

Carbon Dating for Dummies

by Paul Martin, Director, Rainbow & Brown



This is a photograph I recently took in Australia. It shows two coal trains, one filled with coal, and one on its way to be filled.

Each railcar on these trains holds 90 tonnes of coal, and each train has up to 100 cars (pulled by four locomotives). These are just two of the dozens of such trains that run daily from the Hunter Valley's massive open cut coalmines down to Newcastle, the world's largest coal port.

At anchor off that port are bulk carrier ships, often as many as 80 or more, queuing to be loaded with coal. Remember that giant ship that ran aground on a beach there last year? The *Pasha Bulker*? Carries nearly 60,000 tonnes of coal? Well, multiply that by 80 and you have the daily queue.

Obviously, that's a lot of coal. And quite a lot of CO₂, too.

All of which got me thinking about carbon credits. If I understand the system properly, I am entitled to emit as much CO₂ as I wish, as long as I pay someone else to *not* emit an amount equivalent to the amount that I emit. I thus become "carbon neutral", and a certified eco-warrior.

One novel way I might do this is to pay someone to *not* cut down trees. Not just anyone, of course ... it's got to be someone who has the motive, the opportunity and the means to go a-lumberjacking. So that's someone with poverty, trees and a big axe. A mountain tribe in New Guinea, for example.

Of course, I don't have to actually trek into the New Guinea highlands to woo the would-be woodsmen. I can just pay a carbon offsets trading company to do it for me, while I get on with burning all the coal I can manage.

That's the way Albert Gore does it I understand... he buys carbon offsets to



neutralise his substantial personal emissions. Well, presumably not all of his personal emissions, just the carbon ones. The hot air remains lamentably un-offset.

Albert is also a believer in the sound business principle of swings and roundabouts; the company he buys his carbon credits from, Generation Investment Management, is part-owned by... well, by a Mr A Gore. And he's the Chairman, too! What a remarkable coincidence.

A less charitable commentator than myself might suggest that this appears to mean that Albert is buying his carbon offsets from himself. In fact, several less charitable commentators have already done so, and one of them has also begun promoting the "Al Gore Diet", in which Albert eats all he can eat while someone, somewhere, agrees to go hungry.

Nobel Peace Prize. Nice work if you can get it.

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Glyphosate Price Rise

Alas it has come to this. And sooner than we thought, too. The spiralling increase in the cost of glyphosate raw materials means that we've got to have our second glyphosate price rise in two months. Our prices are going up by about 12%.

Of course, we're not alone. All the other manufacturers we've checked out have had increases as well, for exactly the same reasons.

Nor is New Zealand alone, in fact we're better off than some. The Rainbow & Brown price has now gone up by 27% in the past 12 months. Other NZ brands have gone up by as much as 42%. But in Australia, some popular brands are now *100% dearer* than a year ago.

Our new prices are in effect from 1st April 2008. We'd like to be able to guarantee how long they will apply for, but we just can't, for the reasons discussed at the top of the opposite page. We *think* this price should now hold until at least June. Maybe longer. Maybe not.

The new prices for both versions of glyphosate are:

GLYPHOSATE 360g/L

5L...\$75 10L...\$125 20L...\$190 100L...\$875 200L...\$1675

GLYPHOSATE 450g/L

5L...\$85 10L...\$145 20L...\$225 100L...\$1050 200L...\$1950

These prices (mercifully) do include both GST and delivery.

Note: Normally we try to give some short period of grace before a price rise comes into effect. That's what we did in February, although as a result we then sold more in a week than we ever had in a month! But we're getting no warning of these constant materials price rises either, so now we've got to pass that lack of notice on to you. Sorry about that... we can now only promise that when materials prices do eventually fall again, we will pass on the price reduction without a grace period too!



Crystal Ball Gazing

The glyphosate situation is very difficult to forecast. Prices are rising because demand is rising and supply is short. That's all pretty straightforward so far. But what's going to happen next?

It's hard to say. The only thing we know for sure is that the word "Bugger" is going to come into it somehow.

What Happened?

To reiterate, the demand is higher largely because there's been so much extra planting of crops, mainly in North America, for ethanol production. Supply is short because (a) demand is high, (b) power is rationed in China, (c) some Chinese producers are affected by anti-pollution measures, and (d) Ceres is entering the conjunctive aspect of Saturn.

Because supply is short, prices are high. It's also because of increasing world oil prices, and because the Chinese government removed some export subsidies previously paid to their chemical manufacturers. And because Ceres is soon to be *exiting* the

conjunctive aspect of Saturn.

Monsanto

Monsanto's Vice President of US Business, Jim Zimmer, was recently reported congratulating himself on predicting the increased demand more than a year ago, and on ramping up supply (i.e. raw materials procurement) by over 20% for the US market. They're so big that that's all it took, really ... Monsanto eats an extra hot pepper, and we get heartburn.

What Now?

So what happens next? Maybe it depends on how many hot peppers are left. What we think will happen is that the price rises will top out about August-September or so, and that there will be some chance of an easing in prices after that. By the time any reduction flows through to retail prices though, it could well be the end of 2008. And remember this ... if the raw material we are using to manufacture today had cost us what raw material is now costing if we were just *ordering* it today, the price to you



would have to be another 50% higher than it is today. And if you had trouble following that, just imagine how we feel!

What we can say is that it looks certain that glyphosate herbicide retail prices will not fall back to last year's prices, ever. We think they might end up settling at around \$200-\$220 for 20L of regular 360 strength glyphosate. And a quick glance at the current prices opposite confirms that that means there are actually likely to be further price rises yet!

Strangely enough, that's just about what our glyphosate retail prices were eight years ago; \$205 for 20 litres. Everything old is new again.

Leaving a Message

I hate leaving messages on telephone answering machines. I worry that I'll say something stupid (of course, that's not an unreasonable fear in my case).

I know what I want to say to the person I'm calling, but when their answering machine cuts in instead of a live human, an invisible force radiating out of the handset interferes with my brainwaves and I blurt out some incoherent nonsense instead. And when you've blurted, there is no way to get it back. It's recorded.

I know I'm not alone in this. We get incoherent blurts on our answering machine every day. Often followed by a hasty and anonymous hang-up. And we also get a few *early* hang-ups, presumably from blurters who don't even want to torture themselves by listening to our entire message; they just get it over with by hanging up as soon as that voice says, "*We can't answer your...*" Click!

However, during our recent sale in early February the phones were very busy, and therefore more people than normal got to hear that dreaded recorded message. And so more than usual elected to hang up early, intending to try again later. Normally that's no problem, but this time we sold out of sale stock of glyphosate early. We did include an announcement to that effect in our phone message, but many experienced blurters never heard it because they didn't get that far, "*We can't...*" Click!

And so, when the early rush settled down and the frustrated blurters did eventually get through, some were understandably annoyed to learn that the glyphosate sale was over already. "*But why didn't you tell me?*" was the cry. Well, if you'd left us a message, even just a blurt with your phone number attached, we would have called you back that day. Next day at the worst. And so you'd have almost certainly got in *before*



the sale stock ran out, and you wouldn't have missed out at all. Some other poor bugger would have missed out instead of course, but that's life ... it was supposed to be first in – first served.

So please, no matter how painful, do try to leave a message so we can call you back. We won't play your blurt on Funniest Home Videos, I promise. Although if you do want a good laugh, I'll leave a message on *your* machine, and you can hear what a Superblurt sounds like. Ho, ho. Click.

Low Cost Weed Wiping

Using a weed wiper on thistles and ragwort can be an amazingly inexpensive and very effective solution. Of course, that assumes that you have or can borrow a weed wiper! And naturally it also assumes that you can drive safely over the terrain of the paddocks in question.

The reason it's worth investigating is that it allows you to use a much lower cost herbicide ... MSF600. Although it's predominantly a gorse & brushweed spray for boom application, MSF600's active ingredient, metsulfuron-methyl, is also super-effective at low dose rates against all erect thistles and ragwort. The only problem is that it is not grass or clover friendly, so you can't boom spray it without causing heavy damage to ryegrass/clover pasture.

But in Australia, where the pastures often have no clover and are native grass-based (i.e. grass species not harmed by metsulfuron-methyl) they often aerial spray for thistles and ragwort, at just 30g per hectare! That's only \$3.75 a hectare for chemical! So it works against thistles & ragwort at *very* low rates.

The only problem for us is the pasture damage, and that's a problem a wiper may be able to solve for you.

If you can use a wiper, try it. Use just 1g MSF600 plus 20ml penetrant per litre of water in a weed wiper for super-low-cost effective control of thistles and ragwort.

Weed wiping works best when at least half the target plant extends above the top of the grass... giving you a decent amount of weed contact to work with; you'll be wiping half of the weed including nearly all of the freshest growth. Grazing well just before wiping will give you the maximum height difference, which both increases effectiveness and minimises accidental grass damage.



Wandering Jew

This is also known as Wandering Willie, although I had thought that was actually Bill Clinton.

Many herbicides don't work very well, or at all, on this creeping weed. **Glyphosate** wilts it a bit and makes it droop, but like the aforementioned Wandering Willie, it's rampant again before you know it.

However, **Triclo** is very effective. Use **Triclo** at 6ml per litre, plus 1ml of wetter/penetrant (either one; **SprayWetter** or **SuperWetter**). If some parts of the plant survive, do a follow-up spray at the same rate within two months to ensure total kill.

Caution: If the Wandering Jew is growing around valuable trees or shrubs, be careful of overspray or spray drift. Be conservative; spray only as much of the weed as you can safely get, and see how that goes. Better to grub a small surviving bit or two out by hand later, than to lose your lemon tree from overdoing the spraying.

Ivy

Both Cape Ivy and Ground Ivy can be successfully killed by spraying with **GrassMate** at 6ml per litre, or with **MSF600** at 5g/10L. In both cases, add **SuperWetter** at 1ml/L for best results. However if the ivy has grown over a valuable tree, don't spray it ... it's better to be safe by cutting the ivy stem and swabbing it, again with either **Grassmate** (50ml/L) or **MSF600** (5g/L). Swab immediately after cutting the ivy, to ensure the herbicide is taken into the stump efficiently. Once the cut off section has died off, it's much easier to drag it out off without causing damage to whatever it's growing over.

Ragwort

Although 2,4-D is widely used for boom spraying ragwort seedlings, it will not kill the larger and multi-crown plants. You can also boom spray with **Cobber** herbicide at 2L/Ha: this kills the multi-crowners, but it will damage clover. This damage can be minimised if you spray when the clover is either dormant or has been grazed down hard just before spraying.

The best way to kill those bigger ragworts is to spot spray with **GrassMate** or **MSF600** during the period from March to May or so. **GrassMate** is grass-friendly, but will damage clover. **MSF600** will damage both grass and clover. But for spot spraying, that's not so much of a problem as long as they are both very effective ragwort killers. Which they are.



Kikuyu

The best way to spray kikuyu is to use **glyphosate** WITHOUT an added penetrant.

Now that's just weird. A penetrant/wetter improves uptake and boosts herbicide performance, UNLESS you are spraying kikuyu, when adding a penetrant has the opposite effect... it *reduces* herbicide performance. Why? Just to piss everyone off, presumably. Or to see who's paying attention. Whatever the real reason, this is not a joke – it's a proven fact. **When spraying kikuyu with glyphosate, you'll get better results if you *don't* add a penetrant.**

PRODUCT	COMMENTS	SIZES & PRICES
<p>GLYPHOSATE 360</p> <p>360g/L GLYPHOSATE AS THE ISOPROPYLAMINE SALT</p>  <p>ACVM No P5441</p>	<p>Glyphosate is the world's most popular and trusted herbicide.</p> <ul style="list-style-type: none"> • 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. 	<p>5L.....\$75</p> <p>10L.....\$125</p> <p>20L.....\$190</p> <p>100L.....\$875</p> <p>200L.....\$1675</p>
<p>GLYPHOSATE 450</p> <p>450g/L GLYPHOSATE AS THE ISOPROPYLAMINE SALT</p>  <p>ACVM No P7223</p>	<p>More concentrated for maximum economy</p> <ul style="list-style-type: none"> • 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. 	<p>5L.....\$85</p> <p>10L.....\$145</p> <p>20L.....\$225</p> <p>100L.....\$1050</p> <p>200L.....\$1950</p>
<p>MSF600 Gorse & Brush Spray</p> <p>600g/kg METSULFURON-METHYL</p>  <p>ACVM No P7027</p>	<p>The low-cost, proven choice for gorse and brushweeds.</p> <ul style="list-style-type: none"> • 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. 	<p>200g\$55</p> <p>500g\$78</p> <p>1kg\$125</p>
<p>GRASSMATE</p> <p>300g/L TRICLOPYR AS THE BUTOXYETHYL ESTER plus 100g/L PICLORAM AS THE AMINE SALT in the form of an emulsifiable concentrate</p>  <p>ACVM No P7417</p>	<p>Grass friendly control of brushweeds and broadleaf weeds in pasture.</p> <ul style="list-style-type: none"> • 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) 	<p>2L.....\$130</p> <p>5L.....\$245</p> <p>10L.....\$450</p> <p>20L.....\$795</p> <p>100L.....\$3650</p>
<p>COBBER</p> <p>300g/L CLOPYRALID as the amine salt.</p>  <p>ACVM No P7790</p>	<p>Controls hard-to-kill thistles in pasture.</p> <ul style="list-style-type: none"> • 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. 	<p>2L.....\$185</p> <p>5L.....\$370</p> <p>10L.....\$710</p> <p>20L.....\$1320</p>

PRODUCT	COMMENTS	SIZES & PRICES
<p>BUCKSHOT</p> <p>20g/kg PICLORAM GRANULES</p>  <p>ACVM No 7717</p>	<p>Granular herbicide for direct spot application.</p> <ul style="list-style-type: none"> • 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 	<p>5kg\$65</p> <p>10kg\$110</p> <p>20kg\$200</p>
<p>RANGER</p> <p>750g/kg THIFENSULFURON-METHYL GRANULES</p>  <p>ACVM No 7668</p>	<p>Selective herbicide for use in pasture, wheat barley and oats.</p> <ul style="list-style-type: none"> • Controls buttercups (annual, creeping and giant) and docks. • Scoop and measuring cylinder included. • Use at 20g/Ha, so 100g pack will treat 5 hectares. 	<p>100g\$95</p> <p>1kg\$855</p>
<p>TRICLO</p> <p>600g/L TRICLOPYR AS THE BUTOXYETHYL ESTER</p>  <p>ACVM No P7189</p>	<p>Controls broadleaf & brush weeds without pasture damage.</p> <ul style="list-style-type: none"> • 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. 	<p>2L.....\$120</p> <p>5L.....\$225</p> <p>10L.....\$385</p> <p>20L.....\$675</p>
<p>SUPERWETTER</p> <p>100% ORGANOSILICONE WETTER-PENETRANT</p> 	<p>Boost spray performance on woody & hard-to-kill species</p> <ul style="list-style-type: none"> • 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. 	<p>2L.....\$55</p> <p>5L.....\$115</p> <p>20L.....\$450</p>
<p>SPRAYWETTER</p> <p>100% NON-IONIC SURFACTANT WETTER-PENETRANT</p> 	<p>Maximises herbicide performance in all situations</p> <ul style="list-style-type: none"> • 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. 	<p>5L.....\$55</p> <p>10L.....\$105</p> <p>20L.....\$200</p>

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 9th 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. (Note: May, June and July hours are 9.00am to 4.00pm)

• 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.

• Website

Our website is at www.rainbowbrown.co.nz. There you'll find full details of all our products, as well as labels, Safety Data Sheets (SDS), and a small library of useful reference articles about things like Chemical Safety, Calculating Application Rates, Comparing Prices, etc. You can use the website to order direct from us, or to send us a message. Please take a look and if you have any suggestions for improvement let us know.



• Approved Handler Certificates (ERMA)

You DO NOT need an Approved Handler certificate to purchase ANY current Rainbow & Brown product. To apply MSF600, CropMate, Grassmate, Cobber, 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), then you DO need an Approved Handler certificate to apply it, but you DO NOT need a certificate to buy it. After August 2008 you will need an Approved Handler certificate to buy or apply Cobber herbicide.



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