

FEED TROUGH



Your Levy at Work

VOL 4

Managing the change-over from conserved forage to fresh pasture

By Ruairi McDonnell, Western Dairy research scientist

Switching from silage or hay to grazed pasture as the main forage base in the diet of lactating dairy cows can be a challenge that results in productive inefficiencies if not managed adequately. From a cow nutritional perspective, there are a number of key points to be aware of during this period, to ensure the change-over to grazed pasture has minimal effect on herd health and productivity.

The general rule of thumb is not to change a dietary component in any ration by more than one kilogram per cow per day. This will ensure minimal disruption to sensitive rumen microbes and help prevent the negative effects on profit of inefficient feed digestion and metabolic diseases.

The recent Flexible Feeding Systems (FFS) study, which monitored 13 farms over an 18 month period, clearly demonstrated that a very significant increase in the total dietary crude protein (CP) level occurs on WA dairy farms as grazed pasture is incorporated into the diet (rising from 15% in April to greater than 20% in June on average). A sharp decrease in milk fat content also occurs at the same time.

Early season annual ryegrass can often have a CP content exceeding 30%, while a high producing dairy cow only requires a total dietary CP content of 16-18%. Therefore many farmers will be replacing pasture silage (or hay), which has a typical CP content of 10-15%, with ryegrass containing approximately double that amount of CP. Usually in summer some form of protein supplement (lupins, canola meal, Maximise Plus) is fed with conserved forage, but in almost all instances these protein supplements are not required when the cows start to consume more than roughly 5kg of early season grazed pasture. Hence, not only is it a waste of money feeding expensive protein meals in this period, it actually acts a double whammy to productive efficiency because cows then need to use metabolisable energy (ME) to dispose of excess CP that could otherwise have been used for milk production.

It is difficult to avoid some form of excess CP once grazed pasture is introduced to the diet, as utilisation of pasture should always be maximised before expensive supplements are introduced, regardless of the effects on the dietary nutritional composition. Ensure that those expensive supplements are not adding unnecessary CP to the total diet. Crushed barley is a good option during this period, because it is a touch more slowly fermentable than wheat, and therefore has a lower risk of causing subclinical acidosis.

Avoid nitrogen (N) fertilizer before the first grazing rotation. Swards can generally obtain adequate N through soil mineralisation during this time, therefore the response to N is generally unprofitable. Furthermore, N fertiliser will further increase dietary CP levels. If using a base diet of wheat and grazed pasture, dietary NDF levels can easily drop below desirable levels, which is often manifested through a low herd milk fat content. A couple of kilos per cow of oaten hay will provide a useful source of NDF in this period, although ensure it is high quality to maintain dietary ME levels. The ME content of the diet is ultimately what drives milk production and the superior ME content of grazed pasture over silage and hay is the main reason why milk production per cow in WA is highest in the winter months.

These guidelines apply only in the first 2-3 rotations. The CP content in pasture declines linearly from 30% in June to approx. 15% in October when pasture turns reproductive. Therefore protein meals may be required to be reintroduced in spring towards the end of the grazing season. Using your nutritionist or a diet formulation tool like Rumens8 will help make this decision at the correct time.

For more contact Ruairi Ruairi.
mcdonnell@westernmilk.com.au or
www.dairyaustralia.com.au/
Pastures-and-Feeding/Nutrition.aspx

Pesticide spraying essentials

By Tammy Negus, Agronomist

Whether it's a knockdown or selective herbicide, insect, or fungicide spray in a crop or pasture here are twelve things you really should know or consider before spraying;

1. Know your pest - get the identification right, understand the life cycle of insects that are likely a problem and monitor the crops/pastures.
2. Pesticide resistance - rotate your chemistry and avoid unnecessary applications. Prevention is best.
3. Timing - spray at the most effective time for the size, density, age or lifecycle of the pest.
4. Product - use the right product to control the target. If mixing products check for compatibility first.
5. Read the label - there is a lot of important and useful information.
6. Use the right rate - use the recommended pesticide rate for the pest size, age, density. Don't cut rates to save money because it may cost you more in the end.
7. Know the area that needs to be treated -to help work out the total chemical, number of tank loads and time required to do the job.
8. Adjuvants and surfactants – are required by some pesticides to be effective. Additives are used in the tank to help with mixing, suspension, to improve the plant uptake of herbicides or to help lessen the effect of poor quality water
9. Water quality - parameters such as hardness, pH and suspended solids can have a huge effect on the performance of pesticides. Test your water to check its suitability and whether water conditioners are required.
10. Boom spray setup - learn to use the boom spray or equipment that you're using. Use the correct nozzle size, droplet size, calibration, speed, mixing order and water rate. Use the chemicals safely and ALWAYS USE PERSONAL PROTECTIVE EQUIPMENT.
11. Environmental conditions - be aware of the recent and forecasted weather events. Frosts, rainfall, temperature, sunlight, wind, dew, humidity and delta-T have an effect on spraying. Be aware of locality of other crops, people and animals.
12. WHP (With-holding periods) - is the time between spraying and when the crop or pasture is grazed, cut or harvested. These must be adhered to.

For more contact tammy.negus@gmail.com or speak to your agronomist or rural supplier.

Seasonal pest control for pastures

Weeds

Weeds are aggressive in growth, competitive, low in nutrition, sometimes poisonous and are a costly problem. Assess the situation and weigh up the options economically. Make decisions based on the density and how noxious the weed is. For problem paddocks a knockdown (broad spectrum weed kill) is usually the most cost effective option. If the weed is a minority amongst a med- high density pasture choose a post-emergent option if available to avoid a complete 'spray out', delayed seeding and a longer wait for green feed.

Did you know? Susceptible weeds need to be at least the 1.5 leaf stage for effective uptake of glyphosate. Also spraying glyphosate during daylight is more effective than night time.

Early weed control is always more effective, cheaper and you will reap the rewards in pasture productivity because you are removing the competitor. Don't go earlier or later than the recommendation otherwise ineffective weed control or crop damage may occur. Due to higher stocking rates on dairy farms the 'spray-graze' technique is effective for weeds like capeweed. Spray registered rates of products such as MCPA Amine, wait for the grazing withholding period and graze heavily with cattle.

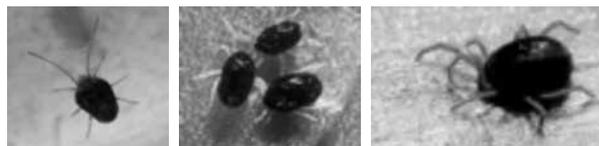
Insects

Be ready and have a plan in place because the damage can be quick and severe. The main early season insects are red legged earth mite (RLEM), African black beetle, lucerne flea, cutworm, blue oat mite and bryobia mite. Monitor the emerging plants closely to check for other insects. Seed insecticide treatments are a good way of protecting the seedling from pests such as red legged earth mite for a limited amount of time and in moderate pest densities.

Bare-earth sprays like bifenthrin can be sprayed post seeding but pre-emergent, creating a layer-like protection that can give up to 4 weeks residual for RLEM control. Some insecticides can be added into post-emergent herbicides to save a pass but always check for compatibility. Because insects are very small the spray coverage and boom spray set up for all applications needs to be correct to hit the target.

Did you know? WA is the only state to have RLEM that are resistant to commonly applied insecticides including synthetic pyrethroids (Group 2A) (SPs) and the organophosphates (Group 1B) omethoate and chlorpyrifos. Visit <https://agric.wa.gov.au/n/624> for prevention and testing.

Identify the insects correctly and don't take a gamble spraying with an insecticide that may not be suitable for the job. Bryobia mite (clover mite), blue oat mite and RLEM look similar, however the product and control rate is different. Bryobia mites are 0.75mm in length and have two distinctive elongated front legs. Adult RLEM are 1 mm in length with a black body. Blue oat mites are 1mm in length with purplish blue body with a red dot on its back.



The photos show bryobia, RLEM and blue oat mite from left to right. Photos are from GRDC and DAFWA

For more see your agronomist or pasture specialist. Visit www.agric.wa.gov or www.grdc.com.au/Resources/Ute-Guides for the useful weeds and insects ute guides or www.appsto.re/au for the mobile app.

Fertilising strategies for early winter

By Kirk Reynolds, Western Dairy Agribusiness Team Leader

What plant species are you fertilising? Legumes, perennial grasses, annual ryegrass, cereals and brassicas all respond differently to fertiliser and have different nutritional requirements. The major fertilising decision is usually on the milking platform and this is predominantly for annual ryegrass.

Ryegrass is very good at accessing nutrients and has a lower requirement for phosphorus (P) and potassium (K) than clovers, but has a higher nitrogen (N) requirement. With the early break, in most areas, warm, moist conditions on soils with good organic matter will provide a lot of early N. The first application of N should be applied after grazing, or possibly the second grazing. If the soil becomes wet and saturated responses to N are limited and rates should be reduced. Build a wedge of feed before it gets too wet. Single applications of 25 – 50 kg/ha of N should be used with 1kg N/ha/day based on the rotation speed as a guide. Soils that are high in clay and organic matter, or have been fed through summer retain a lot of N and applications may not be required until after the second or third grazing. With the reduction in superphosphate products used in

the autumn it is important to apply sulphur with nitrogen applications. With the lower cost of urea at present, growing and utilising extra feed will be more economic than feeding other supplements. The extra grass is likely to be grown for less than \$100/t.

Phosphorus is required for early root and shoot development and if capital requirements are needed apply these at the break or soon after to ensure a robust establishment. Most dairy platforms that aren't cut for fodder do not require capital P. This means soil levels can be mined or maintenance applications can be applied with the NS or NKS fertiliser. On out blocks where fodder is continuously cut and fertiliser isn't applied after each grazing then there is likely to be a higher requirement for P. If clover is being grown or encouraged to provide quality in the fodder conserved, a higher P input will be required. Production levels will determine the rate of P to apply but typically 15-20 kg/ha of P is applied annually in a maintenance regime.

Potassium is mostly required by annual clovers and is usually low on sandy soils or those paddocks that are regularly cut for fodder and fed out in a

different location. Potassium should be applied in small frequent applications if possible, and more should be applied in the spring than autumn. High rates of K fertilisers in one application should be avoided as it can cause metabolic issues to the cow. 10-20 kg/ha of K is all that is required per application and ideally after each grazing as an NPKS.

Assess the soil type, background fertility, species and production potential you are aiming for. Use these factors to guide your decisions on NPKS. In general, paddocks on milking platforms that are predominantly ryegrass and grazed only, require smaller repeat applications of NPS (+K on lighter soils) after each grazing. Those areas where fodder is consistently cut will require higher inputs to meet production potential, if not fed back out on the same area.

For more contact Kirk on 0429 110 485 or kirk.reynolds@westerndairy.com.au and visit www.fertsmart.dairyingfortomorrow.com.au or www.agric.wa.gov.au/pasture-management/fertiliser-nitrogen-intensively-grazed-dairy-pastures for the Greener pastures project – managing nutrients in dairy pastures.

Fert\$mart Program

The 4R's - The key is to use the Right source of fertiliser, at the Right rate, in the Right place and at the Right time.

Fert\$mart is the Australian dairy industry's national nutrient management framework developed by Dairy Australia in collaboration with farm advisers and farmers.

It was developed to improve the efficiency and profitability of fertiliser use on Australian dairy farms. The framework prescribes the recommended steps to help dairy farmers and their advisers develop a Fert\$mart nutrient management plan.

The plan considers factors affecting the movement of nutrients into, around and off the farm when making decisions about the source, rate, timing and placement of fertiliser to most benefit pasture productivity and profitability.

The 4R's are being promoted through this program. The key is to use the Right source of fertiliser, at the Right rate, in the Right place and at the Right time

Dairy Australia is trialling a mobile App to streamline and boost the adoption of sustainable nutrient management practices on dairy farms around Australia.

For more www.fertsmart.dairyingfortomorrow.com.au or contact Sam Taylor, Land, Water & Carbon Consultant M: 0429 332 593 E: sam@agvivo.com.au



Grazing management strategies

The autumn break kick starts new pasture growth in rain-fed paddocks offering relatively cheap and quality feed for milk production. The first grazing post the break is crucial to set up the winter platform especially on rain-fed farms with no irrigation.

When to graze

The temptation is to graze too early in the leaf stage development and this will have an adverse effect by reducing the rate of pasture accumulation. In addition the young plants will be more prone to pulling. Annual ryegrass will develop three actively growing leaves and on emergence of the fourth, the oldest leaf will decay. Waiting until the recommended three-leaf stage for the first grazing sounds like good advice but for the first grazing it will result in many paddocks in front going out beyond the three-leaf stage with wastage as the older leaves decay. One recommendation is to aim for a compromise and graze at around the 1.5 to 2-leaf stage at the start. The paddocks in front will continue to grow out and successive grazings in the first round will go into later leaf stages. The pasture cover wedge will be formed and three-leaf grazing in place. Refer to the ryegrass diagram that illustrates the leaf stage.

Setting up the rotation

The LER (leaf emergence rate) is largely driven by maximum and minimum temperatures and will set up your grazing rotation. From the LER the days needed for leaves to grow to the stage you want to graze at, is easily calculated. This is the rotation length. The grazing platform divided by the rotation length will set the daily

area allocation. With annual ryegrass the covers at the start are low even at the three-leaf stage. Initial grazings are light to protect the pasture and so daily pasture intakes will be low and dependent on herd size. Continuing to feed silage/hay in the first round will be necessary to ensure adequate fibre intake in the ration.

Rulers, plate meters, quad bike readers and satellite technologies are ways for pasture covers to be estimated and knowing what grazed feed is available helps to calculate what levels of other feeds may be needed. Different paddocks perform differently and will offer different amounts of available pasture dry matter per ha.

There are practical tools that help with grazing management once the grazing rotation is in place. The Rotation Right Tool assigns a ranking to every paddock and uses rounding off to know how many feeds there are in any one paddock rather than measuring the covers and trying to set the wire based on calculations of feed available. The levels of other feeds being fed can be adjusted to ensure daily intakes are met once the daily pasture allocation is made.



Diagram illustrates ryegrass at various stages of leaf development, from left to right; 0.5 leaf, 1.5 leaf, 2.5 leaf, 3.5 leaf

For more contact the Western Dairy Hub for grazing management strategies and for the Rotation Right Tool.

Seasonal snippets

Paddock

- Focus on establishing and managing your pastures well because this is the basis for your feed during the year – grazing, hay and silage.
- Monitor plants at germination - plan and act on insect and weed control and don't leave it too late.
- Follow an effective grazing strategy – note the leaf stage so that you can set up your rotations well.
- Extra supplementary feeding maybe worthwhile to enable deferred grazing on paddocks
- Apply fertiliser to species, soil type, grazing, environmental conditions and production requirements.
- Check the set up of your seeder, boom spray and fertiliser spreader and calibrate regularly to control the application rate.

Cows

- Feed budget to assess what you have on hand, and what you need to get through this year.
- Feed barley prices have decreased (Bunge Bunbury are paying \$20/T less than in March) so look for opportunities of barley in the ration. Hay prices are in some areas have reached \$300/T. Remember to check and test for feed quality and secure hay suppliers earlier next season to avoid higher prices.
- Assess other suitable feed options that are available, use feed wisely and minimise wastage.
- Always assess the ration making sure it is balanced and suits production.
- Take steps in introducing the herd to green feed and avoid over feeding protein when supplements plus green pastures are being consumed. See Ruairi's article in this Feed Trough on managing the change to green pasture.

The Feed Trough is published by Western Dairy and edited by Western Dairy's Regional Feedbase Development Group coordinator Tammy Negus.

Previous issues of the Feedtrough are available at www.westerndairy.com.au

To contribute to the Feedtrough please email Tammy at tammy.negus@gmail.com or call her on 0448 532 028