, oxeye, sorrel, spurrey, stinking mayweed and willow weed.
- 30g-65g/Ha depending on species and growth stage. Annual buttercups 50g/Ha, giant buttercups 65g/Ha.

200g\$92.00
500g\$195.50

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\$74.75
1kg\$684.25

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.....\$95.45
5L.....\$195.50
10L.....\$345.00
20L.....\$569.25

AIRWET LF 100% ORGANOSILICONE WETTER-PENETRANT

Low foam formulation optimised for aerial spraying

- Assists penetration, boosts translocation within the plant
- Reduces rain risk, normally to under an hour
- Much less foaming than typical competitive wetters, with no loss of performance
- Available in 20L jerrycans or 20L cartons (4 x 5L), and 1000L IBC tanks

20L.....\$414.00
1000L.....Call for quote

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.....\$63.25
5L.....\$138.00
20L.....\$454.25

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.....\$72.45
10L.....\$120.75
20L.....\$224.25

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 15th 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, which is why our prices are so attractive ... it is effectively the "wholesale" price, direct from the manufacturer.

• People

The directors of Rainbow & Brown have been involved in the NZ agricultural chemicals business for over 20 years. They're actively involved in the day-to-day running and building of the business. If you phone us, your most likely contact will be Rachael, our office manager (and the real heart of the company!). If you call in to see us, 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 may 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.

• 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 download from the free Weed Files library. It's at www.rainbowbrown.co.nz

• Approved Handler Certificates (EPA)

You do NOT need an Approved Handler certificate to purchase any current Rainbow & Brown product except for Cobber herbicide. 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 herbicide or to apply it in any circumstances.



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