



PGG Wrightson

rural diary

PROFITABLE PERFORMANCE FARMING

North Island | March 2017



Know what **nutrients** you've got

Benefits of **lime**

Making decisions about **winter feed**

Helping grow the country

Contents

- 02 Welcome
- 03 Filling up the nutrient tank
- 04 Know what nutrients you've got
- 06 Setting beef cow targets
- 07 Adding "life" to roundworm control programmes
- 08 Consistent liveweight gain is the success driver for hogget mating
- 09 Making decisions about winter feed
- 10 It's all in the detail
- 11 Setting up your pasture for long term gains
- 12 Improved weapon in the war against weeds
- 13 The 'great mate for glyphosate'
- 14 Get the paddock right
- 15 Benefits of lime
- 16 PGG Wrightson directory

Welcome

At the time of writing this intro, I have just come back from spending some time in Northland where I started with PGG Wrightson 25 years ago.

The summer has brought some challenges to the region, and the same can be said of the East Coast and Hawke's Bay in the North Island. Farmers are certainly facing challenges as they try to establish crops in drought-like conditions and our teams on the ground are doing their best to support their clients in this tough environment.

We start this edition of Rural Diary with a nutrition section by our dedicated Animal Nutritionist, Andrea Murphy. Andrea discusses the importance of finding the protein balance with lactating dairy cows and undertaking silage testing to get an accurate feed budget.

On the agronomy side, our technical team and partner suppliers continue on last month's pasture renewal and maintenance theme and offer a number of articles on cultivars, weed control and soil fertility. Note that some of this information is also available through our YouTube channel with our "Tech Tips" videos, on our website, or if you subscribe to our e-newsletter. And as always, our team remains available to answer any questions you may have.

Enjoy the read and I hope March brings you some favourable weather.



Richard Weightman
National Sales Manager Rural Supplies, PGG Wrightson



**Bulk fuel & lubricants
direct to your farm**

Fuelling your farm

Order now through
Onto Farm

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.



Filling up the nutrient tank

The lactation cycle is like a game of two halves.

At the onset of lactation, cows come out hard using all of their resources to drive milk production and get back into calf. Naturally they lose body condition score, translating body fat into energy for production and reproduction. Minerals from body stores are fed into the milk. This depletion of nutrients cannot go on indefinitely.

As we enter the 'second half' of lactation, it is time to start filling up the nutrient tank. By now our cows are successfully mated and milk production persistency is on a downward slope. Fundamentally, this means that the nutrient requirements for milk production are waning. Strategic feeding within this dynamic is advocated to help fill up the cow's nutrient tanks.

Protein is the 'go button' for milk production. The challenge through the autumn pasture flush phase is finding the balance of sufficient protein to maintain strong persistency, but not too much protein to sacrifice body condition gain at the expense of milk production.

One of the indicators that can help identify whether we are achieving this balance is reviewing milk production persistency. On a 10 day average basis, the persistency target is 97 percent. If milk production persistency is exceeding 100 percent, one needs to assess whether there is too much protein in relation to carbohydrate; thus driving milk production at the sake of body condition gain.

Carbohydrate is the nutrient that drives body condition gain. When it comes to carbohydrate feed options, there are many: maize silage, whole crop silage, fodder beets, grain and pelleted feeds. As long as the nutrients are balanced, the cow does not actually care which feed she receives. Consistent feeding is

especially important when introducing carbohydrate feeds to the rumen bugs. It takes time to shift the microbial populations from fibre digesters to carbohydrate digesters without causing rumen upset. As a general guideline, any feed change should be transitioned over a period of three weeks. The margin for error through the transition phase is a function of the concentration of starch and/or sugars in the feed.

A good 'second half' rule of thumb is to target an energy intake of 200 MJ ME per cow per day. Be sure to get feeds tested and include wastage factors when undertaking energy calculations. Feeding out 200 MJ ME is not the same as ensuring the cow is consuming 200 MJ ME.

Pasture is the most important source of minerals, while many carbohydrate feed sources are relatively low in macro minerals. As the inclusion of pasture is replaced with a carbohydrate feed, supplemental sources of calcium, phosphorus, and magnesium may be necessary. Free choice salt and a trace element programme including zinc, copper, cobalt, selenium and iodine are also an important part of the plan.

Contact your local PGG Wrightson Technical Field Representative to assist in the collection and interpretation of 'extended feed testing' to help find the right balance of nutrients to fill up your cows' nutrient tanks.



Andrea Murphy B.Sc. (Agr) (Hons) M.Sc.
Member of NZARN
PGG Wrightson Technical Specialist – Animal Nutrition



Know what nutrients you've got

Ever wondered why it is that sometimes stock just don't seem to be doing well? Even when there is plenty of silage available? The reality is that often the nutritional value of silage is overestimated.

Feed budgets are often undertaken on the assumption that the energy in mixed pasture silage is 10 MJ ME/kg DM. Review of mixed pasture silage samples submitted to Hill Laboratories¹ found that this would be true for less than 20 percent of silage samples (Graph 1). When it comes to crude protein (CP), the results are even more alarming. Nearly 70 percent of samples submitted fall below 16 percent CP, which is the requirement for growing young stock and cows in late lactation (Graph 2).

In order to get the best results from silage, we need to know what we have to work with. This can be achieved by feed testing.

Before taking a silage or baleage sample, ensure the ensiling process is complete. At the very least, be sure the forage has been in the bales or pit for at least two weeks. When testing bales, take a core sample from at least 10-12 bales randomly

selected from that batch. Take the core from the middle of the curved surface of a round bale or from the end of a square bale. The corer should be taken through to the middle of the bale.

With pit silage, take samples from at least 10-12 sites across a freshly cut silage face. The face represents only a small proportion of the silage in the stack, so the value of the test results will depend on how much variation there is along the pit. Several samples through the course of feeding out the stack may be warranted.

If the silage stacks are unopened, samples can be collected using a corer or auger taken from several locations along the length of the stack. Avoid sampling from the top 50 cm as this material may have been affected by exposure to air and may be of lower quality than the main body of the silage. Avoid places where rain water collects on the sheet or near any holes.

Plastic sheeting or wrap must be re-sealed immediately using silage tape and/or silage patches.

The more material collected from the more sub-sample locations, the more accurate the result. To be able to run basic tests at the lab, a minimum of 500 grams is required.

Remember to label the bag with sample identification details such as stack or bale name and silage type. To take an accurate dry matter sample, use a 'Feed Sample' bag or a bag without any holes in it. Once the bag has been filled, squeeze all the air out and seal. Ideally courier the sample directly to the laboratory on the same day. If this is not possible, keep the samples chilled in a refrigerator.

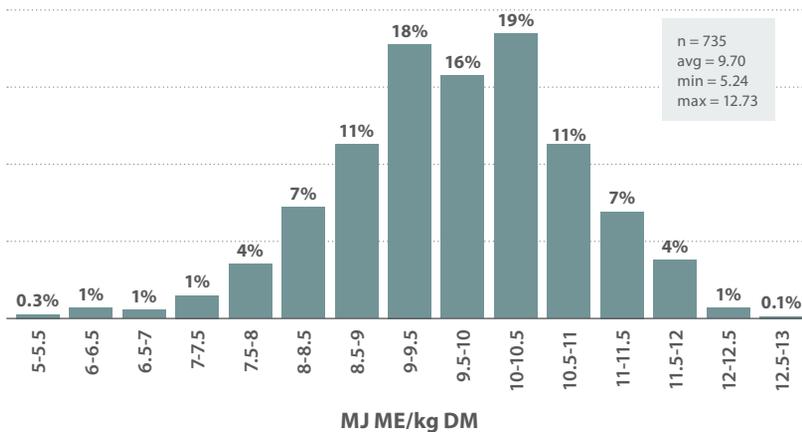
What test should I select?

To gain an understanding of the basics, such as energy, protein, and preservation characteristics, select Silage Profile (SILAGE) on the Hill Laboratories Analysis Request form. If the feed is a candidate for Close Up Dry Cows/Springers, an Extended Silage Profile (ExtSIL) is recommended. This test includes mineral analysis and DCAD², which are helpful tools in preventing milk fever issues.

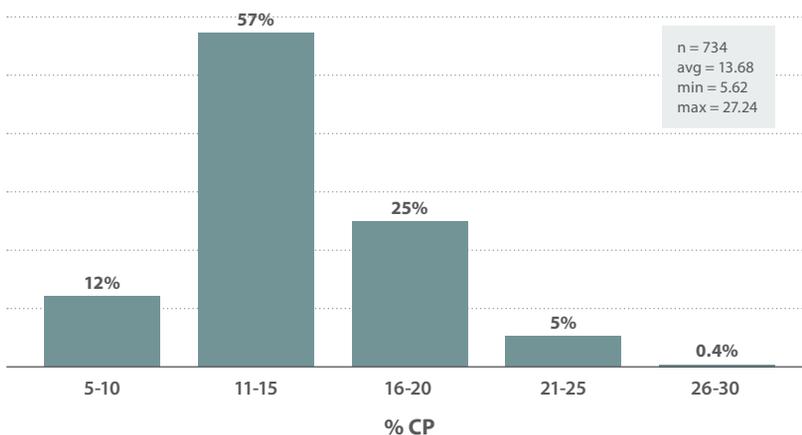


Contact Hill Laboratories for all your feed testing requirements.

Graph 1: Distribution of ME in mixed pasture silage (P143) 2009 - 2015



Graph 2: Distribution of % CP in mixed pasture silage (P143) 2009 - 2015



Our friendly PGG Wrightson staff can assist with taking silage samples, completing the analysis request forms and couriering samples to Hill Laboratories for testing. Once the results are back, our PGG Wrightson Technical Field Representatives are able to interpret the results, helping to ensure stock are achieving their full potential.



Andrea Murphy B.Sc. (Agr) (Hons) M.Sc.
Member of NZARN
PGG Wrightson Technical Specialist –
Animal Nutrition

¹ Data based on over 700 samples submitted by PGG Wrightson to Hill Laboratories from 2009 - 2015.

² Dietary Cation Anion Difference.

Setting beef cow targets

With the national herd stable, the challenge for beef farmers is to wean more calves per cow mated and at heavier weights.

Body Condition Scoring (BCS) is a good monitor, with poor reproductive performance often related to low BCS at mating (BCS less than 6 on a scale of 1-10). Getting in the habit of BCS cows at weaning, mid-winter, calving and mating provides useful information when analysing performance.

Cows are generally at the best BCS at weaning (BCS of 6-7). Light cows need preferential feeding but most can lose some condition with the feed they would have otherwise eaten being utilised by other stock classes, such as low BCS ewes. Later calving dates reduce the need for supplementary feeding of cows over the winter, which can be a major cost. Body condition lost has to be replaced to have cows calving at a BCS of 5.

Heifers need to keep growing through pregnancy. Restricting their feeding results in a loss of body condition but does not reduce calf size.

Cows that are too fat can be a waste of feed but there is no evidence to relate this directly to animal health issues.

These are more commonly caused by severe feed restrictions.

Target calf growth rates of 1 kg per day over the summer and autumn. Assuming a calf birth weight of 35 kg and weaning at 200 days, calves growing at 1 kg per day should be 235 kg at weaning.

If you are interested in being a part of a survey I am conducting, please email the following information to me at technicalsurvey@pggwrightson.co.nz.

1. Mean calving date (start of calving +17 days).
2. Weaning date.
3. Weaning date less mean calving date (days).
4. Birth weight (assume 35 kg).
5. Weaning weight gain.
6. Total weight gained.
7. Growth per day.
8. Cow weight (if known).

I will report an analysis on the figures in a future Rural Diary article and keep your individual data confidential.

Yard weaning is good for calf temperament. However, it does rely on the availability of high quality silage and fresh water to maintain calf growth rates. Weight loss over this period is undesirable and will require preferential feeding to hit targets.

Contact your local PGG Wrightson Technical Field Representative if you need assistance in establishing and meeting your beef cow targets and to develop a suitable animal health programme.



Andrew Dowling BVSc
Technical Manager – Animal Production
PGG Wrightson

Ergotism

Moist, cool and cloudy growing seasons favour the growth of fungus on pasture and grains. "Ergot" refers to the black, sticky or hard material found on the seed heads of many pastures including ryegrass. It is easily identified as dark brown or black bodies within the seed head.

Ergot produces alkaloids and ingesting the infected seed heads can cause constriction of blood vessels, resulting in decreased production, loss of tail and ear tips, lameness and dry gangrene in sheep and cattle. In severe cases, the hooves are lost.

Other signs include nervous behaviour and hyperthermia, with stock being seen to seek shade and stand in water. There is no cure from ergot poisoning. Removing the contaminated feed source is the best action. Examine hay and silage to see if it is present and if so, feed other supplements to reduce the overall intake of the ergot. Seek veterinary advice if you think that your stock are affected.



Ergot in ryegrass.



Adding “life” to roundworm control programmes

A new combination drench for sheep has an important role to play in maintaining the impact of existing effective drenches.

Zolvix™ Plus Broad Spectrum Oral Anthelmintic for Sheep combines monepantel, the only member of the Amino-Acetonitrile Derivatives (AAD or ‘orange’) drench family, with the broad spectrum performance of abamectin. It is registered for the treatment and control of sensitive roundworms, including strains that have single, dual or triple resistance to white, clear, mectin (ML) or closantel drenches.

Used as a knockout, exit or quarantine drench, Zolvix Plus provides premium parasite control and helps to maintain the efficacy of all effective drenches.¹ It is also effective against AAD-sensitive immature (L4) stages of Barber’s pole worm (*Haemonchus contortus*) and Brown stomach worm (*Teladorsagia circumcincta*), where a combination of derquantel and a macrocyclic lactone is less effective.²

Elanco Technical Services Manager, Colin McKay, says drench resistance poses a significant threat to the welfare and production of sheep. “Drench resistance is far more widespread in New Zealand than commonly believed,” he says.

“A recent update on the prevalence of anthelmintic resistance in New Zealand, based on laboratory submissions, has

found there is widespread drench resistance in the New Zealand sheep flock. The prevalence of resistance to ‘white’ and ‘clear’ drenches is 47 percent and 45 percent, respectively. The prevalence of resistance for moxidectin was 15 percent, which is a concern given how extensively this product is utilised. The prevalence of resistance to double combinations ranged from 5 to 21 percent. Likewise, the 6 percent prevalence of resistance to triple drenches indicates that this drench class is no longer the best option as a quarantine anthelmintic.³”

Colin says incorporating Zolvix Plus can add life to roundworm programmes.

“A similar situation exists for sheep producers who rely on the persistence of long-acting drenches or capsules to provide strategic long-term control. Long-acting products are highly selective for resistance by allowing only resistant parasites to establish in the host animal during payout.⁴” says Colin. The use of Zolvix Plus as a knockout or exit drench in combination with long-acting treatments will remove resistant parasites and help delay the development of further resistance to these active ingredients.

For more information, or advice developing a drenching programme for your livestock, contact your local PGG Wrightson Technical Field Representative.

ARTICLE SUPPLIED BY ELANCO

¹Leathwick et al. (2009). Managing anthelmintic resistance: Modelling strategic use of a new anthelmintic class to slow the development of resistance to existing classes NZVJ 57(4) 181–192.

²Zolvix Plus Label.

³McKenna, P.B. (2016). Update on the prevalence of anthelmintic resistance, *Vetscript* 28(Nov):56–59.

⁴Wormwise key principles (www.wormwise.co.nz).



Zolvix™ Plus

Available as a ready to use oral solution in 1 L, 2.5 L and 5 L with a dose rate of 1 mL/ 10 kg.

Consistent liveweight gain is the success driver for hogget mating

The potential benefits of mating ewe hoggets comes down to increasing the lifetime reproductive efficiency by getting an extra lamb born in each ewe's productive life. To be successful in achieving this, lambing as a hogget must not compromise reproductive performance as a two-tooth.

Experience shows that exceeding liveweight gain targets significantly improves the success of hogget mating. Feed quality and quantity are critical considerations. Hogget mating increases winter and spring feed demand. The FeedSmart calculator, developed by Beef + Lamb New Zealand, is available for free at www.feedsmart.co.nz to assist you in feed budgeting. Regular weighing throughout pregnancy ensures your estimates are accurate.

Pre-tup

All ewe hoggets that go to the ram must be heavier than 60 percent of mature weight. Mature weight should be measured pre-tup in ewes that have a Body Condition Score (BCS) of 3. Commonly, 38-40 kg is the minimum individual liveweight for any ewe hogget at tugging¹. This ensures they have reached puberty and will get in lamb, and that they achieve liveweight targets as two-tooth ewes.

Lambing

Ewe hoggets should be heavier than 80 percent of mature weight, commonly 50 kg, the day after lambing (total weight minus pregnancy weight). With the total pregnancy weight of a single lamb being approximately 9-10 kg, ewe hoggets should be at least 60 kg the day before lambing. This ensures their frame size can physically cope with lambing, that body reserves are high enough to support milk production, and that two-tooth mating weight can be reached with realistic summer growth rates.

Winter daily gain

Pregnant hoggets should be fed to achieve 130-150 grams per day total liveweight gain (includes pregnancy weight), every day of pregnancy. This weight gain must start during tugging. Continued hogget growth through pregnancy is vital as

small hoggets at lambing result in underweight two-tooths with poorer performance.

To meet these targets, you cannot afford internal parasites to impact on growth rates. Your routine drench for lambs and hoggets should be a triple oral combination drench, for example Alliance[®]. Where autumn barber's pole contamination is significant, products with persistent barber's pole activity may be needed.

Where these persistent activity products have been used, always 'Exit drench' with a known effective combination drench to minimise the development of resistant worms. Regular weighing and faecal egg counts from ewe hoggets through the winter can help guide the decision around the need for drench treatments.

Trace element deficiency, particularly selenium, is common throughout New Zealand and deficiency impacts on growth rates and reproductive performance. Regularly check selenium, cobalt and iodine levels in ewe hoggets prior to tugging. Iodine supplementation is particularly important on properties with brassica crop feeding, both pre-tup and during pregnancy, as compounds in the brassica leaf reduce iodine uptake, resulting in lower reproductive performance and poorer lamb survival.

Other considerations:

- > Ewe hoggets are prone to abortions caused by toxoplasmosis and campylobacter. Both of these diseases are effectively prevented through vaccination prior to tugging.
- > Facial eczema prevention through the summer is necessary to avoid liver damage and the impacts this has on liveweight gain.
- > Prevention of pneumonia. See Rural Diary February article on page 12.

- > The benefit of teaser rams in bringing forward hogget mating dates and in condensing lambing spread. Introduce teaser rams for the 17 days prior to mating.
- > The optimum ram ratio lies between 1:70 and 1:100 for mature rams and lower than 1:50 if using well grown hogget rams.

Mating ewe hoggets can be profitable, however the long term benefits to your farm can only be realised if mated hoggets develop into well grown two-tooths. Beef + Lamb New Zealand have an excellent resource "Hogget performance – unlocking the potential" which covers hogget mating in detail. Your local PGG Wrightson Technical Field Representative can also assist you in planning your animal health and feed requirements for a successful hogget mating performance.



Ben Allott BVSc (dist)
Technical Expert – Animal Health
PGG Wrightson

¹ For a flock with two-tooth mating weight of 60-65 kg.



**ARTICLE SPONSORED BY
MSD ANIMAL HEALTH**



PGG Wrightson Technical Field Representative Nathaniel Turner (left) and Farm Manager Dean Francois.

Making decisions about winter feed

Growing winter feed on farm is becoming more important for farmers as greater emphasis is placed on bringing down bought-in feed costs.

With such a range of cultivars available, choosing options that allow for greater flexibility, excellent yield potential and high utilisation rates is vital. Short term, autumn sown forages including oats, triticale, rape and Italian ryegrass can provide a valuable feed source, particularly through the winter months when pasture growth becomes limited.

Dean Francois, Manager of Ohotu Station owned by Atihau - Whanganui Incorporation, has made good gains with the use of Asset AR37 as a winter feed crop. Ohotu is a 1450 ha station approximately 620 meters above sea level, located off state Highway 49 in Ohakune. Ohotu is exposed to long harsh winters explains Dean, "it is key to have fast establishing pastures like Asset AR37 to grow as much feed as possible through autumn and into winter," he says.

The station runs a combination of cash crops along with lamb and cattle trading and finishing. Dean trades 30,000 lambs per year and 1,850 heifers and steers. "Asset has been the perfect tool to provide maximum yield whilst fitting the rotation," explains Dean. Because land

is leased to market gardeners and the potato harvest can vary, it was important for Dean to have a rapidly establishing pasture. The vigour of an Italian ryegrass has fitted this need well.

"Asset also provides us flexibility as it can be run from 18 months to 24 months," says Dean, "this means that we can sow our permanent pasture, Halo AR37, in spring which allows it to establish well before the summer months."

Dean also uses Asset AR37 as a break-in tool for previously uncropped ground full of unproductive native pasture species into finishing quality pasture. "Asset has the real punch through autumn and winter for cattle finishing, while maintaining quality through the summer for lambs," explains Dean.

Insects provide a real challenge for Dean with summers becoming drier, putting more pressure on the pastures. Argentine stem weevil and porina have been an issue at Ohotu which has reinforced Dean's decision to use AR37 endophyte in both Asset and Halo to help increase pasture persistence.

If an Italian ryegrass does not fit in with your farming system, rape or oats are excellent winter feed options. Spitfire rape has high aphid tolerance, a plant maturity of 90-100 days and excellent leaf yield making for quality feed over winter. There are also options for companion species such as herbs and legumes to be planted with Spitfire to provide variety in the animals' diets, to increase total production and to aid in providing feed options for early spring.

Oats are another common autumn sown forage cereal for a single winter grazing, producing between 5-8 t DM/ha in the winter season. Coronet and Milton oats provide bulk feed in a short time and are able to germinate in colder temperatures when compared to ryegrass. Both provide the flexibility to be grazed in-situ or cut for green chop.

There is still time to produce high quality winter feed and spring silage. If you need more information on winter feed options, contact your local PGG Wrightson Representative.

ARTICLE SUPPLIED BY AGRICOM



It's all in the detail

March is traditionally the time when we start to go flat out establishing new pasture. Care and attention to detail during that establishment phase will ensure long term success of your pasture persistence.

Many farmers have learned that when growing crops, taking their time and planning their operations leads to the successful establishment of that crop. Pasture is no different, although the detail is often neglected. Long term gains from renewing perennial pastures that should last 8-10 years and the increase in forage production dilute the cost of establishment by a considerable amount.

The process would normally take 12 months, starting with paddock selection and assessing the reasons around this selection. Is it that it is coming out of crop? Are there issues around old pasture or crop performance due to poor fertility, pH or drainage? It is critical that these issues are addressed well in advance of you undertaking pasture renewal activities.

Spray-out: don't rush or skimp on dose rate and use a good quality glyphosate. Glyphosates are not all the same and their activity on perennial weeds varies between products. Remember you need around 10 cm of actively growing leaf for good glyphosate absorption and kill; add a broadleaf spray and adjuvant if needed. A fallow period followed by a second spray may be needed for good control of hard to kill weeds.

If you are using a contractor, discuss your plans with him so you are both on the same page. Then make sure he achieves your expectations. Remember you pay him, so he effectively works for you whilst on your farm and there is no compromise to quality work.

If you are direct drilling, always use slug bait post-drilling and possibly pre-drilling. Remember, killing slugs is a numbers game (optimum number of bait points per m²) so don't skimp on dose rate especially if there is high pressure or risk and always use

a slug bait with an attractant if you can. If you are cultivating, prepare a good seedbed and manage the trash from the previous crop as this will harbour pests. Take your time as pasture requires a firm, fine, moist seedbed to maximise the seed to soil contact. Grass and clover seeds are very small, so cloddy and trashy seedbeds set you up to fail.

Another common mistake is seeding depth. Grasses should not be drilled deeper than 20 mm and clovers and legumes no deeper than 10 mm. Most pastures are sown as a mixture of species, so beware of the compromise on seed depth. Seedbed fertiliser can also be added at this time to give the small plants all the nutrition they need.

When selecting your species and cultivar think carefully of its intended use, and if it is a ryegrass, the first consideration is the endophyte choice, especially with perennials. The next selection step is ensuring you always use a certified seed. I would recommend a fungicide and insecticide seed coating to reduce the risk of pest and disease attack at establishment.

Finally, focus on early weed control. Spray the weeds with an appropriate selective herbicide when they are small. Do not let them establish and compete with the small planted seedlings, as that is when you will require robust rates of herbicide which can damage the new pasture species.

Remember to not graze stock too early. Check for pulling before the first light graze and only graze with young stock for short periods. Treat the paddock with care for the first 12 months and avoid overgrazing or grazing in stressed conditions.

For advice developing a regrassing strategy for your farm, contact your local PGG Wrightson Representative.



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

Setting up your pasture for long term gains

It is no secret that the cheapest form of feed on New Zealand dairy farms is home grown pasture. Optimising pasture grown on farm and ensuring as much of that available pasture is utilised is the main driver of profitable dairying.

However, there are challenges around the persistence and performance of pastures if critical steps are missed during pasture establishment and management. While challenging seasons are beyond our control, it is worth considering four major factors that contribute to pasture production and persistence: soil fertility, pests and disease, grazing management and moisture.

Understanding and addressing soil fertility issues to meet pasture performance expectations is fundamental to best practice. Consideration of soil fertility should be made for perennial ryegrass cultivar selection by completing a soil test. For more challenging environments, hardier cultivars such as Rely perennial ryegrass with AR37 endophyte should be considered, especially if set-stocking grazing management is utilised. In comparison, high performance cultivars such as Excess AR37 and Base AR37 perform best in medium to high fertility soils with rotational grazing management.

There can be huge variations in pest diversity and populations over different seasons, regions and even between different paddocks on an individual farm. To avoid pest infestation during the establishment period, the best defence is prevention through a combination of integrated pest management tools such as insecticides, cultivation techniques, slug bait, and in particular the use of seed treatment, along with selecting the appropriate endophyte for the ryegrass.

Endophyte selection should be based on likely pest pressure. AR37 endophyte, in association with other control measures, offers the most comprehensive protection of major pasture pests including black beetle adult, pasture mealy bug, Argentine stem weevil, root aphid and porina caterpillar.

To optimise pasture production, utilisation and persistence, careful consideration should be given to grazing management. The timing of first grazing plays a lead role in setting up new pastures for a strong and dense sward. The first grazing needs to be a light graze of approximately six to eight weeks after sowing (once pasture passes the "pull test"). This encourages the ryegrass plant to tiller and assists clover establishment by allowing more light into the base of the sward.

Have sharp grazing through the winter to leave the pasture short. Long pastures cause the new daughter tillers to be shaded out and die, reducing the density of the pasture. Graze to keep sward height below 30 cm and apply small doses of nitrogen fertiliser after the first couple of grazing rotations to encourage tillering. Longer term, it is important to consider pre and post grazing residuals. If not under control, both can contribute to reduced persistence of the pasture sward. Tetraploid ryegrass pastures with cultivars, such as Base, need more attention due to their potential risk of overgrazing through high animal intakes and nutritive value.

“Residuals are key for maintaining a good pasture sward.”

Louis Beamish



PGG Wrightson Technical Field Representative, Michael Hegarty with farmer, Louis Beamish, and PGG Wrightson Seeds Sales Agronomist, Paul Greenbank.

Moisture is the final factor that influences the performance of a pasture, and is often one that cannot be controlled unless there is access to irrigation. Grazing residuals and cultivar type can influence the rate of recovery following dry periods heading into autumn so that you are able to set up the system for winter.

Many of the recommendations surrounding new pasture management apply after establishment, as persistence is all about maintaining tillers and root mass. A well-established pasture will be more resilient to typical seasonal stresses and grazing requirements. During challenging seasons, timely and appropriate adjustments of stocking rates, grazing residuals and round lengths are essential for recovery and persistence.

Taking control of variables that can be influenced increases the performance and longevity of pastures and drives pasture optimisation. For more information on pasture management and persistence, contact your local PGG Wrightson Representative.

ARTICLE SUPPLIED BY PGG WRIGHTSON SEEDS



Improved weapon in the war against weeds

When planning a regrassing strategy, even the most organised plans can get off track. Milton Munro, PGG Wrightson Technical Team Manager discusses an innovation to effectively control problem weeds.

It takes a considerable amount of resources to regrass a paddock. You need to figure out why the grass that was in the paddock ran out, you need to address the soil fertility, the drainage, the soil structure and even the fencing. Then you need to prepare the paddock, and finally sow the seed. This is a time consuming process, not to mention an expensive process. So we need to do everything we can to safeguard this investment and reduce the risk of something going wrong.

Unfortunately by doing everything right in setting up the new paddock, you have also set up the perfect conditions for weeds to strike. There is an enormous amount of unwanted seed lurking in the soil, and all these weeds need to get going is some bare soil, a squirt of water and some sunlight.

To protect the investment you have made in pasture renewal, you are going to need to spray out the weeds. High weed pressure in an establishing pasture can result in a drop in yield and a reduction in the persistence of the pasture.

There are a lot of products out in the market that are ideal for early weed control in pastures. To be the best fit in this market a product needs to be clover safe, easy to use and most importantly, effective. For many years the market standard for early weed control has been Tropotox Plus, which makes us very excited to announce the launch of Tropotox Ultra.

This latest version has the same features as Tropotox Plus, with the additional bonus of only two hours rainfast required. It is critically important to have the timing of spraying spot on to get maximum weed control. With only two hours rainfastness required, Tropotox Ultra allows for greater flexibility in the

time of application and helps further safeguard the new pasture investment.

Tropotox Ultra is a clover safe broad spectrum herbicide for weed control in pastures. It tackles many weeds including black nightshade, seedling docks, fathen, hedge mustard, nettles, redroot, thistles and wild turnip. The Tropotox Ultra formulation contains 375 g/L of MCPB and 25 g/L of MCPA to enhance uptake and give strong weed control and increased rainfastness. In the presence of spurrey or chickweed, both slightly harder to control weeds, Tropotox Ultra can be mixed with Headstart to broaden control.

To get optimal results from Tropotox Ultra, weeds should be at a seedling stage and actively growing, not stressed at the time of application. Ideally, with an average ground temperature of 10 °C and a day temperature of 15 °C. Tropotox Ultra should be applied at 3 to 4 L/ha in a water rate sufficient to achieve adequate weed coverage.

For more information about Tropotox Ultra, talk to your local PGG Wrightson Technical Field Representative or visit our website.



Milton Munro BSc (Hons)
Technical Team Manager
PGG Wrightson

ARTICLE SPONSORED BY AGRITRADE

The 'great mate for glyphosate'

When spraying out old pastures or crop residues with glyphosate during autumn conditions, both good coverage and kill of the target species go hand in hand.

This is where Li-1000® comes into its own and has earned the label as the 'great mate for glyphosate'. Li-1000 is a high performance penetrating surfactant that excels when it is partnered with glyphosate and can also be used in many other situations. The unique blend of surfactants and lecithin, a derivative of soya beans, combine to improve glyphosate performance in three key ways:

1. **TO** the plant – by reducing spray drift.
2. **ON** the plant – by increasing droplet adhesion and spreading on the leaf.
3. **IN** the plant – by improving penetration and translocation of glyphosate.

Independent laboratory trials with Li-1000 have shown that it significantly increased droplet retention and spreading whilst reducing spray drift, as illustrated with images 1 and 2. Image 1 shows dyed water droplets left on a leaf, one minute after spraying. Most droplets have bounced off the plant and not spread. Image 2 shows dyed water and Li-1000 droplets left on a leaf one minute after spraying. Most droplets have been retained by the leaf and started spreading.

In addition to the above benefits, Li-1000 provides:

- > Good crop safety, especially in multi-product tank mixes.
- > Improved rain fastness.
- > Reduced spray tank foaming, making it easier on applicators.

Use rates for Li-1000 are 125-250 mls per 100 L of spray mix when used as a surfactant and penetrant. Rates need to be increased to 500 ml per 100 L of spray mix where drift is of primary concern.

Matt Strahan from Etec Crop Solutions says "In addition to numerous global trials, Li-1000 has a proven track record over years of commercial use in New Zealand, making it the 'proven choice' for a range of spraying situations."

Contact your local PGG Wrightson Technical Field Representative to discuss a spray-out plan for your farm.

ARTICLE SUPPLIED BY ETEC CROP SOLUTIONS



Image 1: Dyed water droplets left on a cabbage leaf, one minute after spraying.



Image 2: Dyed water and Li-1000 droplets left on a cabbage leaf, one minute after spraying.



Get the paddock right

Time spent now selecting and preparing your brassica crop paddock may pay off later.

Paddock history, location and soil fertility are just three of the considerations that should be kept in mind when deciding where to grow your next brassica crop.

“Be mindful of paddock history with brassicas,” says Murray Lane, Forage Specialist for Ballance Agri-Nutrients. “If previous crops have been infested with wild turnip, it is not recommended to plant swede, turnips or kale into the same paddock. If you have had dry rot or club root don’t plant brassicas, even varieties tolerant to these problems, in that spot for five years following.”

Consider access and suitability for machinery and stock. “Choose a paddock that is less prone to pugging or compaction, and one where you can easily provide grazing stock with drinking water while keeping them away from natural waterways and drainage channels,” advises Murray.

In relation to paddock rotation, think about whether you have pasture that could benefit from a break to address weed and pest issues, contouring, or other performance problems.

“Above all, select your paddocks early,” says Murray. “This gives you time to prepare them properly, which pays off with a better crop. Spray-out weeds this autumn, put in a winter ryegrass, graze that, then spray again before sowing in spring. This will minimise the amount of weeds in the crop.”

Early paddock selection also gives you time to adjust pH and fertility. “Brassicas like a pH between 5.8 and 6.2. Lime applications need up to a year to take full effect so the sooner you select your paddock, test pH and if necessary apply lime, the better.”

Test soil nitrogen, phosphorus, potassium, sulphur, magnesium and boron six months before sowing to inform your fertiliser strategy. “Brassicas can be expensive to grow. Hitting that sweet spot where you get the best yield gains from your inputs, in other words an economically optimal yield, is the aim. Also consider the value of the feed as this influences the size of the gap between the economic and maximum yields,” explains Murray.

Looking further ahead, regardless of base fertiliser needs, the value of placing a starter fertiliser at sowing cannot be underestimated. Cropzeal Boron Boost is a good option for brassicas providing phosphate close to the germinating seed to support early root development, and boron to guard against common problems such as brown heart.

To assist you in planning your next brassica crop, talk to your Ballance Nutrient Specialist or your local PGG Wrightson Technical Field Representative.

ARTICLE SUPPLIED BY BALLANCE AGRi-NUTRIENTS

Benefits of lime

Getting the best out of your farm requires an understanding of your soil's fertility so you can decide where to get the biggest bang for your buck.

Checking that your soil pH is in the optimum range sets the stage for maximising pasture production on your farm. In New Zealand, our soils are naturally acidic, however the preferred soil pH range for "optimum pasture production" sits between 5.8-6.2. At these optimum pH levels, we have the greatest availability of the major nutrients such as potassium and nitrogen, along with essential trace element nutrients (Table 1) which are required to drive yield in pastoral and cropping situations. But remember, plants do differ in their ability to tolerate acid or alkaline.

If you need to amend your soil pH to obtain the optimum range of 5.8-6.2, consider that it is not a quick process because the lime must dissolve before it becomes effective.

Soils become acidified by a number of natural processes, such as plant growth and nitrate leaching, which are constantly at work on your farm. Activities such as

developing new land also increases the rate at which soils become acidic. Establishment of improved pasture species and fertiliser use, introducing legumes into pastures, increased stocking rates, and supplement removal all contribute towards decreasing your soil pH over time.

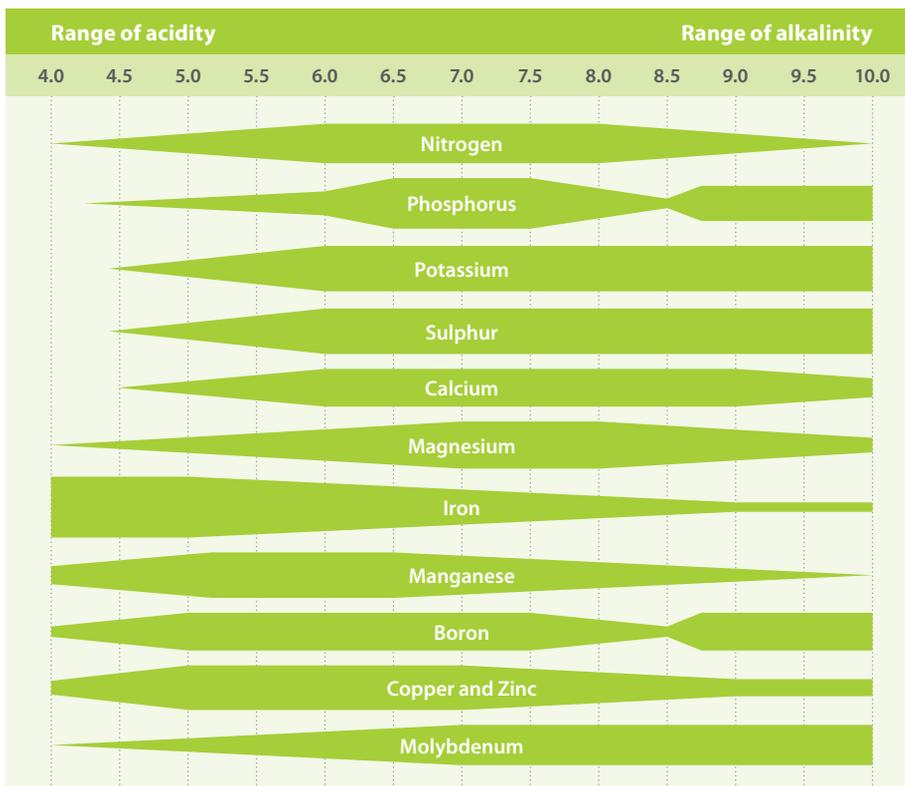
Maintaining your soil pH in the optimum range requires maintenance lime applications, so each year these applications play a significant part in maintaining your farm's productivity. This doesn't have to be an annual application but make sure you measure using soil tests to make an informed decision. For example, dairy farmers could be applying lime every three years and for dry stock farmers, a four to five year rotation of application is sometimes used. The more intensive your farming system is, the more dedicated your maintenance programme should be.

When we talk lime, the most commonly used liming material is ground limestone, which contains calcium carbonate (a naturally occurring rock). Lime as a product is available throughout New Zealand, but how do you know you have a good quality source? There are two major factors to look for.

The first is calcium carbonate content, which is the neutralising value. The higher the percentage of calcium carbonate in your local lime, the greater the ability it has to reduce soil acidity. Secondly, how the lime quarry processes the lime is important. Fineness of the grinding of the lime and its particle size is significant. In New Zealand, we have regulations previously administered by the Ministry of Agriculture and Fisheries (MAF) which state that 95 percent of ground limestone must be able to pass through a 2.0 mm sieve, with at least 50 percent through a 0.5 mm sieve.

Although there are rules of thumb, such as one tonne of quality lime increases the soil pH by about 0.1 unit on sedimentary soils, more accuracy can be achieved by talking to your local PGG Wrightson Technical Field Representative and working out a soil pH maintenance programme for your specific farm and soil type.

Table 1: The influence of soil pH on nutrient availability



Source: Yara US



Stephanie Sloan BSc PgDip (AgriSci)
Technical Specialist – Soil Science
PGG Wrightson

For more information

Scan this QR code to view Tech Tip videos on the benefits of lime.



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.

North Island Stores and Technical Field Representatives

Cambridge	87 Duke Street Simon Dodds (TFR)	07 823 0640 027 595 8268	Morrinsville	168 Thames Street Callum Donaldson (TFR)	07 889 0160 027 223 5123
Carterton	66 High Street Wayne Robinson (TFR)	06 379 6845 027 292 8966	Ohakune	9 Burns Street Nathaniel Turner (TFR)	06 385 8500 027 441 4454
Dannevirke	19-21 Barraud Street Bill Keltie Bryan Burt Mark Jones (TFR)	06 374 4630 027 463 5384 027 497 6382 027 590 1454	Otorohanga	Huiputea Drive Matthew Towers (TFR)	07 873 8179 027 595 3376
Dargaville	Totara Street Ron Grbin (TFR) Mark Bradley (TFR)	09 439 3340 027 471 6388 027 335 6282	Piopio	Moa Street Doug Burnell (TFR)	07 877 0012 027 595 8232
Eketahuna	31 Newman Road, State Highway 2 Jason Waterman (TFR) Trevor Boyles (TFR)	06 375 8125 027 218 1606 027 889 3976	Porirua	2 Auty Lane	04 237 1270
Feilding	18 Manchester Street Gabby Harvey (TFR) Bob Gillespie (TFR) Richard Reid (TFR)	06 323 0065 027 712 7018 027 595 3367 027 448 0725	Pukekohe	219 Manukau Road Mark Needham (TFR)	09 237 2020 027 704 6833
Gisborne	21 Solander Street Emma Pollitt (TFR) Jeremy Darby (TFR)	06 863 1686 027 597 5821 027 598 3288	Putaruru	97 Tirau Street Allan McCarthy (TFR) Mark Enevoldsen (TFR)	07 883 7199 027 590 1027 027 590 1435
Hamilton	131 Kent Street Scott Daubney (FSR)	07 850 2621 027 590 2628	Rotorua	216 Te Ngae Road Wayne Everest (TFR)	07 349 5488 027 273 8926
Hastings	Cnr Maraekakaho and Orchard Roads Garry Jones Mark Walwyn (TFR) Michael Hegarty (TFR) Warren Johnson (TFR)	06 873 7207 027 597 5822 027 434 7678 027 597 5824 027 592 7511	Stratford	Miranda Street Mike O'Neill (TFR) Mike Willis (TFR) Chris Hall (TFR)	06 765 0730 027 290 1840 027 596 8826 027 406 5770
Hawera	27 Glover Road John Christensen Belinda Wilson (TFR) Stephen Hurley (TFR)	06 278 0390 027 290 1845 027 836 1806 027 463 5390	Taihape	47-49 Hautapu Street Butch Cashell (TFR)	06 388 2090 027 590 1036
Helensville	41B Mill Road Joe Heng (TFR)	09 420 9412 021 514 114	Tatuanui	State Highway 26 Jason King (TFR)	07 889 4476 027 235 6454
Huntly	374 Great South Road Jon Nutt (TFR)	07 828 0960 027 705 6932	Taumarunui	Miriama Street Dean Hamilton (TFR)	07 895 3220 027 702 1025
Kaikohe	15 Raihara Street Phil Oates (TFR)	09 405 2795 027 894 4361	Taupo	1 Totara Street Darryl Jones (TFR) Craig Farr (TFR) Michael Mercer (TFR)	07 376 7720 027 230 9237 027 403 1572 027 203 8296
Kaitaia	9 Empire Street Phil Oates (TFR)	09 408 6130 027 894 4361	Te Awamutu	41 Market Street Mark Bulwer (TFR) Mark Arrandale (TFR)	07 870 2830 027 707 9356 027 403 7027
Katikati	2 Marshall Road Peter Gordon	07 549 1316 027 592 7500	Te Kauwhata	Waerenga Road Jon Nutt (TFR)	07 826 0040 027 705 6932
Kumeu	132 Main Road	09 412 2711	Te Kuiti	Rora Street Russell Smith (TFR)	07 878 0273 027 590 4921
Martinborough	43-45 Jellicoe Street Mike Trafford (TFR) Geoff Horrobin (TFR) Chris Sparks (TFR)	06 306 9699 027 595 3220 027 443 2588 027 546 3652	Te Puke	7 Jocelyn Street Steve Wood (TFR)	07 573 0028 027 445 5846
Marton	5 High Street Peter Death (TFR) Brendan Whittaker (TFR)	06 327 4730 027 590 1722 027 329 2899	Waihi	Seddon Street Brian Wilkinson	07 863 6582 027 590 1430
Masterton	38 Lincoln Road Geoff Horrobin (TFR) Gavin Harris (TFR)	06 370 1855 027 443 2588 027 600 4382	Waipapa	2 Pataka Lane Tim McLeod (TFR)	09 407 4835 027 590 0471
Matamata	72 Firth Street Mark Enevoldsen (TFR) Grant Douglas (TFR)	07 888 4577 027 590 1435 027 477 4232	Waipukurau	12 Takapau Road Phil Enticott (TFR) Hamish Best (TFR)	06 858 6771 027 597 5832 027 807 8538
Matawai	6524 Matawai Road Justin Cameron	06 862 4877 027 801 8780	Wairoa	Queen Street Michael Redward	06 838 8059 027 705 5060
			Wanganui	99 Wilson Street David Howard (TFR) Anthony Bell (TFR)	06 345 0710 027 245 8723 027 811 2866
			Wellsford	Port Albert Road Mike Gamble (TFR)	09 423 9710 027 705 7120
			Whakatane	12-14 Peace Street Ian Wright (TFR)	07 307 1613 027 273 1437
			Whangarei	Cnr Dent and Finlayson Streets Graeme Dickeson (TFR)	09 470 2521 027 687 5363