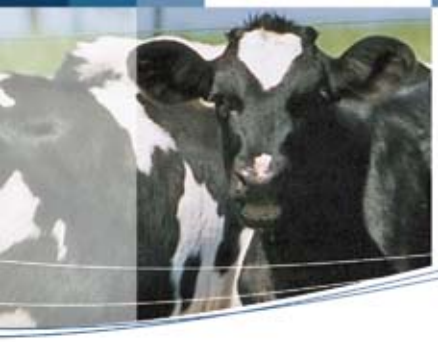
NSW DPI A DAIRYFARMERS' NEWSLETTER FROM NSW DPI



dairynews

ISSUE 5, WINTER 2008

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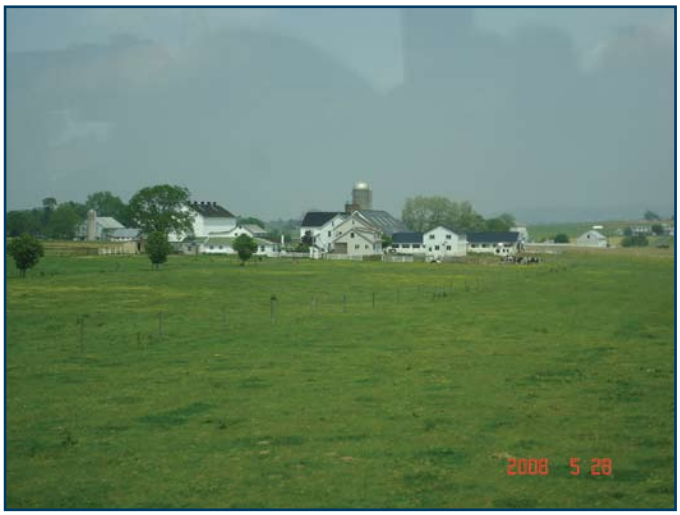
Editorial

Travelling to other parts of the country and the world gives you the opportunity to observe how other people live and farm. Last month while on holidays in the United States, I travelled through Intercourse, a small village in Lancaster County in the state of Pennsylvania. The area was settled by the Amish whose prime occupation then, and now, is dairying. The Amish have strong and enforced beliefs that make dairying interesting to say the least. Can you imagine operating your farm without electricity or motorised vehicles? All transport and farming activities are carried out using horses, mules or donkeys. The family vehicle is a horse drawn buggy, and the tractor is a team of horses. Stationary engines

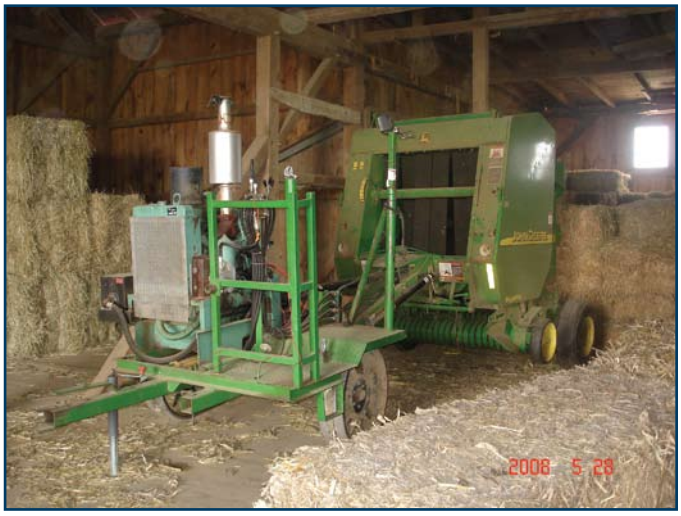


A typical dairy farm in Lancsater County

are acceptable, and gas is used for light, heating and cooking.

What makes this even more remarkable is the intensity of their farming system. The farms are small, 20 to 30 hectares, and the herd of 40 to 50 cows are housed in either tie stall or free stall barns all year. Like many northern hemisphere dairying areas, the cold winters and snow make it necessary to grow and conserve the year's feed over summer. Crops, including lucerne and maize, prevent the herd from routine grazing over summer, as the entire farm was under some form of cropping. The amount of infrastructure on each farm is considerably more visible than we are used to. Large tower silos, feed sheds and the stock barns take up a lot of space and money, but fences, laneways and stock watering systems are minimal.

Tie stall dairy on an Amish farm



Horse drawn round baler with diesel motor to drive the PTO

The Amish make round bale silage and I was intrigued as to where the PTO shaft connected to the team of horses that pulled the baler and wrapper. The Amish are clever. The horses tow a trailer with a "stationary" engine on it to drive the PTO of the baler or wrapper which is towed behind the trailer.

Their dairy industry is facing the same challenges as we are here. High land prices ($30,000/acre), high input costs, and low milk prices (42 cents per litre) are making the margin tight. At least their diesel and electricity bills are minimal, but I don't know how much it costs to run a horse these days.

If you have Google Earth on your computer, go to Intercourse Pennsylvania USA and have a look at the intensity of dairying in the area. It is impressive, and on the Amish farms, done a little differently to what we are used to.

Tony Dowman

Livestock Officer (Dairy), Kempsey

Cut dairy costs

Research has shown that many dairy farms are spending much more money on heating water than they need to. With nearly half the energy used in a dairy going towards heating water, it's worth making some simple changes.

CowTime's Darold Klindworth has some tips for cutting costs of cleaning in the dairy, without affecting milk quality.

Check the settings on the hot water system. Many are set to a much higher temperature than needed. Most dairy farmers don't realise that using too hot water causes problems in cleaning.

Check the manufacturers recommendations for your cleaning products. Most chemicals are designed to work in solutions of 75-80 degrees Celsius.

Before you lower the thermostat on your hot water system, make sure you allow for heat loss between the tank and the hot water barrel.

Water can lose 10 degrees on a hot day and even more in cold weather. This loss can be minimised by insulating pipes, keeping the lid on the washing barrel and plumbing the barrel so that the water fills from the bottom rather than spraying in from a tap.

Review your cleaning routine. Can using cold acid sanitizer reduce your power costs? Think about reusing washing water. Some farmers use their hot alkali wash more than once. This can save water, chemicals, and money.

Consider using a solar energy or heat recovery system to pre-heat water for use in the dairy which is stored and used as feedstock for the water heater. These can significantly cut the amount of electricity used to heat the water.

CowTime has a useful Dairy Energy Savings Checklist for simple things you can check to ensure your dairy is using energy efficiently – without costing a cent! Go to www.cowtime.com.au and click on the resources page.

For more information contact: Darold Klindworth, ph 03-5624-2269 darold.klindworth@dpi.vic.gov.au.

Hunter Dairy Development Group brings new information to farmers

Hunter Dairy Development Group

Funding from DIDCo has allowed the Hunter Dairy Development Group (HDDG) to bring two opportunities to the farmers in the Tamworth, Dubbo, and Hunter regions.

In the week of the 28th July, Dr Bill Tranter (Atherton Tablelands) and Mr Peter Best will tour the area, speaking to groups of farmers about lameness – its causes, treatment and prevention. On-farm days, free for dairy farmers, will be held in Tamworth, Dubbo, Upper Hunter, Singleton and Dungog. Contact Anthea Young or Kerry Kempton for details, or check our website calendar of events: www.dpi.nsw.gov.au

In the Dubbo area, Landmark are collaborating with NSW DPI and the HDDG to compare the effects of applying granular urea with Easy N, RUM and NitroHumus, three different liquid nitrogen fertilisers. The trial is being run on the farm of the Cooltah Partnership, Narromine, and involves three replicates and "0" application plots. Dry matter yields will be measured from each plot each grazing, and the plant feed quality will be monitored throughout the season. All data analysis will be done at the end of the season, so results will be available for the start of next autumn. For more details, contact Anthea Young

Cows Create Careers in the HUNTER!

During second term, ten High Schools throughout the Hunter have hosted dairy calves in their schools. The calves were delivered to the schools by local dairy farmers and students took charge of rearing them for three weeks.

The program, called Cows Create Careers, is supported by NSW Department of Primary Industries Tocal College and is a part of the Adopt a School Program for Hunter Valley Youth Express.

“We are very pleased to be a part of this national program titled ‘Cows Create Careers’. It is a very practical way of encouraging young people to learn about the Dairy Industry” Mr Cameron Archer, Tocal Principal said.

Hunter schools involved in 2008 are; Aberdeen St Joseph’s High School, Muswellbrook High School, Singleton High School, Rutherford Technology High School, Cessnock High School, Dungog High School, St Catherine’s Catholic College, Morisset High School, Tomaree High School and Newcastle High School.

An enthusiastic group of dairy farmers and mentors across the Hunter Valley Region provided support in the delivery of this project by volunteering their time to visit students in schools.

“This project has opened up opportunities for the Dairy industry to connect with local students in a way that is both practical and enjoyable. The program also provides a sound educational package for teachers, highlighting career opportunities in the Dairy Industry” said Hunter Regional Coordinator Michael Ison.

The Hunter region is leading the way for an extension of this project to be delivered in Term 3 to the South Coast, Tablelands and North Coast regions of New South Wales. This project will be supported by DIDCO and other sponsors.

The Cows Create Careers project would not be possible without the commercial assistance of supplies from Weston Animal Nutrition, Castlegate VGS, Landmark Rutherford and Shoof International.

A Presentation Day was hosted by Tocal College on Tuesday 24th June and over 200 students, teachers, mentors and farmers received a certificate of participation. The ANZ Bank provided prizes of $500 for both senior and junior teams. The winning schools were St Josephs Aberdeen and Newcastle High School.

Mike Ison

Licestock Officer (Dairy)

Tocal, Paterson

The Cows Create Careers presentation day in June was in the EA Hunt Hall at Tocal College

Ideal condition for calving

The body condition of cows at calving can have a major impact on herd fertility in the next mating period. Dr Barry Zimmermann, InCalf Project Leader, explains the body condition scores you should be aiming for.

Body condition scoring is a visual assessment of the amount of fat and muscle on a dairy cow, regardless of her body size.

InCalf’s recommendations are based on the 1 to 8 scale described in The Condition Magician booklet.

Cows with a body condition score between 4.5 and 5.5 at calving are more likely to cycle, be submitted for insemination and conceive at the next mating.

If they are too thin at calving (less than score 4.5) cows take longer to start cycling after calving and are more likely to be inseminated at their first heat, rather than their second, resulting in lower conception rates. Cows that calve too thin therefore have 6-week or 100-day in-calf rates at least 12% lower than those that calve in optimal condition (between 4.5 and 5.5).

Although the body condition of an individual cow affects her chance of getting pregnant, it is the number of cows below, above and in ideal body condition at calving that is important for herd fertility.

InCalf recommends that you aim for less than 15% of cows below body condition score 4.5 and less than 15% of cows above body condition score 5.5 at calving.

To check your herd’s body condition is on track to meet the recommended targets at calving, it is important to condition score your cows at critical times. You can then consider if you need to change your herd nutritional management.

For more information refer to chapter 9 of The InCalf Book available from www.incalf.com.au or contact Natalie Davey, ph (03) 9620-7283 enquiries@incalf.com.au or www.incalf.com.au For more information about Condition Magician booklet contact the Kyabram Dairy Centre on (03) 5852 0500.

New Research – alternatives for synchrony and non-cycling cow treatment

Getting cows in calf quickly after calving is key to maintaining the herd calving pattern and maximising milking performance. Good reproductive performance relies on the presentation or submission of eligible cows for mating. Non cycling cows which fail to show heat reduce herd pregnancy rates and extend average days in milk (DIM).

Farmers have used many tools and strategies to try and improve the reproductive performance of their herd. Synchronisation of heats and treatment of non-cycling cows using CIDR and oestradiol (eg CIDIROL, ODB, etc) are common practices. The advantage of using oestradiol in non-cycling cows is that it invokes a detectable standing heat, and is cheaper than other programs.

However, recent changes in European Union regulations have banned the importation of dairy products that have been treated with oestrogens, including oestradiol.

In response the Australian Dairy Industry has introduced a voluntary restriction on the use of oestradiol benzoate in lactating dairy cows, and have requested that processors make this a condition of milk supply.

Options without oestradiol

Pfizer Animal Health, Dairy Australia and Maffra Veterinary Clinic are carrying out field trials to treat non-cycling cows without using oestradiol

The studies have compared the established CIDR/ oestradiol treatment with a Gonadotrophin Releasing Hormone (GnRH; Receptal, Gonabreed, Fertagyl) treatment. Early trial results show good comparisons between the two.

One key difference is that in a GnRH based program there is no visible signs of heat, and a fixed insemination date is set. This can be an advantage where heat detection rates are low or at certain times of the year.

Each of the programs in Table 1 are strategic tools which can be used together in a whole herd breeding program to get more cows mated. Some farmers are using the PG program to start and manage submission rates and the voluntary waiting time, followed by either GnRH or CIDR based programs for problem cows.

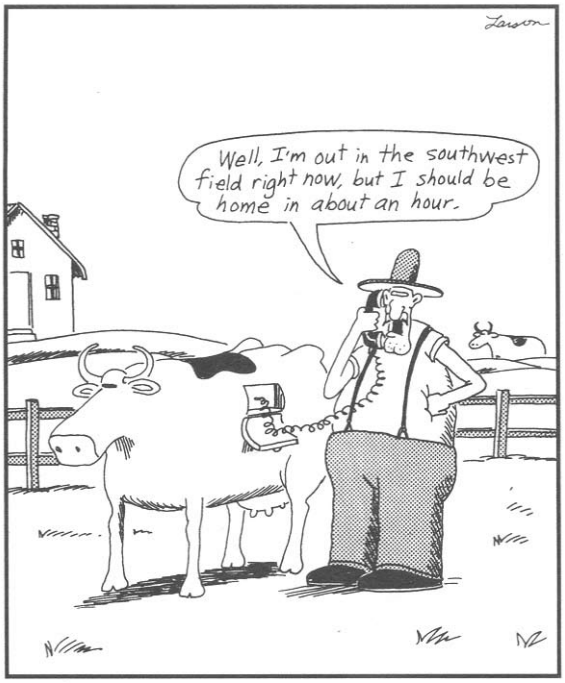
When choosing a program to assist in achieving herd breeding targets, farmers should

seek veterinary advice on current programs, and assess the cost benefit to their business. To achieve a fresh productive herd and keep control of the average days in milk, it is important to aim for a high percentage of the herd to be in calf by 100 days after calving.

Vicki Smart,

Livestock Officer (Dairy)

Berry



The rural professional and his cowphone

Table 1: Outlines options for synchronising and treating non-cycling cows

Program	Works on	Benefit	Limits
PG - 14 days apart	Synchrony of cycling cows	Improves mating rates Better pregnancy rates Identifies non-cycling cows Lowest cost program	Does not work on non-cycling cows
Ov-synch	Synchrony and treatment of non-cycling cows	Fix time mating Less need for heat detection	
CIDR-synch (including re-synchronising returns to service)	Non-cycling cow treatment and synchronisation of heats	Most like normal cow cycle Highest level of control over cows cycle Fixed time mating Less need for heat detection Improved conception by 10-20% over Ov-synch	Most expensive option Labour intensive

Look behind your cows

When assessing a paddock after cows have grazed, you can tell a lot about their diet. Clumpology tells you how well the cows' appetite has been met, and crapology tells you how well the content is matched to the cows' needs.

Clumpology

The majority of clumps in a paddock are the result of soiling in a previous grazing - either through manure or urine. Cows will not choose to eat close to these clumps – grazing right up to the edge of a clump indicates that the cow is hungry and she is being forced to graze closer to the manure or urine patch to get more pasture. Look for a smooth curve up the clump, rather than sharp shoulders. Also check if cows are eating into the tops of the clump - if so, this is also an indicator of hunger.

Between the clumps, ryegrass should be grazed down to between 4-6cm.

Crapology

In the manure, look for colour, consistency and content.

Consistency:

Should be that of porridge, concentric rings, 40-50mm high

Firmer manure can indicate low protein or low starch levels.

Looser manure can result from low fibre in the ration, with grain being fermented in the hindgut rather than the rumen.

Foaming or bubbling: acidosis, or hindgut fermentation causing gas production.

Mucus: caused by an inflammation of the gut lining, usually from acidosis or an illness

Colour

Dark green colour: Good quality winter pasture with high protein content

Brown-olive colour: hay rations will darken the manure

Yellowy-olive: Large amounts of grain and forage, colour will depend on the amount and type of both forage and grain.

Light green or yellow manure that is watery can indicate bacterial infections, whereas the presence of blood can indicate disease in the gastrointestinal tract.

Content

Large forage particles or undigested grain can indicate poor rumen function or a very fast passage rate through the rumen, possibly from low fibre in the ration. Undigested grain can also indicate poor grain processing, including hard kernels from maize silage. Nutrients from these grain particles are not available to the cow.

Look at dried manure too – pale white colouring on the surface means undigested starch.

CALL YOUR VET if liquid manure is arcing from the cow, and offer water immediately it appears as firm faecal balls.

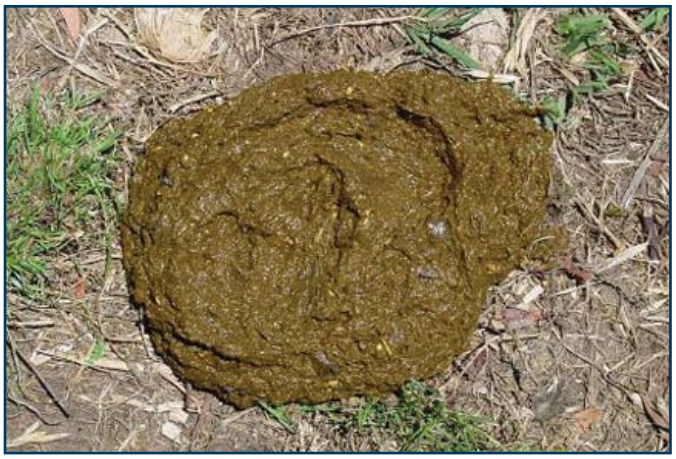
Anthea Young

Livestock Officer (Dairy),

Scone

This is an example of manure too dry indicating a high fibre, low energy diet.

Manure like this is a clear indicator of acidodis caused by high starch, low fibre diets creating low rumen pH and disrupting rumen function



An ideal manure pat is firm, about 5cm high with concentric circles across the pat. This indicates a healthy rumen with good balance of energy and fibre.

Reducing mastitis risk at calving

Calving is a high risk time for mastitis in dairy herds and the impact will be felt for the whole lactation.

Countdown Downunder's Dr Rod Dyson has some tips for reducing mastitis risk at calving.

Environmental bacteria is the most common form of mastitis infection in calving. The best option for mastitis control is a clean grassed area with no surface water. But this increases the risk of metabolic diseases such as milk fever. Make sure you have milk fever prevention strategies in place for cows that are calving on grass.

The ideal calving paddock should:

- Have a good cover of grass.
- Not be irrigated or contaminated with milking shed or feed pad effluent.
- Have minimum faecal contamination.
- Have sufficient drainage.
- Be easy to supervise.

For more tips on reducing mastitis infection at calving, refer to the Countdown Downunder Farm Guidelines 1 to 4 available from www.countdown.org.au or phone Countdown (03) 9620-7283.

Environmental mastitis can be avoided by calving cows onto a clean grassed area with no surface moisture and minimal faecal contamination.

Depreciation and Business Stress

It's at this time of the year when thoughts of tax returns rise to the top of the pile. The phone rings and the pesky accountant starts the annual process of reporting our business performance to the tax office. When the dust settles, the data is entered and the reports are run, we sign off on the accountants work and go back to the cows. Then we wait for the phone to ring next year, just to start the process again.

Deep within the financial reports is a line that shows the depreciation on assets the Australian Taxation Office has allowed for our business. In our taxation system large expenditure on capital items are not tax deductions in the year of the purchase. The purchase cost is spread over a number of years depending on the type of item, and this amount is then tax deductible each year over the life of the item.

The expected life of capital items and the depreciation rates applied within the taxation system are somewhat arbitrary. Depreciation figures for tax purposes have limited value in the management of our business but understanding the role of depreciation is critical to business survival and growth.

In the business management context, depreciation is the loss in value of the capital equipment we use to run our businesses. Depreciation simply reflects that equipment we use will wear out at some time in the future and will require replacing. To survive and grow a business must make a level of profit each year that includes sufficient funds to allow the replacement of these assets.

The profit from a business must allow the business to reduce debt, provide an appropriate return to the owners and make provisions for depreciation. If a business does not make sufficient provisions for depreciation the business will come under financial stress when it becomes necessary to replace assets.

Making appropriate allowances for depreciation is particularly critical in the dairy industry. Profitability in this industry is highly reliant on remaining up to date with current technologies and equipment. This equipment often has a relatively short productive life or is made redundant as new technologies evolve.

'Living on Depreciation' is a phase often applied to businesses which fail to make adequate provisions for depreciation each year. Such businesses generate sufficient cashflow each year to service debt and provide adequate cash for the owners' personal drawings. When it becomes necessary to upgrade or replace equipment and sheds these businesses face a significant challenge. Without funds set aside the only options available to the business may be to sell assets or increase borrowings.

In assuring the profitability and long term viability of a business making the appropriate provision for depreciation is critical. Inability to make provision for depreciation is an early sign that a business is heading for financial stress.

Greg Mills

Livestock Officer (Industry Development)

Moree

Managing Pastures for Profit

Like many dairy farmers, Dobie's Bight dairy farmer Sam Tonge and his farm manager Paul Judge, liked to see plenty of paddock feed in front of their herd. As the herd started to leave more and more behind in the paddocks, they'd make silage with their surplus feed. However, they were generally disappointed with the milk response when feeding it back.

Not any more. Since undertaking DPI's Managing Pastures for Profit program and incorporating the program's Rotation Right Tool to help their pasture grazing management, they are confident that paddocks will be at their optimal grazing stage by the time of next grazing. Not only that, they are now able to predict true pasture surpluses, enabling them to take paddocks out of the rotation to make the silage. They accept that they may sacrifice some yield, but with weather permitting, they now make the silage at what is their optimal grazing stage, knowing that those paddocks will slot back into the rotation, and when they need to feed it out, milk production won't be compromised.

They are lucky that their silage making contractor lives just up the road, so they are able to conserve smaller lots than may be possible had he had to travel larger distances.

An analysis from DPI's Feed Quality Testing lab at Wagga Wagga on some of last year's ryegrass silage that is currently being fed, is listed below and shows the quality of the material conserved. Included are comments on the analysis based upon TopFodder recommendations.

Nutrient	Result	Comment
Dry Matter - %	59	Drier than ideal – should aim for maximum of 50-55%
NDF - %	51	Good
ADF - %	27	Good
Crude Protein - %	20	Good
DM Digestibility - %	76	Very Good
ME - MJ/kg DM	10.6	Very Good
pH	5.5	Higher than desirable but good considering high DM%
Ammonia Nitrogen	5.0	Very Good

Sam and Paul see themselves in a in a win-win-win-win situation:-

Win 1 – The Rotation Right Tool tells them the number of days grazing they need form each paddock to ensure that pasture is at their preferred stage of growth by the next grazing.

Win 2 – They can predict true pasture surpluses in advance, so they are able to give their silage contractor prior notice ensuring his availability when the pasture is due for ensiling.

Win 3 – Based on the above feed analysis, they have a supply of quality conserved feed to feed out in times of need without compromising milk production.

Win 4 – Pasture utilisation per hectare continues to rise.

Sam & Paul inspecting pasture growth

Col Griffiths

Livestock Officer (Dairy)

Kyogle

NRM project addresses dairy issues

The wet start to 2008 along the coast accentuated problems that dairy farms face in containing nutrients on farm, maintaining laneways, high traffic areas and soil structure, with a number of producers pushed to their wits end.

A Northern Rivers Catchment Management Authority funded project, Dairy NRM Works for Healthier Soils, Rivers and Catchments, has provided assistance for 33 North Coast dairy farmers to address the above, and other environmentally sensitive issues.

The response by farmers to the project was overwhelming. Through the Farmer Targets for Change course, farmers identified their own particular issues and then developed their own well thought out projects to address them.

Half the applications received were able to be funded. Selecting which projects to fund was difficult and it was only after each was assessed using a common matrix that they were able to be ranked into a funding priority. Those who missed out on funding had also developed worthy projects but there was insufficient funds to meet the mass of applications.

The number of applications received, shows that dairy farmers are very conscious of, and keen to address environmental sensitive issues.

To qualify, successful applicants had to match funding on a dollar for dollar and in-kind basis, but in most instances farmer contributions were 60-70% or more of the total costs. The project provided a total of $416,000 for on-ground works, but including the farmer contributions and the value of their in-kind and on-going maintenance inputs, the total project value was in excess of $1.2M.

Some of the projects that missed out on funding have since been funded through other CMA and Landcare projects.

All the projects will deliver an on-going improvement for their catchments through more effective effluent systems, riparian management through the provision of off-stream stock watering points, controlling nutrient runoff and soil degradation of laneways and high traffic areas.

Col Griffiths

Livestock Officer (Dairy)

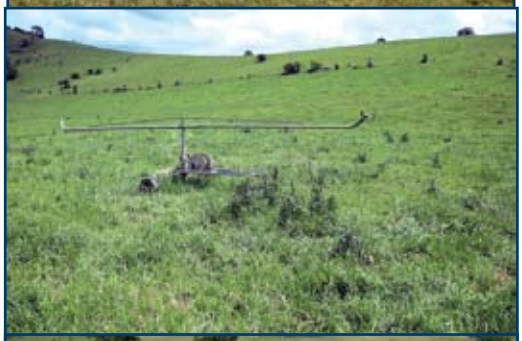
Kyogle

Riparian management

Controlling nutrient run-off from laneways

Effluent management from feed pads

Provision of off-stream stock watering points



Recycling effluent system...

...and better distribution of nutrients

Calculator for mixing iodine-based teat disinfectant

Look at the label to obtain the following information:

Amount of iodine in concentrate: ____ g/L (A)

Amount of glycerol (or other emollient) in concentrate

____ g/L (B)

To obtain 0.5% iodine in mix (recommended for effective disinfection): 0.5% iodine = 5g iodine per 1L final mix 5 ÷ A x 1000 = _____ mL (C)

(C) is the volume (mL) of concentrate needed per L of final solution

To obtain 10% glycerol in mix (maximum level recommended for good teat health): 10% glycerol = 100mL glycerol per 1L final mix

B x C ÷ 1000 = _____ mL (D)

(D) is the volume (mL) of glycerol delivered by the concentrate per L of final solution

100 – D = _____ mL (E)

(E) is the volume (mL) of glycerol or other emollient required to make up the 10% glycerol in final mix

How much water to add?

The extra glycerol takes place of some water – if the extra is simply added to the final mix, then the iodine will be diluted too much

To calculate how much water to use for 1L of final mix:

1000mL – C – E = _____ mL (F)

(F) is this the amount of water to add.

Final recipe to make 1L solution:

C + E + F = 1L

Requirements per cow for good teat coverage

20mL/cow/milking (spray); OR 10mL/cow/milking (dip)

Final solution (L) needed per milking = cows milked x 20 ÷ 1000 (spray) OR: cows milked x 10 ÷ 1000 (dip)

If 2.5L needed per milking, final recipe is (C + E + F) x 2.5

Water used should be from a safe source. Cooled water from a hot water system is recommended. Hardness above 20ppm can reduce effectiveness of chlorhexidine-based teat disinfectants.

Iodine based products should be mixed daily and not kept for longer than 24 hours.

Calculating emollient required for acid anionic compound teat disinfectants (eg alkylbenzene sulphonic acid).

Read label instructions. Calculate how much concentrate will be used per L of final mix. For example, if instructions require 1 part concentrate to 4 parts water, 200mL of concentrate will be required.

Amount of concentrate required = _____ mL (A)

Amount of glycerol = _____ g/L (B)

To obtain 10% glycerol in final mix:

10% glycerol = 100mL glycerol per 1L final mix

B x A ÷ 1000 = _____ mL (C)

(C) is the amount of glycerol delivered by the concentrate

100 – C = ____ mL (D)

(D) is the amount of extra glycerol (mL) required to make up 10% in final mix

How much water?

The extra glycerol takes place of some water – if the extra is simply added to the final mix, then the disinfecting agent will be diluted too much.

To calculate how much water to use for 1L of final mix:

1000mL – A –D = _____ mL (F)

(F) this is the amount of water to add.

Final recipe: to make 1L final solution

A + D + F = 1000mL

NOTES:

Water used should be from a safe source. Cooled water from a hot water system is recommended. Hardness above 20ppm can reduce effectiveness of chlorhexidine-based teat disinfectants.

Using emollient concentrations above 10% can reduce effectiveness of disinfectant.

Do not use bloat oil, vegetable oils or tea tree oils – these reduce the effectiveness of the disinfectant. Parrafin and other white oils are not effective emollients.

Always use products registered with the APVMA (previously NRA).

Anthea Young

Livestock Officer (Dairy),

Scone

Based on Countdown Downunder recommendations

Urea Revisited

Urea is now widely used to apply nitrogen to crops and pastures but with increasing costs some people will question its use. The first point is that nitrogen is essential for healthy plant growth (no nitrogen, no protein in the plant) if the nitrogen isn't available from the soil via legumes then it must be applied as fertiliser (remember all nutrients must be available for healthy plant growth but nitrogen is the nutrient most needed for pasture growth).

Trials at Tocal in 2006 again measured the growth response from urea. The trial area was a kikuyu paddock oversown with ryegrass (direct drilled with Granulock 15 fertiliser). The paddock was low in nitrogen as indicated by pasture growth and obvious urine patches where not fertilised.

Urea Topdress Trial Yield kg DM/ha

	1st trial July	2nd trial August	1st trial retreated	1st trial not retreated
Control (nil urea)	424	832	1040	360
100 kg/ha urea	1064 (+ 151%)	1648 (+ 98%)	1747 (+ 68%)	653 (+ 81%)
200 kg/ha urea	1384	1248	1573	1107

Urea also improved feed quality as shown in these results:

	Crude Protein	Metabolisable Energy	NDF
Nil urea	20.0	10.3	44
100kg/ha urea	26.4	10.6	45

These results reinforce previous information that urea is an effective fertiliser in winter. As temperatures increase it is more important to ensure that urea is washed into the soil by rain or irrigation to minimise losses and ensure maximum production from the applied nitrogen.

Can you afford (NOT) to use urea?

Are you wondering if you can still make a profit from using urea at current prices?

The answer all depends on how efficiently urea can turn nitrogen into grass and then how efficient the cows are at turning grass into milk.

Consider these examples:

Assuming urea costs $1,000/t. Cost of 1kg nitrogen (N) = $2.17/kg N ($1,000 / 460)

Assuming 1 litre milk per kg of grass (could vary from less than 0.5 litres up to 2 litres depending on cow condition, stage of lactation, feed substitution etc.)

Assuming milk worth 50¢/litre

Example 1.

If 1kg N produces 10 litres milk (slow response in winter) then $2.17 produces $5 milk

Example 2.

If 1 kg N produces 25 litres milk (good response in spring) then $2.17 produces $12.50 milk

At current prices urea can still be profitable provided it is used on good responsive pastures which are well grazed by healthy cows.

Neil Griffiths

District Agronomist

Tocal, Paterson

Breeding, a dairy business basic

Breeding decisions have a fundamental impact on dairy business productivity, with genetics contributing about 30% of annual per cow production gains.

Michelle Axford from the Australian Dairy Herd Improvement Scheme explains that genetic gain is the silent achiever in dairy businesses.

"Some dairy farm decisions such as pasture management and nutrition have an immediate but temporary impact on milk production and farm profitability. But the benefits from genetics are permanent and cumulative. The impact lasts for generations," said Michelle.

"Every breeding decision is a new opportunity to build on the gains made to date," she said.

There's a very simple tool to ensure genetics contributes to dairy profitability – the Australian Profit Ranking (APR).

The ADHIS issues an APR for Australian bulls sold through genetics companies. It helps dairy farmers compare the ability of different bulls to contribute to the profitability of their business.

If you want to keep it simple, select bulls with a high APR. It favours efficient milksolids production, strong survival, good workabilities, high fertility and low cell count," said Michelle.

Bull breeding values, including APRs are available from the ADHIS website www.adhis.com.au.

For more information contact Michelle Axford at ADHIS ph (03) 8621-4240 or email maxford@adhis.com.au.

Plea Field Day

An excellent gathering of approximately 60 people met at Manning Valley Dairies, Bungay, on Tuesday 17 June for a demonstration of the Probiotic Low Energy Aeration (PLEA) system. The group then moved onto a local dairy to see how the PLEA system was helping them to manage dairy effluent.

The PLEA system is new technology that controls sludge and odours in effluent ponds.

Effluent ponds are dosed with improved Probiotic bacteria and aerated with a sub-surface aeration system.

Sludge free ponds eliminate the need for an excavator, which is expensive and messy and creates a pile of sludge.

The PLEA ponds can be smaller than traditional effluent ponds as loading rates can be higher without causing odours and there is no sludge to store.

The treated liquids are odourless and solids-free, making them very suitable for reuse as hose down water at the dairy.

Recycling treated effluent means less clean water being used at the dairy leading to water savings of up to 90%. When using water from the PLEA system for irrigation there is less likelihood of pipe blockages as the effluent has reduced solids.

The advantages of sub-surface aeration are better oxygen transfer, energy efficiencies, reduced costs of operation and reduced odours.

As well as looking at the PLEA system, local farmers talked about the on-ground projects they have completed following their involvement with Farmer Targets for Change. Projects include 300 metres of gravel laneways with culverts and drainage and a concrete bridge crossing; effluent spray-out systems; tree plantings for shade; a stock watering system comprising 9 troughs and 1600m of polypipe; dam fencing; an effluent pond with gravity spray system; a high volume side discharge solids/slurry manure spreader; and a new dairy effluent system with earthen solids trap and effluent traveller.

Local farmers inspect a recently installed PLEA system

Grazing at the right time for the plant is critical

When is the right time to graze your winter pastures? For most farmers, the answer has been “When I need it for the cows”, as long as it doesn’t pull out of the ground. The Managing Pastures for Profit program (MPFP) however is showing farmers very clearly that ryegrass plants need to be grazed according to their leaf emergence rate.

Leaf emergence rate – how quickly the plant grows each new leaf – is governed entirely by soil temperature and hours of daylight (if moisture is not limiting). Fertiliser use, grazing pressure and variety will have no effect on how quickly the plant can grow leaves. They will affect the size of the leaf, height of the plant, and the plant’s tendency to lodge or have canopy closure. But they will not affect the leaf emergence rate.

Surprised? Have a look next time you are in the paddock – if there is a highly fertile paddock of a tetraploid type of ryegrass, the plant will most likely look ready for grazing much earlier than a light-soiled paddock of a diploid type that has not been fertilised. BUT the rate of leaves emerging will be the same. This can mean that a paddock of smaller, thinner leaved plants should actually be grazed before a paddock of big strong healthy plants, if that smaller plant is at the correct growth stage before the bigger plant.

The correct growth stage for grazing, for most of the year, is when the plant has grown 2 ½ - 3 leaves. Graze the paddock at the 3 leaf stage for the following reasons:

- The plant is stronger, denser and more persistent when allowed to grow the more leaves
- The growth rate is significantly higher after the 2nd leaf emerges – for a few more days, you will grow a lot more dry matter
- The balance of energy and protein is optimal at this stage – nitrate levels are higher in earlier stages, and energy levels are lower compared to the nitrogen compounds.

An exception to this right now is in larger leafed plants that are growing well with a mild start to the winter – canopy closure is occurring earlier than usual in some areas. When there is yellowing of underneath leaves, the plant needs to be grazed to prevent further losses.

Talk to your neighbours about the current rotation length on their farm – remember that soil temperature and hours of daylight are the only two factors that will affect leaf emergence rate if moisture is not limiting.

Anthea Young

Livestock Officer (Dairy), Scone

Coming events

People Focus Group contact Michael Ison phone 0409 983667	Friday 15 August , 9.30am Singleton Library
New Generation Dairy Forum 'The Future is Dairying' Guest Speakers from the FutureDairy program Dr Yani Garcia and Dr Kendra Davis Topics: complementary forage systems to maximise feed production and automated milking systems (robotic milking)	Tuesday 16 September Opal Cove Resort, Coffs Harbour For more information and registration contact Lou McDonald 02 6562 6244
TopFodder - Successful Silage course Silage, crop selection, and making, storing and feeding high-quality silage. Cost $335 per property, including high quality hardcover refenrece book.	20, 21 and 27 August Scone For more information contact Cassie Gardner 02 6763 1276 or 02 6544 4900

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