BALANCED NUTRITION, BETTER RETURNS

Achieving optimal production of your dairy herd with a balanced diet.

GIVING PASTURE A BOOST

The natural growth stimulator used to increase pasture production on a Canterbury farm.
Running a farm is hard work, powering it shouldn’t be

Meridian Energy has a team of Agri electricity experts on hand to help make sure you’re getting the most out of your farm’s power - be it today or in the future.

Got a question about your power?
Give your nearest Meridian Agri expert a call today.
0800 496 444 or meridian.co.nz/agriteam

CONTENTS

3 Benefits of hard feed post-weaning
4 The fundamentals behind reproductive success
5 Interpreting blood and liver results
6 Balanced nutrition, better returns
6 Tips to reduce disease in your calf shed
7 A new benchmark in blowfly strike protection
8 Start right to finish right
9 Firefly kale
10 Protect your spring sown crops
11 Fodder beet here to stay
12 Understanding your pastures
13 Giving pasture a boost
14 Stimulate growth with nitrogen
15 Tech tips: August reminders
16 PGG Wrightson directory

ON THE COVER PGG Wrightson Culverden
Store Manager, Kylie Ross with Dairy Farmer, Alan Davie-Martin. See page 13 for the full story.

INSIDE THIS ISSUE

We visit North Canterbury Dairy Farmer, Alan Davie-Martin. Alan works closely with his PGG Wrightson Technical Field Representative, David White to achieve optimal pasture production and boost dry matter growth. Also, turn to page 6 to find top tips to reduce disease in your calf shed this season.
Starch-based calf feed is recognised as beneficial to support rumen development pre-weaning, but is arguably equally important for the four to six weeks post-weaning off milk.

A good indicator that calves can be weaned off milk is when hard feed consumption is 1.0 to 1.5 kilograms per head per day (depending on the breed) for three consecutive days, provided weight targets have been achieved. If this hard feed intake is not maintained post-weaning, calves may suffer a double set-back. Fresh pasture is a bulky feed, so continuing and even lifting supplementary feeding after weaning off milk can reduce the risk of growth rates melting away from full but not fully-fed youngsters.

A 75 kilogram calf, growing at around 0.7 kilograms per day needs close to 25 mega joules of metabolisable energy per day, provided it is not cold and wet, and expending energy to keep warm. If your calves are receiving, for example 600 grams of NRM Calf Milk Replacer as a liquid feed, they would be getting close to 50 percent of their daily energy requirements from readily digestible milk powder that is directed straight into the abomasum and has no effect on rumen function. Making up this energy deficit would necessitate harvesting and digesting about another kilogram of dry matter of high quality pasture (five to eight kilograms at fresh weight). This is quite difficult for a relatively immature rumen at a time when forage intakes are typically modest. Managing pasture quality with calves alone can be hard, especially during November when pasture fibre levels can rise and protein falls.

Although straights, such as PKE and barley, can help to fill a simple feed deficit for older calves, higher quality, nutritionally balanced feeds are more suitable for younger calves. Whilst energy is typically the first limiting factor for growth, protein is important for frame and muscle development; and may even determine the extent to which calves can express their genetic potential later in life. Extended demand for 20 percent protein calf feeds like GrowUp 20% rather than 16 percent options indicates that more farmers have decided that the extra investment in a higher protein feed is worthwhile. Coccidia challenge is most likely to be highest in the eight weeks following weaning, so a hard feed that contains a coccidiostat makes sense. Calves take time to build up resistance to coccidiosis and may be at a greater risk of infection when grazing nursery paddocks in which the parasite load can increase over the years.

A fully balanced hard feed also delivers major minerals, trace elements and vitamins that may be lacking in pasture. Whilst mature cows can benefit from the vitamin production of a fully functioning rumen, it is likely that the rumen of recently weaned calf is not capable of producing essential B vitamins, particularly if anything about the pasture diet is sub-optimal.

To discuss your hard feed options post-weaning, contact your local PGG Wrightson Technical Field Representative.

SUPPLIED BY NRM
By managing Body Condition Score (BCS) post-calving, cows can cycle early with high conception rates.

Herd reproductive success requires a multi-factorial approach. It has been shown that BCS is a key factor that contributes to good fertility. The foundation for achieving good mating results is a minimum 4.0 BCS and rising at the start of mating.

While this points towards nutrition as a key differentiator, it is important to be mindful of the big picture. "Remember that early in lactation the cow is in an extremely metabolically stressed state" explains Ruminant Nutrition Expert, Paul Sharp. "After producing a calf, her rumen is still expanding and struggling to cope with the increased feed intake that is necessary to produce peak milk production levels."

While cycling typically starts three weeks after calving for healthy cows (and five weeks for heifers), it is easy for adverse weather conditions to disrupt things. Paul cautions that any additional stress, such as insufficient quantity or quality of feed widening the cows’ dietary energy deficit, can quickly tip the scales.

"It invariably affects the reproductive function first and delays the crucially important physiological target, the start of cycling" he says.

That is where a focus on maintaining good BCS provides the necessary peace of mind. Paul’s advice is straightforward:

"Make sure the herd’s BCS doesn’t drop below 4.0 after calving, and keep the cows on a rising plane of nutrition with weight gain through mating. This strategy will substantially enhance cycling performance."

It is important that the feed offered accounts for a realistic wastage factor to ensure actual intake meets the animals’ requirements. Additional energy may be necessary if cold weather decreases pasture yield, or if warm weather increases pasture growth compromising quality. Both of these scenarios create a tricky conundrum, how to cope with reduced quality and/or quantity of pasture at the same time as energy demands are increasing?

Incorporating energy dense feed, such as SealesWinslow’s Hi Starch pellets, is a good strategy to address potential pasture shortages and/or compromised quality. Quite simply, this feed option helps reduce the energy deficit. Inclusion of added minerals, such as copper, selenium and iodine can ensure strong heats and good embryo implantation.

Ultimately, good BCS bolstered by a high-quality diet goes a long way towards ensuring that cows start cycling well in preparation for mating success.

To determine where and how the SealesWinslow Hi Starch pellets can assist with optimising reproductive performance, contact your local PGG Wrightson Technical Field Representative.

SUPPLIED BY SEALESWINSLOW

Many farmers are now demanding higher levels of accuracy when it comes to mineral supplementation.

Using blood samples is useful to help gain an understanding of minerals immediately available to the animal. Liver samples also help assess the quantity available in storage. The following outlines some important points to consider when interpreting blood and liver results.

1. Serum mineral status can be highly variable and difficult to interpret. This is because the level tested in the serum is a single point in time and can vary by animal, time of day, demand from the tissues and mobilisation from reserves. For example, serum B12 reflects both rumen microbial synthesis from cobalt and/or mobilisation of vitamin B12 from liver storage. Therefore, relying on serum tests alone can be problematic.

2. Liver biopsies can be more reliable as they are less prone to daily variation. Liver mineral status is particularly good to know prior to a high stress period, for example winter or pre-calving, to assess how much ‘fuel is in the tank’. It also helps when considering a custom mineral formulation as it allows you to determine if a maintenance strategy is sufficient, or whether a gradual elevation is required. If using liver samples from cull cows, they may not be representative of the herd.

3. The adequate range shown on test results are often based on historical values associated with the observation of clinical deficiency. For today’s modern high performance animals we don’t want to be anywhere near clinical deficiencies such as white muscle disease, rickets or bush sickness. Any tests that report a ‘L’ for low are in fact very low, and testing ‘just above’ these levels may not be suitable to support optimal growth, production, reproduction and immune function. Take serum selenium for example. The adequate range on the veterinary reports is from 150 to 2,500 nmol per L. That range is wide and many veterinarians and ruminant nutritionists are targeting a minimum of 800 nmol per L, ideally 1,016 nmol per L, which is a long way from the deficiency level of less than 130 nmol per L.

If a test result is ‘just above’ clinical deficiency, supplementation may still be beneficial. For example, ‘dietary cobalt may have some effects independent of its necessity for production of vitamin B12. Cobalt fed at 0.25 to 0.35 mg per kg dietary dry matter, well above that required for sufficient vitamin B12 synthesis, seems to enhance ruminal digestion of feedstuffs, especially lower quality forages’. Accordingly in New Zealand forage-based diets, supplementation of cobalt via feed or water becomes even more essential.

Adjusting mineral strategies without using all pieces of the puzzle is like walking through a maze blind. Use of bloods, livers, pasture and forage feed tests, Diet Check* analysis, production data, animal health statistics and good quality advice are essential to create an optimal mineral supplementation programme.

Nutritech’s team of area managers and nutritionists can assist you with analysing the above information in conjunction with your local PGG Wrightson Technical Field Representative and create a customised supplementation programme for your specific farm conditions.

ARTICLE SUPPLIED BY NUTRITECH

3 Nutrient Requirements of Dairy Cattle, NRC 2001 p.133.
BALANCED NUTRITION, BETTER RETURNS

Fully feeding dairy cows with a diet balanced in energy, protein, and minerals is crucial when trying to achieve optimal production. Farmers can achieve excellent results by adding the right amount of nutrients needed to match a cows’ requirements. Production is not the only beneficiary from a balanced ration. There are many other benefits like a healthy immune system, less mastitis, improved reproductive outcomes, fewer health issues and easier management.

Agrifeeds has a precise, state of the art blending plant in Washdyke, Timaru that allows mixing of a range of components such as: Dried Distillers Grains (DDG), canola, soy hull pellets, Palm Kernel Extract (PKE) and any other complementary feeds available. The Agrifeeds blender is capable of precisely blending molasses with any other feed required. After the mixing process of the dry mix, the molasses is warmed up and sprayed through five nozzles to allow homogenous distribution before the molasses cools down again. When the molasses is blended with PKE, improved palatability will increase feed intake and reduce dust, avoiding respiratory issues and reducing wastage when feeding the blend in the paddock in feed trailers.

Using blends to compensate for changes in diets, like the lack of protein during a summer dry, will help maintain strong persistency.

Inclusion of minerals is another key benefit of using blends. When supplying minerals by dusting over pastures, silages, and bailages, wastage can be up to 50 to 60 percent. Blending minerals into the ration improves the accuracy of allocation per cow and improves utilisation.

Please contact your local PGG Wrightson Technical Field Representative to coordinate with Agrifeeds to find the best option to suit your farm needs.

SUPPLIED BY AGRIFEEDS

TIPS TO REDUCE DISEASE IN YOUR CALF SHED

Calf rearing done well can be both rewarding and profitable, however when sickness occurs problems can escalate quickly. Prevention is the proven way to minimise this risk.

Here are some considerations for spring:

» The calf shed should be dry and draft free with warm, dry bedding.

» Fresh, clean water should be available at all times.

» Solid partitions, such as plywood, should be used between pens to stop direct contact of calves, minimising disease transfer.

» Best practice is to collect calves at least twice a day, more frequently in bad weather, to ensure better colostrum intake and reduce hypothermia.

» Use a non-slip mat in trailers, regularly hosed out between pick-ups and disinfected to reduce disease risk. Calves forced to sit in dirty trailers have their navel chords contaminated which becomes a common route of infection.

» The use of plastic clamps on navel chords, plus Iodine Tincture Spray prior to going in trailer and again into shed, helps lower the incidence of navel ill and swollen joints.

» Ensure calves get sufficient quality colostrum. Uptake of antibodies only occurs in the first 12 to 24 hours. This ability stops after 24 hours, so giving each calf at least 10 percent of their body weight in the first 12 hours is key, for example 40 kg calf requires 4 L of gold standard colostrum.

» Antibodies are at their highest from the first milking, hence called ‘gold colostrum’. Always feed gold colostrum to newborn calves.

» Have a separate pen for sick calves, and take care to prevent the spread of disease back to other calves.

» Have a wash down area using disinfectants, such as Virukill, for spraying of calf pens prior to calves entering the calf shed, and for use in foot baths before entering the sick pen.

For further advice on setting up your calf shed, contact your local PGG Wrightson Technical Field Representative or visit our YouTube channel.

WRITTEN BY JASON LESLIE (BVSC (DIST))
PGG WRIGHTSON TECHNICAL EXPERT – ANIMAL HEALTH
SPONSORED BY ANIMAL HEALTH DIRECT
The launch of CLiK™ Extra sets a new benchmark in blowfly strike prevention, with clinical trials conducted in New Zealand confirming the product can protect sheep against blowfly strike for 14 to 26 weeks.\(^1\)

CLiK Extra contains 65 g per L dicyclanil, the same proven active ingredient found in CLiK™ Spray-On and CLiKZiN™. Dicyclanil is a potent insect growth regulator that interrupts the lifecycle of all common blowflies associated with flystrike in sheep, including the Australian blowfly (*Lucilia cuprina*). It prevents emerging larvae from molting into damaging second stage maggots, preventing flystrike.

Elanco Technical Manager, Colin McKay says CLiK Extra provides ‘muster-to-muster assurance’. “CLiK Extra contains 30 percent more dicyclanil than CLiK and protects sheep against blowfly strike for longer” he says. “This means you can have peace of mind that your sheep are protected against flystrike until the next management procedure.

“CLiK Extra also has a relatively short, 21-day meat withholding period, which means it is suitable for protecting docking wounds in lambs intended for slaughter.”

Colin says producers who still want the robust control provided by dicyclanil but require a shorter period of protection or withholding periods can consider CLiKZiN. “CLiKZiN prevents blowfly strike for six to nine weeks but has the flexibility of a seven-day meat withholding period” he says.

CLiK Extra Spray-On is a ready-to-use spray-on formulation that can be applied to sheep with any length wool from four weeks after shearing.

“Like all animal health products, good application technique is required to get the best results” he says. “It is important to apply the correct dose and the required number of bands to the body, breech or crutch using the recommended applicator. For best coverage, hold the applicator 15 to 20 cm above the wool during application.”

Colin says while CLiK Extra and CLiKZiN both provide robust protection against flystrike, the period of protection may be reduced under conditions of heavy fly pressure, heavy rainfall or excessive fleece soiling. “For this reason, it is good agricultural practice to check all animals regularly for flystrike” he says.

For advice on your fly strike protection programme, contact your local PGG Wrightson Technical Field Representative.

**SUPPLIED BY ELANCO**

\(^1\) Trials conducted by Elanco in New Zealand between 2014 and 2016.

Consider your nutrient needs at sowing and during the early growth period. Regardless of your base fertiliser approach, a starter fertiliser will markedly improve crop performance.

Head start

Germinating seeds need a readily-accessible phosphorus supply to develop healthy root systems. Even if you have applied phosphorus in your base fertiliser, drilling it next to the seed is recommended. Plants are poor at scavenging phosphorus from the soil, so having a supply immediately available helps get seedlings off to a strong start.

Applying nitrogen at sowing supports early growth and getting the crop out of the ground quickly. Again, drilling it next to seed is the best option.

Brassicas and fodder beet may need boron to avoid brown heart and improve yield. A boron soil test greater than 1.1 ppm prevents brown heart rot in brassica crops. If boron is required to lift soil levels, it must go on at sowing or as close to sowing as possible. It is about prevention rather than cure.

NutriMax Boron 15 percent is a readily available granular boron which can be easily added to a base fertiliser mix.

Cropzeal Boron Boost combines readily available boron (15 percent) with nitrogen and phosphorus into a compound fertiliser, which makes it a good starter fertiliser option that also delivers the micronutrient evenly to your brassica crop. DAP is an excellent starter fertiliser option for crops that don’t need boron.

Nitrogen needs

There are some key tips for applying nitrogen to best effect after emergence:

- **Target nitrogen application to expected yield**
  This minimises waste and maximises the return on your nitrogen investment. Tools such as the Ballance Agri-Nutrients Brassica Calculator can help refine your predictions.

- **Pay attention to Available N soil test information**
  This tells you how much nitrogen your soil will supply during the crop’s life so you’ll know how much to top-up from the bag. If you are cropping former pasture land, quite a bit of organic nitrogen may be released from the soil when it is cultivated. Alternatively if the land has been cropped over a number of seasons, its organic nitrogen reserves may be low.

- **Apply nitrogen when it will boost canopy growth**
  This gives plants more power to convert sunlight into energy to improve yield. Brassicas need nitrogen four to six weeks after emergence and again around eight to 12 weeks. Fodder beet requires a nitrogen side-dressing at canopy closure. Apply nitrogen to maize once it reaches knee-height (technically, the six-true leaf stage). If you apply nitrogen too late in the season, close to grazing when growth is slowing, the crop’s nitrate levels may get too high increasing the risk of nitrate poisoning and/or reduced performance.

- **Choose the right product**
  Cropping uses large volumes of nitrogen at times when there is minimal crop cover and volatilisation losses can exceed 30 percent when urea is used for side-dressing crops. Using SustaiN keeps more nitrogen in the soil to support yield.

For more information, talk to your Ballance Agri-Nutrients Nutrient Specialist or your local PGG Wrightson Technical Field Representative.
An exciting recent addition to the Cleancrop™ Brassica System portfolio is Firefly kale. Launched in spring last year in limited quantities, Firefly kale, an intermediate height kale, has been delivering impressive results.

As part of the Cleancrop Brassica System, Firefly kale is a seed and herbicide package that enables you to control weeds from the time of sowing, for example the pre-emerge stage. With 23 susceptible weeds on the label, along with an additional five moderately susceptible weeds, the Cleancrop Brassica System has one of the broadest weed spectrums on the market.

PGG Wrightson Technical Field Representative, Lester Howden from Gore, has been impressed with how Cleancrop Firefly kale has performed for his customers. “An extremely dry period around the time of sowing winter crops meant weed control was more important than ever last year” Lester says. For Lester, Firefly kale is an exciting tool to have at his disposal for paddocks where problem brassica weeds such as wild turnip, spurrey and shepherd’s purse are a known problem.

Farmer, Alan Curry and his family have been farming in Mataura for over 100 years. Alan planted his Firefly kale in a previous swede paddock that had yielded poorly the year before, only producing a fortnight’s worth of grazing due to weed burden. For Alan, Cleancrop Firefly kale was a no-brainer and he has been impressed with the results. “If we couldn’t spray the wild turnip, the crop would have been worse than last year” Alan said. “We would have had to send hoggets to the works again.” Alan yielded Firefly at 19 t DM per ha, and was impressed with how soft the stems were and how the hoggets cleaned them up.

Aside from being a great tool to use in areas where weeds are known to be a problem, Lester also said that there are times where you don’t always know what weeds are going to come up. Demonstrating what can happen when the paddock history or weed burden is unknown was Alan Curry’s son, Andrew, who also farms in the area. Initially, Andrew planted Regal® kale with a conventional pre-emerge herbicide, but the intense weed burden of wild turnip and other brassica weeds saw two thirds of the total crop area outcompeted. They were able to implement a salvage plan and re-crop the worst of the paddock into Firefly kale.

What impressed Lester was that even though Firefly was planted four weeks after the initial crop of Regal kale, it caught up on yield, despite the intense dry spell. Lester puts this down to the power of controlling weeds. “We have had a really challenging growing year with the dry, and weeds were more important than ever to control. The dry period has shown us just how much potential yield weeds can suck out of a crop.” Andrew is delighted with the result and has indicated he will be using Firefly again this season.

Weed control in brassica crops does not have to be complicated, and keeping things simple is something that the Cleancrop Brassica System can offer farmers. The Cleancrop cultivar range also includes Cleancrop leafy turnip, rape, bulb turnip and Hawkestone swede.

Contact your local PGG Wrightson Technical Field Representative today to talk about what the Cleancrop Brassica System can do for you. Please note, there are limited quantities of Firefly kale available.

SUPPLIED BY PGG WRIGHTSON SEEDS
Metarex all-weather slug and snail bait has proven itself to be a critical part of an overall slug management programme to protect a wide range of spring sown crops.

 Slug populations can devastate spring sown crops. Maize and brassica seedlings in particular are extremely vulnerable in their early growth stages. New Zealand trials have consistently shown Metarex to outperform clay coated bait alternatives.

Metarex is known for its ‘attract and kill’ mode of action, which provides farmers a highly effective bait with excellent longevity characteristics under wet conditions that doesn’t see the bait fall apart in the first shower of rain. It contains the proven active ingredient metaldehyde, in a homogenous blend throughout the bait, which causes irreversible damage to the mucus cells of slugs and snails. The secret to performance is in the unique wet manufacturing process, which results in a durum wheat based bait that is rainfast and highly palatable to slugs and snails. This gives both the ‘attract and kill’ feature as well as its direct contact action.

Metarex is also Integrated Pest Management (IPM) friendly. The safety to beneficial insects and earthworms allows beneficial insects such as carabid beetles to lend a helping hand for a sustainable integrated pest control programme. The low use rates also provide advantages around storage and ease of handling and application.

Excellent bait ballistics, uniform spreading, high number of bait points and the no dust, no hassle spreading features makes for an effective and user friendly option to combat slug or snail problems. Contact your local PGG Wrightson Technical Field Representative to find out more.

PROTECT YOUR SPRING SOWN CROPS

GETTING THE BEST OUT OF METAREX:

1. Monitor for slug populations before sowing or planting. Slugs are continuous breeders and population numbers can increase rapidly.
2. Moisture availability is a key factor in determining slug activity.
3. Crops grown under minimum tillage, trashy and/or moist conditions are at greater risk from slug attack. If the block has a history of high slug pressure, consider pre-baiting with Metarex or consider Metarex MICRO down the spout with the seed at drilling time followed by a surface application of Metarex.
4. Continue to monitor throughout crop emergence and establishment. If baits are no longer present and crop damage still occurs, re-apply Metarex.
Since using fodder beet in his system this year Farmer, Harold O’Connor is well on the way to significantly improving his farming operation. Fodder beet has enabled him to slow down his grass rotation and finish his bull beef earlier than he has traditionally achieved with swedes.

As well as running an agricultural contracting business, Harold owns and leases approximately 800 acres around Kapuka in Southland, which he uses for dairy support and finishing his own bull beef. In the past he has run a brassica wintering system, rotating into a short term or permanent ryegrass mix. The system had however become too costly with a large area of land being taken out each year for winter feed. The idea behind replacing the swedes for fodder beet was to grow the same dry matter yield in half the land area. With the increased popularity of beet in recent years, Harold was also finding some of his clients were specifically requesting fodder beet for grazing.

Having consulted his PGG Wrightson Technical Field Representative, Phil Simons, Harold put in 23 hectares of precision sown Jamon fodder beet in mid-November. Phil, a big Jamon supporter, says “Jamon grows really well in this coastal area. Being a medium dry matter type suits the mixed aged cows and bull beef going onto it. It has good utilisation and sits well out of the ground.” Jamon is one of Agricom’s top performing cultivars, and has been Europe’s biggest selling fodder beet for many years. Agricom’s extensive trialing programme places a real emphasis on gaining regional specific data, and one of the most noticeable attributes observed with Jamon is its ability to consistently perform in many different climates and soil types throughout New Zealand.

The crops were weighed in May and achieved an overall average yield of 21 t DM per ha, with his top performing paddock just shy of 25 t. Harold was pleased with this result as he had previously only been growing eight to 10 t DM per ha of swedes. Having his own cultivation and drilling business, he understood the importance of making sure the seed bed preparation was right and also precision drilling the seed to maximise yields. The beet struck really well with a good, even germination but the area quickly went dry for about six weeks throughout December and January, and the beet just sat there through this period. “As soon as the autumn rains came, it was away,” says Harold.

The crops were weighed in May and achieved an overall average yield of 21 t DM per ha, with his top performing paddock just shy of 25 t. Harold was pleased with this result as he had previously only been growing eight to 10 t DM per ha of swedes. Having his own cultivation and drilling business, he understood the importance of making sure the seed bed preparation was right and also precision drilling the seed to maximise yields. The beet struck really well with a good, even germination but the area quickly went dry for about six weeks throughout December and January, and the beet just sat there through this period. “As soon as the autumn rains came, it was away,” says Harold.

The crops were weighed in May and achieved an overall average yield of 21 t DM per ha, with his top performing paddock just shy of 25 t. Harold was pleased with this result as he had previously only been growing eight to 10 t DM per ha of swedes. Having his own cultivation and drilling business, he understood the importance of making sure the seed bed preparation was right and also precision drilling the seed to maximise yields. The beet struck really well with a good, even germination but the area quickly went dry for about six weeks throughout December and January, and the beet just sat there through this period. “As soon as the autumn rains came, it was away,” says Harold.

I’m very happy with the uniformity of the crop and have noticed the cows grazing Jamon are pretty content.

As well as wintering mixed aged cows on beet, he is also aiming to finish his bull beef on the crop by spring. In the past he was unable to achieve this with swedes and had to carry stock through the spring. Harold has been impressed with the results of incorporating Jamon into his winter feed system and plans to sow it again this spring.

For more information on Jamon fodder beet contact your PGG Wrightson Technical Field Representative.

ARTICLE SUPPLIED BY AGRICOM
New Zealand pastures are complex ecosystems made up of plants, insects, fungi and many other organisms, working together to form the backbone of farm dry matter production systems. Understanding what’s happening in your pastures can help you maximise production to drive profitability on your farm.

Next time you are walking your pastures, take some time to get down to ground level to see what type of plants make up the pastures on your farm. At this time of the year, you can get a good idea of all the broadleaf species present. Knowing what species you have helps you to make good management decisions which can then lead to higher annual production from your pastures.

While looking at plant species, you may see some of the leaves are damaged such as clovers with bite marks out of the edge of the leaf. This damage can be caused by a number of insects, but the damage pictured below was done by the Clover Root Weevil (CRW), otherwise known as *Sitona Lepidus*. The CRW arrived in New Zealand in the early 1990s causing a visual disappearance of white clover when it first arrived on a farm. New Zealand scientists have put together a strategy to control CRW, based around a biological control parasitoid wasp called *Microctonus aethiopoides*. The wasp has become an important part of minimising the impact of CRW. If you have a dig under your white clover plants, you can find the bright white larvae near the roots where they feed, reducing nitrogen fixation and the contribution to pasture growth which legumes provide.

Moving from the broadleaf plants, such as clover, to the grass plants in the sward, you may notice some plants are looking weak, pale in colour or even dying in patches. In late August and September, if there is grass grub in your pasture, the larvae move up the soil profile feeding on the plant roots. If the damage to the root is too severe, the grass plant will pull easily out of the ground. The best way to check is to use a spade and dig a hole to look for the grass grub larvae. Grass species are effected differently by grass grub so keep an eye out for grasses which do better in your environment.

If there are a lot of broadleaf plants in your pasture, lifting production can be as simple as using herbicide to control them and allow the desirable pasture species to dominate. Remember the golden rule: plants compete for water, light and nutrients; so if there are broadleaf weeds then they are using these valuable resources that would be better used in productive pasture species. This can result in large open patches in your pasture, which may fill up with low productive species unless you take the opportunity to use seed to add more desirable plants into those gaps. These patches can add up over a paddock, so take a rough estimate of how much area of your paddock is impacted and this can indicate how much feed your stock are potentially missing out on.

If you would like help assessing your paddocks, or want to chat about the pasture species on your farm, contact your local PGG Wrightson Technical Field Representative.

Written by Matthew Crampton (MSC (Hons) BSc) PGG Wrightson Technical Specialist – Agronomy
GIVING PASTURE A BOOST

Canterbury Dairy Farmer, Alan Davie-Martin was an early adopter of ProGibb® SG because it seemed like a cost-effective option and complementary to nitrogen application.

Eight years later, Alan says ProGibb SG is not only instrumental in maintaining a pasture-based feed system on his farm, but he has also experienced greater outputs and increased stocking rates. "Pasture is our cheapest feed option" states Alan. "My approach is to use it as extensively as possible because, firstly, it's the most sustainable option and secondly, supplementary feeds are a lot more expensive."

Growing no other crops on the milking platform, Alan is feeding a herd of 540 dairy cows. His greatest challenge in managing feed is the climate. "I don't have a lot of complaints about farming in this area" he says. "We have good, free-draining and very fertile soils and good irrigation, but depending on the weather we can go from 80 kg dry matter to 40 kg daily growth rates if we get a cold snap. Wet periods in August and September also play havoc with feed utilisation."

PGG Wrightson Technical Field Representative, David White has worked with Alan for the past decade. Alan appreciates his local knowledge and describes David as "the man" for advice in agronomy and pasture management. "David’s been in this district for over 20 years, he knows the challenges of the land and adds so much value to our business with sound advice."

With David and the PGG Wrightson team, it’s not about sales, it’s a partnership: they are charged with adding value to our business, we succeed with their support."

David explains that ProGibb SG is a simple, proven and cost-effective way to help with a current or future feed deficit on-farm, for example it’s best used when demand exceeds supply. “Applied in autumn, ProGibb SG will boost pasture covers allowing the rotation to be extended to enable more days in milk says David. “In spring, the boost in dry matter growth enables farmers to have more feed going into the second round in mid September when demand is high but growth rates are still too low.”

ProGibb SG must be applied while pasture is in a ‘growing state’ for the best response. It contains gibberellins, which naturally occur in most plants, to encourage growth. To stimulate a rapid response, it’s also best applied post-grazing, when the pasture’s natural gibberellin levels are low.

Alan applies ProGibb SG over one rotation in late winter to early spring and over one and a half to two rotations in autumn. He uses it across the whole farm, except in newly sown pasture. “In our experience, ProGibb SG is fast working” confirms Alan. "We see a boost in growth within ten days, which is complemented by nitrogen stimulated growth another week or so later.”

It’s also important to Alan that ProGibb SG is a natural product. “Given our nutrient footprint is key, to be able to use a natural growth stimulator is a good thing.” Alan concludes that ProGibb SG suits his system. "ProGibb SG is a complementary development tool on our farm. Since we introduced it, our outputs are greater, we’ve increased stocking rates and seen a steady increase in milk production.”

“The best indicator that ProGibb works is that farmers, like Alan, continue to use it year after year” says David.

SPONSORED BY NUFARM

PROFILE:
TYPE: Dairy
SIZE: 141 ha (effective), plus support block
CROPS: Pasture only
OWNER: Alan Davie-Martin
WHERE: Culverden, Canterbury
Applying nitrogen fertiliser in a liquid form is a convenient way of applying nitrogen to crops or pastures.

Liquid N

Liquid N is suitable for a wide range of farm types, including pastoral, arable and horticultural systems. Liquid N is a solution, not a suspension, which means that the nitrogen component is fully dissolved in the water and there is no particulate matter to clog nozzles or sprayers during application.

Liquid fertiliser is an important ‘tool’ that allows farmers to apply significant amounts of nitrogen and other important elements strategically within a growing season. Understanding the fertiliser formulations and their relative strengths and weaknesses enables farmers to utilise the products available to them to maximise productivity. Knowledge of available application methods and ideal environmental conditions for uptake also enables the best chance of success with Liquid N products.

Liquid fertilisers are widely used throughout the world, with nitrogen being the most commonly applied major nutrient in liquid form. Liquid N can be used in various scenarios:

- As a post-grazing nitrogen source to boost pasture growth.
- To build your feed wedge.
- Apply to high-value pastures to grow more dry matter to ensure sufficient feed is available both before and after lambing and calving. Apply to pastures that are being shut up for conserved feed. Use as a multi-nutrient foliar option for crops that need an application of nitrogen, with other nutrients to stimulate growth and drive yield. Use as a foliar feed on grain crops to promote late nitrogen uptake and to increase grain protein levels.

A wide range of other products, fertilisers and fungicides can be mixed with Liquid N and applied at the same time. It is really important to seek advice about their compatibility before mixing any products.

Gibberellic acid

Liquid N can be applied with gibberellic acid. Gibberellins are plant hormones that activate dormant enzyme systems. Applied to pasture, they can stimulate out-of-season growth or accelerate growth through reserve mobilisation, leaf and stem elongation, and promotion of flowering.

Gibberellic acid can be used as a potential pasture production stimulant, and is applied to increase winter and spring pasture production or to manipulate seasonality of production. Decisions on gibberellin use should be based on understanding the physiological action of gibberellins. The most useful time to apply gibberellic acid is in late winter (immediate mobilisation of stored reserves) and spring (acceleration of stem and leaf elongation growth and therefore increased herbage availability to animals). Be aware that in some species, such as chicory, the acid may cause premature flowering or other unwanted side effects.

Gibberellins have the potential to decrease tillering above ground and root production below ground. To amend these negative effects, gibberellin application should be restricted to pastures where prior management has resulted in adequate energy reserves and good mineral nutrition status and by applying nitrogen fertiliser with gibberellic acid to assist in amending side effects. To minimise stress on pastures and to avoid negative effects, the lower the rate of application, the better.

For more information on liquid N supplementation, contact your local PGG Wrightson Technical Field Representative.

WRITTEN BY JESSICA DUNBAR (MSC (PLANT PROTECTION), BSC (BIOLOGY))
PGG WRIGHTSON TECHNICAL SPECIALIST – SOIL SCIENCE

Source: Ballance Agri-Nutrients NRich Liquid Urea 19N Factsheet.
TECH TIPS: AUGUST REMINDERS

PADDOCK SELECTION
» Identify the damaged and poor performing paddocks on your farm for spring cropping.
» Check paddocks you are targeting for spraying out and, if there are specific weed issues, consider a spike to go with the glyphosate.
» Start monitoring your soil temperature to help make sowing decisions.

SPRAY-OUT
» Spray out paddocks early if you can to improve the seedbed soil moisture.
» Go through your spray shed and identify containers with labels that need to be re-attached.
» Check your sprayer nozzles are not worn before you start the season.

NITROGEN PLANNING
» Planning your nitrogen application for the correct feed wedge is critical to fit your feed budget.
» Soil temperature is one of the key influences towards pasture response.
» Check soil temperature at similar times every day (9 to 10 am). As your soil temperature begins to move into 8 to 10 degrees, your N response will be greater and response time more immediate.
» N fixation by clover is slow and the rate of N mineralisation from your soil organic matter is low in this late winter/early spring window.
» Urea is an option to drive pasture growth.

LIVE WEIGHT LOSS AFTER CALVING
Post-calving cows will invariably lose Body Condition Score (BCS) due to negative energy balance. The opportunity lies in ensuring cows lose no more than 0.5 to 1 BCS within the first 60 days of the lactation. Things to consider:
Lack of dry matter in pasture
» When measuring pasture (by the plate meter or by eye), we are measuring height. Calculations of kilograms of pasture are typically made with an assumed Dry Matter (DM) value.
» If the actual DM is less than the assumed value, the cows may be eating less actual DM than predicted.
Over-estimating the amount of pasture utilisation
» Even in perfect conditions, pasture utilisation typically runs at approximately 85 percent. During a wet and muddy spring, pasture utilisation may be as low as 50 percent.
» Filling the energy deficit can be as easy as understanding the wastage in the paddock and allocating the right break size for the conditions.
Fatty Liver
» The most at risk group are cows with a BCS greater than 5.5.
» Consider feeding starch protein and include chromium in the 18 to 21 days pre-calving.
» Too much fat entering the liver may compromise DM intake and exacerbate negative energy balance and BCS loss.

HOGGETS
» Whether hoggets are pregnant or not, they need to be well grown to achieve good lifetime performance.
» Pregnant hoggets need to be growing throughout pregnancy at approximate 150 g per day liveweight gain and are more prone to the effects of internal parasites.
» If mated at 40 kg this takes into account growth of the hogget, placental/foetal growth through pregnancy resulting in a pre-lambing weight of 60 kg.
» Dystocia is more common in poorly grown hoggets resulting in small pelvic growth and poor muscle development.
» Dry hoggets in spring still need to reach their two-tooth mating targets.

RISING TWO CATTLE
» Internal parasites, particularly ostertagia, can impact production. This is important as this age group really needs the use of Mectin type drenches to target the ostertagia worms.
» Injectable products such as Doraject are ideal.
» Pour-on products can be used such as abamectin, or for persistent activity, use products such as Cydectin or Epimax.
» You need to be aware of any milk or meat withhold periods for bobby calves when giving products pre-calving or early lactation.
» In any drenching programme, the concept of refugia is important to reduce the risk of resistant worms developing.

SOUTH ISLAND PGG WRIGHTSON TECHNICAL TEAM:
Matthew Crampton
Technical Specialist
Agronomy
Jessica Dunbar
Technical Specialist
Soil Science
Jason Leslie
Technical Expert
Animal Health
Andrea Murphy
Technical Specialist
Animal Nutrition
### SOUTH ISLAND STORES AND TECHNICAL FIELD REPRESENTATIVES

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 is also here to help you choose the right products for the best results in the months ahead. Talk to your local team today.

<table>
<thead>
<tr>
<th>Town</th>
<th>Street</th>
<th>Postcode</th>
<th>Phone</th>
<th>Contact Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexandra</td>
<td>85-87 Tarbet Street</td>
<td>3440-2391</td>
<td>027 404 6980</td>
<td>Troy Mackey (TFR)</td>
</tr>
<tr>
<td>Amberley</td>
<td>Main Road</td>
<td>3418-8516</td>
<td>027 434 4076</td>
<td>Harshim Black (TFR)</td>
</tr>
<tr>
<td>Ashburton</td>
<td>447 West Street</td>
<td>307-8737</td>
<td>027 431 4046</td>
<td>Phil Bloomfield (TFR)</td>
</tr>
<tr>
<td>Balclutha</td>
<td>196-200 Clyde Street</td>
<td>3418-1332</td>
<td>027 242 1077</td>
<td>Kevin Thomson (TFR)</td>
</tr>
<tr>
<td>Blenheim</td>
<td>20 Westwood Avenue</td>
<td>357-3733</td>
<td>027 598 1719</td>
<td>Mark Best (TFR)</td>
</tr>
<tr>
<td>Cheviot</td>
<td>Main Road</td>
<td>319-8772</td>
<td>027 672 7008</td>
<td>Andrew McWhannell (TFR)</td>
</tr>
<tr>
<td>Christchurch</td>
<td>411 Blenheim Road</td>
<td>341-4318</td>
<td>027 431 4076</td>
<td>Richard Gordie (TFR)</td>
</tr>
<tr>
<td>Cromwell</td>
<td>5 Iles Street</td>
<td>3445-3730</td>
<td>027 473 0614</td>
<td>Gerard McCarthy (TFR)</td>
</tr>
<tr>
<td>Culverden</td>
<td>48 Main Road</td>
<td>315-3040</td>
<td>027 448 6269</td>
<td>David White (TFR)</td>
</tr>
<tr>
<td>Darfield</td>
<td>1 Ross Street</td>
<td>3318-7850</td>
<td>027 434 4077</td>
<td>Gary Oldie (TFR)</td>
</tr>
<tr>
<td>Fairlie</td>
<td>Main Road</td>
<td>685-9090</td>
<td>027 431 4057</td>
<td>Gerry O'Neill (TFR)</td>
</tr>
<tr>
<td>Geraldine</td>
<td>Main Road</td>
<td>693-1025</td>
<td>027 590 8064</td>
<td>Matt Cooper (TFR)</td>
</tr>
<tr>
<td>Gore</td>
<td>Corner River and Medway Streets</td>
<td>209-0314</td>
<td>027 529 7759</td>
<td>Garth Cleeland (TFR)</td>
</tr>
<tr>
<td>Greymouth</td>
<td>116-120 Tainui Street</td>
<td>768-0200</td>
<td>027 454 3618</td>
<td>Alan Steell (TFR)</td>
</tr>
<tr>
<td>Hawarden</td>
<td>11 High Street</td>
<td>314-4458</td>
<td>027 434 4076</td>
<td>Hamish Black (TFR)</td>
</tr>
<tr>
<td>Heriot</td>
<td>59 Roxburgh Street</td>
<td>204-2021</td>
<td>027 436 4140</td>
<td>Gordon Scott (TFR)</td>
</tr>
<tr>
<td>Invercargill</td>
<td>Corner Dee and Earnslaw Streets</td>
<td>211-3160</td>
<td>027 664 4317</td>
<td>Phil Simmons (TFR)</td>
</tr>
<tr>
<td>Kaikoura</td>
<td>98 Beach Road</td>
<td>319-5012</td>
<td>027 702 9152</td>
<td>Bridget Guerin</td>
</tr>
<tr>
<td>Kurow</td>
<td>36 Bledisloe Street</td>
<td>436-0534</td>
<td>027 235 0051</td>
<td>Paul Verdonk (TFR)</td>
</tr>
<tr>
<td>Leeston</td>
<td>High Street</td>
<td>324-8180</td>
<td>027 591 8437</td>
<td>Jim Fuller (TFR)</td>
</tr>
<tr>
<td>Lumsden</td>
<td>120 Flora Road</td>
<td>248-9000</td>
<td>027 598 9947</td>
<td>Jeff McFarlane (TFR)</td>
</tr>
<tr>
<td>Mayfield</td>
<td>Main Road, RD8</td>
<td>303-6011</td>
<td>027 477 4046</td>
<td>Peter McKnight (TFR)</td>
</tr>
<tr>
<td>Methven</td>
<td>Main Street</td>
<td>302-8407</td>
<td>027 477 4046</td>
<td>Peter McKnight (TFR)</td>
</tr>
<tr>
<td>Milton</td>
<td>15 Union Street</td>
<td>417-8403</td>
<td>027 563 9213</td>
<td>Sarah Swinbourn (TFR)</td>
</tr>
<tr>
<td>Mosgiel</td>
<td>16 Factory Road</td>
<td>489-4174</td>
<td>027 599 9948</td>
<td>Mark Prosser (TFR)</td>
</tr>
<tr>
<td>Motueka</td>
<td>26 Old Wharf Road</td>
<td>528-8680</td>
<td>027 235 6999</td>
<td>Andrew Young (TFR)</td>
</tr>
<tr>
<td>Murchison</td>
<td>89 Fairfield Street</td>
<td>523-1030</td>
<td>027 590 4213</td>
<td>Ross Wilson (TFR)</td>
</tr>
<tr>
<td>Oamaru</td>
<td>230 Thames Highway</td>
<td>433-1340</td>
<td>027 590 4213</td>
<td>Wayne Fisher-Hewitt (TFR)</td>
</tr>
<tr>
<td>Otagua</td>
<td>178 Main Street</td>
<td>225-9710</td>
<td>027 406 2038</td>
<td>Harry Curtance (TFR)</td>
</tr>
<tr>
<td>Outram</td>
<td>Holyhead Street</td>
<td>486-2991</td>
<td>027 237 9790</td>
<td>John Kret (TFR)</td>
</tr>
<tr>
<td>Palmerston</td>
<td>61 Tiverton Street</td>
<td>465-4080</td>
<td>027 459 1005</td>
<td>Neil Martin (TFR)</td>
</tr>
<tr>
<td>Rakaia</td>
<td>56 Railway Terrace West</td>
<td>303-5790</td>
<td>027 568 8068</td>
<td>Kaye Duncan (TFR)</td>
</tr>
<tr>
<td>Ranfurly</td>
<td>6 Northland Street</td>
<td>444-1033</td>
<td>027 273 9790</td>
<td>John Kret (TFR)</td>
</tr>
<tr>
<td>Rangiora</td>
<td>67 Victoria Street</td>
<td>313-0880</td>
<td>027 432 8224</td>
<td>Kaleb Bolton (TFR)</td>
</tr>
<tr>
<td>Richmond</td>
<td>6 Gladstone Road</td>
<td>544-6115</td>
<td>027 235 6999</td>
<td>Andrew Young (TFR)</td>
</tr>
<tr>
<td>Roxburgh</td>
<td>99 Scotland Street</td>
<td>446-8016</td>
<td>027 839 7081</td>
<td>Aimee Dyke (TFR)</td>
</tr>
<tr>
<td>Takaka</td>
<td>Buxton Lane</td>
<td>525-7891</td>
<td>027 590 7502</td>
<td>Graeme McCleary (TFR)</td>
</tr>
<tr>
<td>Tapanui</td>
<td>Bushby Street</td>
<td>203-0280</td>
<td>027 436 4140</td>
<td>Gordon Scott (TFR)</td>
</tr>
<tr>
<td>Te Anau</td>
<td>37 Caswell Road</td>
<td>249-8610</td>
<td>027 590 9947</td>
<td>Jeff McFarlane (TFR)</td>
</tr>
<tr>
<td>Temuka</td>
<td>Wood Street</td>
<td>615-0050</td>
<td>027 836 7958</td>
<td>Murray Spence (TFR)</td>
</tr>
<tr>
<td>Timaru</td>
<td>Evans Street</td>
<td>687-7318</td>
<td>027 595 6457</td>
<td>Andrew Brosnan (TFR)</td>
</tr>
<tr>
<td>Tuatapere</td>
<td>Main Street</td>
<td>226-9360</td>
<td>027 432 0422</td>
<td>Limeem Eldor (TFR)</td>
</tr>
<tr>
<td>Waimate</td>
<td>12 Shearman Street</td>
<td>689-8059</td>
<td>027 705 8137</td>
<td>Dave Keane (TFR)</td>
</tr>
<tr>
<td>Winton</td>
<td>12 Brandon Street</td>
<td>236-6121</td>
<td>027 807 4808</td>
<td>Wayne Fisher-Hewitt (TFR)</td>
</tr>
<tr>
<td>Wyndham</td>
<td>Balclava Street</td>
<td>206-2020</td>
<td>027 434 5213</td>
<td>Allister Gaudie (TFR)</td>
</tr>
</tbody>
</table>

Terms and Conditions: Some products may not be available in all stores but may be ordered on request. Images are for illustrative purposes only. © PGG Wrightson Limited, including PGG Wrightson Seeds and other subsidiaries (PGW). Views expressed in this publication are those of the author and/or supplier and not those of PGG Wrightson. PGW does not warrant the information's accuracy, quality, outcome or fitness for any purpose. PGW is not liable in any way (including negligence, tort and equity) to any person in connection with this information for any quality issues, errors, omissions, loss, costs, loss of income or profits, or for any indirect or consequential loss or special or exemplary damages. You must use all products strictly in accordance with any product information supplied. Always use professional advice for critical work or where you are unsure of any information. No part of this information may be reproduced, stored, or transmitted without our prior written permission. Our Customer Terms of Trade/T&Cs located at www.pggwrightson.co.nz to apply to the advice given and the sale of products listed here unless specified otherwise.