Facial eczema – don’t risk it

Nitrogen for brassicas, how much and when?

Talking tough on timber

Helping grow the country
Welcome

Hello, I’m Richard Weightman, National Sales Manager for PGG Wrightson Rural Supplies.

I spend a lot of my time travelling across New Zealand visiting our stores, supply partners and talking with our customers, hearing about what is happening in the industry and on farm.

One of the things that I get consistent feedback on, is the relevant and timely content of this publication. Rural Diary has been running for three years and is firmly centred on providing technical information to ensure efficient farming production. PGG Wrightson’s commitment to helping grow the country isn’t found just in this publication, it is also something that our business pursues every day.

Throughout the year, our staff take part in regular training programmes on farm to ensure we ‘walk the talk’ for our customers. PGG Wrightson recently held a Southland training session learning about drench resistance; what it is, how it happens and what you can do to prevent it. We share this information on page 3 of this issue.

Our staff training programmes cover all key products, including dairy, animal health, nutrition, cropping and more. So when we say, be sure to talk to your local PGG Wrightson store or Technical Field Representative you can be assured you’ll get great advice and service from a technically knowledgeable team.

Richard Weightman
National Sales Manager Rural Supplies – PGG Wrightson

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Cover: Grahame Sattrup, Director of Sattrup Farming Limited in North Waikato with Jon Nutt, PGG Wrightson Technical Field Representative.

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meridian.co.nz/agribusiness
Is your drench effective?

A key step of your parasite (worm) control plan is to ensure that every drench product you use is effective against the parasites on your farm. Continuing to use an ineffective drench costs you lost production and it promotes the development of drench resistance in the worm population on your farm.

Drench resistance is when a worm that should be killed by a drench develops the ability to survive a correctly applied, standard dose of that drench. Drench resistance is a genetic trait. A resistant worm that survives a drench will lay eggs that will then develop into resistant larvae. Worms can be resistant to a single drench family or they can be resistant to multiple drench families at the same time.

If I drench a mob of animals with an ineffective drench, all the fully susceptible, non-resistant worms are killed but worms resistant to that drench will survive. The only worm eggs passed onto pasture are resistant to the drench I used, i.e. the mob contaminates pasture with resistant worm eggs. When my animals re-graze that contaminated pasture in four weeks, they eat a much larger number of resistant larvae. If I continue to use the ineffective drench more resistant worms survive the next drench to lay more eggs, which develop into more resistant larvae. Continuing to use an ineffective drench can lead to high pasture contamination and it increases the number and proportion of resistant parasites on my farm.

If I know that I have resistant parasites on my farm, and I know what drench families they are resistant to, I can select drench combinations that are effective against the susceptible and the resistant parasites on my farm. When I use a known effective drench on a mob, I kill all the resistant and all the susceptible worms inside the animals. I don’t select for resistant parasites.

Drench resistance will be a significant problem well before you see it with your eye. Don’t wait for the visual signs of drench failure (scouring, weight loss, deaths etc.) to occur before considering your farms resistance status. The only way to confirm a drench is effective is to measure the ‘Faecal Egg Count Reduction %’. There are two common options:

1. ‘Drench Check’ – this simply checks the current combination drench being used is effective. I recommend this is done at least once per season to check the routine lamb/calf drench. PGG Wrightson offers this service.

2. ‘Drench Test’ faecal egg count reduction test – in this test every drench family is tested separately and frequently used combinations are also checked. This test gives a good understanding of the drench resistance levels on your farm, allowing PGG Wrightson Technical Field Representatives to confirm the effective drench options on your farm and also very quickly highlighting drench options that should never be used.

Both these options work on the same principle, measuring the faecal egg count reduction %:

1. Starting egg count – collect faecal samples just before animals are drenched. Measure the starting faecal egg count by sending to a lab.

2. Drench – after collecting the faecal samples correctly administer an accurate dose of drench to the animals.

3. Final egg count – collect faecal samples for an egg count 10-14 days after the drench.

4. Calculate faecal egg count reduction % – any reduction less than 95% indicates drench resistance. We know that continued use of a product less effective than 95% will accelerate the selection of resistant parasites.

Talk to your PGG Wrightson Technical Field Representative about how to ensure effective drench use. If you would like more information and the opportunity to engage and ask questions, enquire about getting Andrew or Ben along to your local discussion group.

Andrew Dowling BVSc
Technical Manager – Animal Production
PGG Wrightson

Ben Allott BVSc (dist)
Technical Expert – Animal Health
PGG Wrightson
The Time Capsule® has proven itself over and again for Grahame Sattrup and his family in North Waikato. They’ve consistently used it to protect their animals against facial eczema (FE) over the last twenty years.

The Sattrups have owned their farm since 1940, initially farming just 125 ha as a predominantly sheep unit with some beef. The original farm has been added to over the years and the family now owns 640 ha, 590 ha effective, running more beef than sheep with some dairy grazing.

Stock numbers include 300 R2 heifers, 104 carryover cows, 425 ewes, 210 replacement hoggets and approximately 900 Friesian and Friesian-Hereford cattle (calves, yearlings and rising 2 year olds). The Sattrups also carry 30 milking cows between August and November, to help raise the four day old calves they buy in annually.

The North Waikato area is renowned for dry autumn weather and is, therefore, a high risk area for FE. Grahame notes that grass management is a big focus up to Christmas so there’s not too much pasture to dry off – as this is when FE becomes a problem.

FE is a disease of the liver that affects all ruminants when they are exposed to *Pithomyces chartarum* spores, which grow quickly in dead or dying grass litter typically found in the base of pasture, when moisture and warm temperatures are favourable for spore development. This is usually towards the end of January or early February, when the nights become warm and humid (>12°C), or a dry period is followed by rain. However it is important to monitor local pasture spore counts as spores can reach damaging levels as early as December and continue right through until June.

In FE regions of the country, the clinical signs of facial eczema are well known. Severe sunburn, peeling skin, weight loss, and in severe cases stock deaths are commonly seen in bad FE seasons. What is often not well known is the massive sub-clinical loss that this disease is causing, even in seasons when no clinical disease is seen. Even relatively low intakes of FE spores can cause significant production losses. Chronic liver damage can also result in affected animals suffering from liver failure when stress comes on later in the season, commonly in ewes close to lambing and cows at calving.

Well aware of the risk posed to their stock, the Sattrups rely on PGG Wrightson Technical Field Representative Jon Nutt to send them weekly spore count emails. They also buy in stock of the Time Capsule so they have them available for application at the optimum time.

“We monitor the risk levels. When spore counts begin to rise we apply the Time Capsule to the lambs, younger calves and dairy heifers, usually after the first lot of rain” Grahame elaborates.

“It’s an insurance policy really – once the Time Capsules are in, we can sleep at night.”

The Time Capsule is a slow release zinc bolus. Each animal is ensured of a consistent daily dose of zinc, there’s no need to rely on animals to consistently drink water to get the adequate protection. Cattle are protected for at least four weeks and sheep for six weeks.

Grahame agrees that the Time Capsule is the most effective and proven method for preventing FE. “We’ve been using the Time Capsule since it came on the market over twenty years ago – and we’ve never had a problem with FE in that time. It’s also easy to use; once you master the technique, application is quite simple.

“I’m very comfortable with the reliability of the Time Capsule, it’s been 100% effective on our farm.”
**Facial eczema – don’t risk it**

**Facial eczema (FE) is a long standing New Zealand disease. Despite preventive options being available, there are still clinical FE cases and farms suffering significant subclinical production losses.**

Research in the late 1950s\(^1\) identified the causal factor of the (liver) disease as the fungal toxin sporidesmin. More recently in the 1980s\(^2\) research developed the most effective FE preventive option, the Time Capsule\(^3\).

Farms where stock remain unprotected through the FE season risk decreased tupping performance in sheep, lost milk production in dairy cows and reduced liveweight gain in heifers and beef animals. It has been estimated that FE costs New Zealand farmers hundreds of millions in lost production.\(^3\)

**Why do we still see facial eczema symptoms?**

> There is a misconception that if FE is not visible it isn’t a problem. Animals can experience significant liver damage without you ever seeing clinical signs.
> The reliance on preventive methods that commonly lead to under-dosing, missed treatments and poor protection across a mob of animals.
> Errors made during measuring and mixing when using preventive methods that rely on daily dosing.
> Reactive rather than proactive use of zinc. In many cases zinc treatment is started too late, often once the damage has already been done and clinical disease is seen.

A recent survey\(^4\) looking at the effectiveness of FE preventative options provided the below facts. The farms surveyed used zinc in water troughs, zinc in animal feeds, fungicide pasture spraying or combinations. The results showed that:

> 7% of treated cows showed evidence of significant liver damage.
> 32% of treated cows showed evidence of facial eczema.
> Only 29% of cows that received zinc supplementation had serum zinc concentrations in the range thought to be protective against FE.

FE was not managed effectively on many farms. The farm managers in this survey assumed that because they were not seeing clinical signs of FE, their FE prevention efforts were working. A more detailed look highlighted many of their cows were not adequately protected.

This survey emphasised farms need to be more effective at implementing risk management strategies. It is important to understand what is happening at the individual property level and the potential cost-benefits of managing sub-clinical FE challenges. A strategy should be based on effective monitoring which incorporates stop-go points for preventive action and uses effective preventive methods.

**The Time Capsule\(^6\) boluses take the guess work out of preventing facial eczema because:**

> Zinc is administered then not worried about for the next month. No daily dosing, no measuring, no forgotten treatments.
> Time Capsules release zinc at the correct dose rate.
> Time Capsules have products that vary the dose rate based on the size of the sheep or cow, without needing to start early to allow cows time to get used to the taste.

**Prevention is not just better than a cure – prevention is the cure**

Once FE has affected livestock, nothing can be done to repair the liver damage. Zinc is only effective if used before and during danger periods. Therefore, Time Capsule must be administered before spore counts get too high, before liver damage occurs and before production losses start. FE is too large a risk to leave to chance. Time Capsule can give farmers confidence that their animals are protected against FE when used correctly.

To learn more about preventing facial eczema in your livestock, talk to your local PGG Wrightson Technical Field Representative.

**ARTICLE SUPPLIED BY AGRITRrade**

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\(^1\)Di Menna et al. – History of facial eczema research; New Zealand Journal of Agricultural Research, 2009, Vol. 52: 345–376


\(^3\)R Munday et al. – A zinc-containing intraruminal device for facial eczema control in lambs. New Zealand Veterinary Journal 45, 93-8, 1997


\(^5\)E Cuttance et al. – To determine the effectiveness of current facial eczema management protocols used on dairy farm; Dairy New Zealand: 2014
Take control of facial eczema now

Once cows develop facial eczema nothing will fix the condition, although stock can get some relief if they are taken off grass and kept out of the sun. Even then, prompt action is required and recovery can take a long time. Fortunately, taking preventative action early in the season greatly reduces the likelihood of facial eczema outbreaks.

Facial eczema develops when cows ingest spores of the fungus *Pithomyces chartarum*. These spores are found in the base of the pasture sward and numbers increase in warm, humid conditions. The ingestion of these spores can cause liver damage, photosensitivity, issues with reproduction, weight loss and a drop in milk production. It has been estimated that for every one clinical case in a herd there may be as many as 23 sub-clinical cases.\(^1\) Signs of sub-clinical facial eczema include shade seeking, loss of appetite, drop in milk yield and diarrhoea.

Zinc supplementation is frequently seen as difficult. One of the reasons for this is that it is not just about putting zinc into the water trough. In many cases, farmers also need to add copper to prevent copper status from becoming depleted; and flavouring to mask the unpalatable taste of the zinc.

Supplementation needn’t be difficult. SealesWinslow supply Zincmax+, which contains zinc to protect against facial eczema, organic copper to offset the copper-depleting effect of the zinc, and peppermint flavouring to increase the palatability of the product. An ACVM-registered product, Zincmax+ is formulated to be added to water troughs prior to and throughout the facial eczema season.

The amount of zinc required to prevent facial eczema is dependent on the body weight of each animal, so it’s critical that the doses are appropriate for the liveweight of the stock being treated. At high doses, zinc is toxic, so it is important to measure doses accurately. As an example, a 450 kg mature cow would require 28 grams of Zincmax+ per day. For a herd of 300 cows, 8.4 kg of Zincmax+ would be added to the in-line dispensing unit. The dose rates for heavier or lighter breeds of cow should be adjusted accordingly. More detail about dose rates suitable for your stock are listed in the Zincmax+ product brochure, which can be found on the SealesWinslow website www.sealeswinslow.co.nz.

To discuss the right Zincmax+ dose rate for your herd, contact your local PGG Wrightson Technical Field Representative or SealesWinslow representative.

\(^1\) DairyNZ Facial Eczema – Management for New Zealand Dairy Herds www.dairynz.co.nz/animal/health-conditions/facial-eczema/
It may sound unlikely, but one change can make all the difference. All you have to do is replace your milking liners when they reach the calculated use-by date. This helps to save power, labour and animal health costs, and can increase yield while minimising the risk of costly grades.

The best way to find out if your liners are past their use by date is to get out the calculator and work out how many times they’ve been milked through since they were first installed. If the answer comes to 2,500 or more, they’ve reached the end of their effective lifespan and could soon cost you more than you realise.

Worn out rubber harbours bacteria, which compromises milk quality. It also feels bad on the cow’s teats, making her more likely to kick her cups off. If the rubber is past optimum use it won’t flex properly, leading to incomplete milk out, cup slip and potential teat end damage.

To get the best out of your cows, staff and milking equipment for the rest of this lactation, run through the following equation and find out if it’s time to change your milking liners. Your local PGG Wrightson team can help with more advice.

**Time to change?**

**Step 1:** multiply the number of cows being milked by the number of milkings per day.

**Step 2:** divide the number in ‘Step 1’ by the number of milking clusters in the milking plant.

**Step 3:** divide 2,500 by the number in ‘Step 2’. This is the number of days between optimum liner changes for your farm.

If you are overdue for new milking plant liners, contact your PGG Wrightson Technical Field Representative today.

Wayne Hurunui, Tru-Test Area Sales Manager across the Bay of Plenty-Gisborne region, says grazier operations he works with are taking hold of advances in EID and weighing systems to assist in managing those critical farmer-grazer relationships.

VET PLUS Reporoa vet technician Paula Gold agrees. She has been involved in young stock weighing for nine years. Paula says “having the technology of the Tru-Test 5000 series weigh scales makes our job so much easier. With the daily weight gain feature it is easy to identify poor doers while at the weighing site. This gives us the option to draft out certain animals for preferential treatment where needed and also gauge where the mob is overall, in relation to target weight.

“The 5000 weigh scales allow us to provide more accurate information and report more frequently to our clients. Regular tracking and reporting means that if animals are not performing to expectation a conversation can happen early on and the appropriate intervention can be put in place to remedy. Farmers can see the progress of their young stock and we can show them the impact of our interventions to overcome any growth checks in individuals or the mob so they keep on track.”

To track and measure the performance of your stock, speak to your local PGG Wrightson Technical Field Representative about utilising weigh scales.

**ARTICLE SUPPLIED BY TRU-TEST**

**Dairy**

**Lower costs – lift milk yield with one simple change**

What if you could make one change to your system this season that would reduce costs, shorten milk-out time, prevent cup slip, lower somatic cell counts (SCC) and boost milk yield?

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If you are overdue for new milking plant liners, contact your PGG Wrightson Technical Field Representative today.

**ARTICLE SUPPLIED BY SKELLERUP**
Prevent rising somatic cell counts – deal with contagious mastitis in mid-lactation

Contagious mastitis bugs present in the middle of the season often bring a steady rise in bulk milk somatic cell count and an increase in the number of cows with sub-clinical mastitis amongst herds.

It can be a real challenge to deal with the problem of contagious mastitis effectively, especially in herds that don’t regularly herd test.

The major target points in any mastitis control program are:

> Reduce the number of clean, uninfected cows that become infected.
> Cull non-responsive or chronic mastitis cases from your herd.
> Bring clean, uninfected cows into your herd as replacement animals.
> Improve cure rates by selecting appropriate treatment options.

A critical step that is often overlooked in many high somatic cell count herds is correctly identifying the type of bacteria causing the major mastitis problem in the herd. Different mastitis causing bugs have different risk factors, vary in treatments, and spread through different routes. Knowing the bug or bugs that are causing your mastitis problem is critical in understanding how to best approach a control programme. The bugs commonly regarded to cause severe contagious mastitis on New Zealand farms are Staph. aureus, and Strep. agalactiae.

The prevention of new cases of contagious mastitis centres on the following points:

> The disinfection of teat skin after every milking. The correct application of teat spray at every milking is the cheapest, least time consuming and most effective mastitis prevention strategy.
> Use an ACVM registered teat spray product that is mixed correctly using clean, potable water at appropriate dilution rates.
> Ensure every teat is fully covered – check your automatic teat spray units.
> Prevent infected cows contaminating the milking plant. Milking an infected cow potentially exposes the next five cows who are milked with the same set of cups to that mastitis bug.

> Run known higher cell count cows in a separate herd. Milk the high cell count herd after all the clean, uninfected udders have already been through the shed.
> Cull non-responsive or chronically high cell count cows – they are a source of infection for other cows.
> Keep teat ends healthy. A damaged teat end will be unable to form a tight seal after milking, allowing bacteria to get into the udder. SmartSAMM Guideline 9\(^1\) has images of common teat damage and outlines potential causative factors.
> Careful use of milking machines that are operating well. Cows should let down their milk rapidly after the milking machine is applied and completely milk out. If cows are holding milk it can indicate milking machine problems but also consider operator behaviour. Cows that are stressed as they enter the shed produce adrenaline (excitement hormone), and this will prevent complete let down. Do cows flow smoothly and calmly into your shed? If not, the risk of mastitis and lameness in your herd is increased. 

My starting points for a herd with a rising cell count:

1. Find out what bug is causing the mastitis problem on your farm.
2. Check that teat spray mixing and application is correct.
3. Use SmartSAMM Guideline 9 to look for teat end damage that increases mastitis risk.
4. Seek advice from an experienced and trusted animal health advisor.

For more information, talk to your local PGG Wrightson Technical Field Representative about maintaining milk quality through mid-lactation.

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\(^1\)DairyNZ SmartSAMM program

\(^{1}\)www.dairynz.co.nz/media/193844/SmartSAMM_Guideline_09_Manage_teat_sores_and_cracks_2013.pdf

\(^{2}\)www.dairynz.co.nz/media/195652/SmartSAMM_Technote_06_Monitor_and_maintain_milking_machine_function_2012.pdf
Every season has its challenges, and El Niño is the concern this year. A strong El Niño weather pattern is predicted to have a large effect on the climate, with dry conditions occurring in eastern regions and cool, wet conditions in the west. These trying growing conditions will likely decrease brassica crop yields.

“When growing brassica crops, you want to get nitrogen on early to maximise canopy development so the plant can intercept as much solar radiation as possible, so that plants can then put energy into developing bulbs and leaves,” says Jim Risk, Ballance Agri-Nutrients Nutrient Dynamics Specialist. “Nitrogen’s role in helping plants to develop leaf area and achieve canopy closure becomes even more important in an El Niño year, because moisture restrictions later in the season will result in slower growing conditions.”

The optimum time to apply nitrogen is around six weeks after sowing. SustaiN is the best product to use for side dressings as it will insure against the loss of nitrogen through volatilisation. “Using SustaiN instead of urea will reduce volatilisation losses by around 50% and it gives you flexibility in application timing,” advises Jim. “It also pays to keep in mind that higher nitrogen rates are sometimes used in crops and volatilisation typically increases at higher rates.”

In a good year, yields may be further boosted by an additional application of nitrogen later in the season. “If you are going to achieve a higher than expected yield then you could put another nitrogen application on around 12 weeks after sowing,” notes Jim. “However, if you aren’t going to achieve your expected yield because of El Niño, then there won’t be an economic advantage from applying additional nitrogen.”

How much to apply depends on existing levels of nitrogen in the soil. “The amount of nitrogen in the soil will depend on the paddock history,” explains Jim. “If a paddock has come out of pasture then available N levels will have built up over time; they will be higher than if a paddock has been cropped. If it has been cropped for a number of years, then available N levels will be reduced.” An Available N test (0-15 cm) is the best way to measure soil nitrogen levels and will remove the guesswork when developing a nitrogen fertiliser plan.

Your PGG Wrightson Technical Field Representative or Ballance Representative can arrange soil testing, help you to gauge how the season is progressing and give advice about matching nitrogen applications to crop requirements.

ARTICLE SUPPLIED BY BALLANCE AGRI-NUTRIENTS

**PGG Wrightson Rewards points earned on Ballance Agri-Nutrients fertiliser will be awarded indefinitely until withdrawn by PGG Wrightson. Points will be awarded at time of uplift and will appear on the applicable Rewards statement for that month. Excludes freight, cartage, bags, pallets and filling fees.**
What do we do when our crops are being infested with sap-sucking and leaf munching pests? One option is to spray with a broad spectrum insecticide such as an organophosphate or synthetic pyrethroid to kill all pests. This method can be less than desirable as these sprays have the potential to be dangerous for the operator and anyone entering the sprayed area soon after application. These insecticides are also broad spectrum in their selectivity and will kill many beneficial insects, including those not actually affecting the crop, i.e. non-target organisms. This practice can have a large negative impact on the wider environment.

What can we do that will give us effective pest control and minimise the negative impact on the operator and the wider ecosystem?

One of the best ways is to adopt a practice called integrated pest management (IPM). IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Established guidelines are followed and pesticides are used only after monitoring indicates they are needed. Treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimises risks to human health, beneficial and non-target organisms, and the environment.

A wide variety of beneficial predators and parasites contribute to pest control in cropping systems. Some are resident predators that live in the crop all year round and play an important role in helping control establishment pests. Others are transient and only arrive in the crop when there is a pest present. It can take a while for resident beneficial populations to build up enough to contribute to pest control after non selective pesticides cease to be used. However transient beneficial insect numbers can grow rapidly with the pest numbers in season. IPM aims to increase the number of resident beneficial species and make best use of transient beneficial species.

Brassica crop insect control and integrated pest management

As we enter the summer period, insect numbers begin to build. Some insects can have veracious appetites and carry disease or viruses, having a serious impact on crop yields.

Top tips:
- Careful paddock and cultivar selection can help reduce risk of some pests.
- Gain experience by identifying beneficial predators; many beneficial predators have a different impact on the pest at different stages in their lifecycle.
- Become familiar with a broad range of pests, not all insects found in your crop are a pest.
- Work out how best to monitor both pests and beneficial insects.
- Utilise cultural and biological control before considering using a pesticide.
- Avoid using broad spectrum insecticides. On identification of pests use only products that are specific to that pest and have minimal impact on beneficial species if possible.
- Know which crops and areas on your farm are more susceptible to pest damage.
- Recognise conditions that lead to rapid increases in pest numbers.
- Following crop establishment crop monitor for leaf damage or aphid colonies.
- Utilise tools to help monitor pest numbers:
  1. Yellow sticky traps monitor small flying insects such as aphids or brown lacewings so detection of species and sudden increases can be detected quickly.
  2. Pitfall traps will trap invertebrates that are active on the soil surface.
  3. Slug activity can be monitored by anything that provides shelter such as wooden tiles or plastic sacks, also providing some food for them such as chicken layer mash under the tile.

To learn more about integrated pest management and discuss an IPM programme that works for you, talk to your local PGG Wrightson Technical Field Representative.

Correct insect identification is vital when considering IPM as a pest management tool.

Gary Bosley
NDA (Farm Management)
Technical Specialist – North Island Agronomy
PGG Wrightson

1www.far.org.nz/mm_uploads/Pest_Management_Ute_Guide.pdf

Correct insect identification is vital when considering IPM as a pest management tool.
Positive signs in first year of IPM brassica trial

A trial of integrated pest management (IPM) strategies in forage brassica crops has shown positive signs in the first year of a three year evaluation. The trial is being conducted by Plant & Food Research as part of a Ministry for Primary Industries Sustainable Farming Fund (SFF) project titled ‘IPM strategy development and demonstration for forage and seed brassicas’.

An IPM approach to pest control utilises beneficial insects (such as natural predators and parasitoids), cultural controls (such as management methods) and, when necessary, selective insecticides to control pests in target crops. IPM has been used successfully in the New Zealand horticultural industry for many seasons.

The study aims to look at the benefits of an IPM programme in brassica crops in comparison to the traditional broad spectrum insecticide approach. Broad spectrum insecticides will have an effect on both target pests and beneficial insects and this approach can lead to spikes on populations of unwanted insects at various parts of the season.

An IPM programme utilises chemistry such as DuPont™ Exirel® insecticide, which selectively targets pests such as cabbage white butterfly (Pieris rapae), diamondback moth (Plutella xylostella), soybean looper (Thysanoplusia orichalcea), European leaf miner (Scaptomyza flava) and grey cabbage aphid (Brevicoryne brassica). It also leaves key beneficial insects in the crop which are then able to continue to work and help control pests that reappear in the brassica crops.

During trials conducted in the Canterbury region in forage and seed brassica crops, the farmer’s standard program was compared alongside an IPM strategy.

In all sites predators such as lacewings and ladybirds were active, although it was the parasitic wasps that seemed to have the biggest impact on reducing both aphid and diamondback moth pressure. Results of the first year highlighted the importance of relying on predators and parasitoids in conjunction with selective products from chemical companies for an overall IPM strategy.

Feedback from farmers that had participated in the first year was generally positive with a greater understanding of the role beneficial insects can play in the brassica production system. Results from the year demonstrated an IPM approach could provide as effective control of pests as the conventional approach whilst using fewer insecticides.

It was noted that the arrival of pests such as diamondback moth into a crop was generally followed by parasitic wasps, and the use of an insecticide such as Exirel could assist in controlling the pests while beneficial numbers were increasing.

The project will continue through to June 2017 and examine yield results and gross margins as part of that process. It is hoped the expansion of IPM systems could significantly improve the financial and environmental performance of these crops. There is growing interest from farmers wanting to adopt new pest management practices, and agronomists wanting to offer a wider range of services to their clients.

The Forage Brassica IPM development project is funded through the Ministry for Primary Industries Sustainable Farming Fund, DairyNZ, Forage Innovations Ltd, DuPont (New Zealand) Ltd and the Foundation for Arable Research, with support from farmers and industry advisors.

ARTICLE SUPPLIED BY DUPONT
Controlling insect pests in forage crops with Ampligo®

Insect damage can reduce forage brassica yields by over 3,000 kg/ha of dry matter (DM), costing over $500/ha in lost feed.

Seed treatment insecticides can provide early season protection and assist with crop establishment, but foliar insecticides may be required as soon as two to three weeks after sowing if pest pressure is high.

Nysius and cutworm can cause significant damage to forage crops at the seedling stage, and depending on the season, aphids, leaf miner and caterpillars can become a problem as the season progresses.

El Niño conditions this season are likely to increase aphid and caterpillar pressure compared to last season, and getting on top of these pests early is vital to help prevent significant crop damage and yield losses.

Ampligo® insecticide controls a wide range of insect pests in forage brassicas, and is particularly effective against the caterpillars of white butterfly, diamond back moths and aphids. Ampligo can replace organophosphate insecticides in most situations, with longer lasting activity and no unpleasant smell.

Ampligo has a low use rate of just 100 ml/ha, and can be mixed with a wide range of herbicides without crop damage. This is an advantage in situations where insect pest control is required at the same time as herbicide applications, saving time and application costs.

If aphid pressure is high and the crop is dense, it can pay to add Pirimor® or Dovetail® to Ampligo, as these insecticides have fumigant activity to help reach aphids within the canopy.

Pirimor is now also available in a disposable 5 kg cardboard box (enough to treat 20 to 25 hectares) as well as 1 kg bottles. Dovetail is available in 5 litre packs (enough to treat up to 5 hectares).

Spray coverage is important for optimum results, with 200 litres of water/ha required on young plants, and up to 300 to 400 litres of water/ha on mature or dense crops. To assist with coverage always use a non-ionic wetting agent with Ampligo, and for aerial applications use 100 litres of water/ha.

Poor spray coverage and late spray timing are the most common causes of poor results with insecticides in forage crops. Ampligo is best applied as soon as insects or damage first appear, then at two to three week intervals depending on pest activity, with a maximum of three sprays per season.

Field trials have shown a programme of Ampligo can increase forage brassica yields by over 3,500 kg of DM/ha versus untreated crops, with a healthy margin over chemical cost.

For more information on Ampligo, contact your local PGG Wrightson Technical Field Representative.

**Trial results with Ampligo vs traditional OP/SP insecticide**

<table>
<thead>
<tr>
<th></th>
<th>Untreated</th>
<th>3 x OP/SP mix</th>
<th>3 x Ampligo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry matter yield (kg/ha)</td>
<td>5,290 kg</td>
<td>7,980 kg</td>
<td>9,050 kg</td>
</tr>
</tbody>
</table>

*Containing 475 g/l pirimiphos-methyl and 25 g/l permethrin
Source: Agrivet Services Ref: 09100

For more information on Ampligo, contact your local PGG Wrightson Technical Field Representative.

ARTICLE SUPPLIED BY SYNGENTA
Maintaining clean paddocks relies on excellent management of your farming operation and utilising many different weed control tools that can be successfully integrated into your programme. One of the most critical of these tools is maintaining clean paddocks between harvest and planting. In most cases this is the best opportunity to control the significant bulk of potential in-crop weeds so there is no room for error.

To achieve the best results, plan to control weeds as early as possible. Roundup ULTRA® MAX delivers maximum flexibility with a fast turnaround time between spraying and planting. Cultivation may start from three days after spraying perennial weeds and one day for annual weeds. Roundup ULTRA MAX is also supported by a 20 minute commercial rainfast offer, meaning you can maximise your spraying window, enabling more crop to be planted when rain is imminent.1

Roundup ULTRA MAX is a powerful, 570 g/L formulation with a specially designed proprietary surfactant system. The surfactant system ensures fast penetration into the weed, delivering fast brownout and rapid translocation to the roots resulting in less weed escapes and cleaner paddocks, with fewer drums required.

This means more sprayed hectares per drum. The 570 g/L formulation is low foaming and is easy to pump allowing for easier and faster filling, resulting in less down time and more hectares sprayed each day.

When performance is critical, growers turn to the most powerful product on the market. Roundup ULTRA MAX offers the technological edge and quality demanded by today’s growers, and is backed by over 40 years of research and development. You can trust that every drum of Roundup ULTRA MAX is made to the highest quality standards.

Talk to your local PGG Wrightson Technical Field Representative about maximising weed control with Roundup ULTRA MAX.

**ARTICLE SUPPLIED BY AGRITRADE**

1Roundup ULTRA MAX when used in tank mixtures with an approved penetrant, should deliver commercially acceptable weed control even if moderate rain occurs just 20 daylight minutes after spraying. Sinochem Australia will replace up to 100% of your initial use amount of Roundup ULTRA MAX for re-treatment if a commercially acceptable weed control result is not achieved. For enquires, visit Roundupag.co.nz.

### Tips for optimising weed control

| **Rates selection** | Always use rates stipulated on the label. Do not cut rates. If weeds are well established or conditions are not perfect, use the higher label rate to ensure complete control of stubborn weeds. |
| **Timing** | Always spray as soon as possible. However if delayed, a late glyphosate application is absolutely worthwhile and better than none at all. |
| **Dust** | Glyphosate binds strongly to clay, meaning it is immobile in soil and deactivated by dust. Do not spray glyphosate onto dust covered plants. Slow down when spraying in dry paddocks. |

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**Roundup ULTRA® MAX**

A non-residual, non-selective herbicide for broad spectrum weed control prior to planting crops and pasture and for general weed control.
Farm maintenance

Vogal spreaders – ‘built to last’

If an operator measures the efficiency of day-to-day operations by using machines in a versatile way, Vogal spreaders fit the job. The high quality name that Vogal represents has been synonymous with fertiliser spreaders in New Zealand for over 50 years.

Experts in producing fertiliser spreaders, soil cultivation/aeration and loader attachments to deliver versatility, Glenn Walton from Rata Industries Group Ltd says quality does matter and it’s important to ensure the operator can efficiently and accurately manage the task. PGG Wrightson and Rata Industries Group Ltd are proud to partner together to provide innovative, quality products to farmers across New Zealand.

With increasing advances in technologies you can virtually run your farm from your driver’s seat. Your tractor or motor bike is your multi-tool, a handler, grabber, platform and partner in a multitude of tasks whether you are a market gardener, cropper, dairyman, orchardist or stockman.

Vogal offers a range to accommodate every spreading job from 45 to 750 litre capacity hoppers. This includes the option to include technology for proof of placement and greater accuracy with GPS and 12 volt electronic controls.

Safety is an important factor in today’s business environment and Vogal understands the hazards of not doing it right, implementing important design features that minimise potential harm. Firstly, the physics of the load versus wheel base is the biggest player in staying the right way up, not only on hills but also around corners. Secondly, a swivel towing coupling is standard on models 240 litre and above. This greatly reduces the possibility of the fully loaded fertiliser spreader dragging the motorbike over, keeping the driver safe.

Fertiliser is difficult to handle and prone to causing metal corrosion. Vogal has taken this very seriously right from when the first spreader was made in 1958. Fully hot dipped galvanized frames, stainless steel shutters, UV resistant rotational moulded hoppers and alloy spinner discs, and spreading vanes all contribute to Vogal’s long life in operation.

It is also essential that the attachment fits the machine. If the tractor or ATV is oversized for the attachment, fuel consumption and costs will be higher than necessary. If the attachments are too large for the tractor, overloading will occur, resulting in slow field speeds and reduced field capacity and quality of work. Overloading also causes excessive fuel use and excessive wear, increasing downtime and maintenance costs. Talk to your local PGG Wrightson Technical Field Representative about finding the right spreader for your job.

Rata Industries Group Ltd are a family owned company who take great care to sell the right products for the right outcome whether it be size, spread width or functionality. In addition to Vogal, Rata Industries are constantly developing new attachments, cultivators, spreaders and hay gear with innovative designs that keep up with advancements occurring in farming.

To increase productivity of your operation, talk to your local PGG Wrightson team about Rata machinery attachments today.

ARTICLE SUPPLIED BY RATA INDUSTRIES GROUP LTD
Talking tough on timber

A well installed post and rail fence constructed with good quality timber products stands the test of time. A conventional fence using posts and battens is no different.

By shopping around you may save on cost, but not on quality. Poor quality fences can result in larger costs over time with repair and labour.

There are three key points when considering good quality timber rails and battens:

1. Timber grade and size
2. Timber drying (or seasoning)
3. Timber treatment

Timber grade and size

It is important that sawmills source the right quality logs to produce rails free of large bark encased knots and other defects that could affect the strength and appearance of the timber.

Timber rails and battens must be of a consistent thickness and width to produce a good quality fence. Timber cut from sapwood near the outside of the log will be better quality than that cut from the centre of the log where the wood is weaker and more prone to twisting.

Rails and battens supplied to PGG Wrightson have been cut to meet or exceed the minimum rail size. It pays to keep in mind that timber will shrink after treatment as it dries. Timber can shrink between 2-4% in width and thickness, and up to 1% in length. This shrinkage will cause issues after installation – one solution is to air fillet timber rails prior to using them. PGG Wrightson battens are pre-packed in bundles of 10, or loose within large packs.

Timber drying

There are a number of systems for drying timber and each method has its advantages and disadvantages. Timber rails are essentially a visual product that are used above ground and so only require treatment for CCA to H3. Battens are visually graded to remove pieces that are considered not fit for purpose.

Timber can be dried using three techniques:

> Air drying
> Steam drying
> Kiln drying

When timber rails are kiln dried or steamed they can have the presence of resin on the rail surface, particularly around knots. Although the air drying method is slow, it produces timber rails with a clean appearance free from resin. H3 rails supplied to PGG Wrightson are air dried.

Timber treatment

Treated timber rails sold by PGG Wrightson are supplied with a 50 year warranty against insect and fungal attack. In order to provide this warranty, the plant treating the timber must have sound quality control systems in place and these systems must be audited by an independent auditor. This includes a programme where treated timber samples are randomly taken from the treatment work site and analysed in a laboratory for compliance to the New Zealand Standards (NZS3640).

Treated timber should have a clearly identifiable brand, including information such as the treatment plant’s registered number, a logo/brand for the third party auditor, and the hazard class the timber is treated to (the exception are fence battens which only require a packet tag).

Timber sold by PGG Wrightson is well treated and when used as specified, a warranty against insect and fungal attack will be provided by the supplier.

PGG Wrightson can order timber on request, speak to your local Rural Supplies store to find out more.

ARTICLE SUPPLIED BY PERMAPINE
Visit your local PGG Wrightson store for stock food, animal health supplies, farm merchandise, apparel and so much more. Our expert team of Technical Field Representatives are also here to help you choose the right products for the best results in the months ahead. Talk to your local team today, everyone welcome!

| North Island Stores and Technical Field Representatives |

| Cambridge | 87 Duke Street | 07 823 0640 | Simon Dodds (TFR) | 027 595 8268 |
| Carterton | 66 High Street | 06 379 6845 | Wayne Robinson (TFR) | 027 292 8966 |
| Dannevirke | 19-21 Barraud Street | 06 374 4630 | Bill Kelbie | 027 463 5384 |
| | | | Bryan Burt | 027 497 6382 |
| | | | Mark Jones (TFR) | 027 590 1454 |
| Dargaville | Totara Street | 09 439 3340 | Ron Grbin | 027 439 3340 |
| Eketahuna | 31 Newman Road, State Highway 2 | 06 375 8125 | Trevor Boyles | 027 8125 |
| | | | Jason Waterman | 027 218 1606 |
| | | | Wayne Everest (TFR) | 027 218 1606 |
| Feilding | 18 Manchester Street | 06 323 0065 | Andrew Harwin (TFR) | 027 712 7018 |
| | | | Bill Kelbie | 027 463 5384 |
| | | | Bryan Burt | 027 497 6382 |
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| | | | Andrew Harwin (TFR) | 027 712 7018 |
| Hawera | 27 Glover Road | 06 278 0390 | John Christensen (TFR) | 027 290 1845 |
| | | | Belinda Wilson (TFR) | 027 598 3288 |
| | | | Stephen Hurley (TFR) | 027 463 5390 |
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| Huntly | 374 Great South Road | 07 828 0960 | Jon Nutt (TFR) | 027 705 6932 |
| Kaeohe | 15 Riahara Street | 09 405 2795 | Phill Oates (TFR) | 027 894 4361 |
| Kaitaia | 9 Empire Street | 09 408 6130 | Phill Oates (TFR) | 027 894 4361 |
| Katikati | 2 Marshall Road | 07 549 1316 | Ben Diamond (TFR) | 027 707 8930 |
| Kumeu | 132 Main Road | 09 412 2711 | Mark Needham (TFR) | 027 704 6833 |
| Martinborough | 43-45 Jellicoe Street | 06 306 9699 | Mike Trafford (TFR) | 027 595 3220 |
| | | | Geoff Horrobin (TFR) | 027 443 2588 |
| Marton | 5 High Street | 06 327 4730 | Peter Death (TFR) | 027 590 1722 |
| Masterton | 38 Lincoln Road | 06 370 1855 | Geoff Horrobin (TFR) | 027 443 2588 |
| | | | Gavin Harris (TFR) | 027 600 4382 |
| Matamata | 72 Firth Street | 07 888 4577 | Mark Enevoldsen (TFR) | 027 590 1435 |
| Mawatai | 6524 Mawatai Road | 06 862 4877 | Grant Douglas (TFR) | 027 477 4232 |
| Morrinsville | 168 Thames Street | 07 889 0160 | Denver Palmer (TFR) | 027 597 5821 |
| Ohakune | 9 Burns Street | 06 385 8500 | Nathaniel Turner (TFR) | 027 441 4454 |
| Otorohanga | Hupuepea Drive | 07 873 8179 | Matthew Towers (TFR) | 027 595 3376 |
| Pioio | Moa Street | 07 877 0012 | Doug Burnett (TFR) | 027 595 8232 |
| Porirua | 2 Auty Lane | 04 237 1270 | | |
| Pupekohe | 219 Manukau Road | 09 237 2020 | Mark Needham (TFR) | 027 704 6833 |
| Putaruru | 97 Tirau Street | 07 883 7199 | Allan McCarthy (TFR) | 027 590 1027 |
| Rotorua | Cnr White and Marqueyterias Streets | 07 349 5488 | Mark Enevoldsen (TFR) | 027 590 1435 |
| Stratford | Miranda Street | 06 765 0730 | Mike O’Neill (TFR) | 027 290 1840 |
| Taihape | 47-49 Hautapu Street | 06 388 2090 | Mike Willis (TFR) | 027 596 8826 |
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| Taumarunui | Miriama Street | 07 895 3220 | Dean Hamilton (TFR) | 027 702 1025 |
| Taupō | 1 Totara Street | 07 376 7720 | Darryl Jones (TFR) | 027 230 9237 |
| | | | Craig Farr (TFR) | 027 403 1572 |
| | | | Emma Stevens (TFR) | 027 702 5654 |
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| | | | Mark Bulwer (TFR) | 027 707 9336 |
| | | | James Kay (TFR) | 027 403 7027 |
| Te Kauwhata | Waerenga Road | 07 826 0040 | Chris Thompson (TFR) | 027 243 1869 |
| | | | | |
| Te Kuiti | Rora Street | 07 878 0273 | Russell Smith (TFR) | 027 590 4921 |
| | | | | |
| Te Puke | 7 Jocelyn Street | 07 573 0028 | Steve Wood (TFR) | 027 445 5846 |
| Waiau | Seddon Street | 07 863 6582 | Ben Diamond (TFR) | 027 707 8930 |
| Waipapa | 2 Pataka Lane | 09 407 4835 | Tim McLeod (TFR) | 027 590 0471 |
| Waipukauri | 12 Takapau Road | 06 858 6771 | Chris Johnson (TFR) | 027 273 7997 |
| | | | Michael Benson (TFR) | 027 597 5841 |
| | | | Phil Enticott (TFR) | 027 597 5832 |
| | | | Hamish Best (TFR) | 027 807 8538 |
| Wairoa | Queen Street | 06 838 8059 | | |
| Wanganui | 99 Wilson Street | 06 345 0710 | David Howard (TFR) | 027 845 8723 |
| | | | Wayne Coleman (TFR) | 027 596 5145 |
| Wellsford | Port Albert Road | 09 423 9710 | Mike Gamble (TFR) | 027 705 7120 |
| Whakatane | 12-14 Peace Street | 07 307 1613 | Ian Wright (TFR) | 027 273 1437 |
| Whangarei | Cnr Dent and Finlayson Streets | 09 470 2521 | Graeme Dickson (TFR) | 027 687 5363 |
| | | | Matt Rudsdale (TFR) | 027 889 3728 |