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Dairy Australia Your Levy at Work

Tassie Dairy News

www.utas.edu.au/tia/dairy | May 2018

Inside the newsletter

Discussion Group round-up

Preparation for winter

Symon Jones, TIA

The April north east discussion group meeting was held on the new Forester Lodge dairy conversion. Forester Lodge is a coastal farm situated 1 km inland on the Waterhouse Road, 10 minutes from Bridport.

The discussion for the day focused on the ongoing farm development and current pasture management practices involving setting the grazing rotation and stock numbers to meet the changing seasonal conditions.

Forester Lodge is in its second year of development and in its 1st year of production and for most of the season was milking 720 cows on 220 hectares of irrigated pasture.

The farm has a production target next season of 345,000 kg MS from 850 cows. Cow numbers are budgeted to increase in line with farm development as more area is improved through pasture renovation. Cow numbers are expected to reach 1,100 over time.

At the time of our visit, the farm was milking 590 cows on 170 ha of irrigated grazing area at a stocking rate of 3.5 cows per ha with a grazing interval of 28 days.

The dairy herd were being offered 6 ha per day, providing 6,900 kg of pasture or 11.6 kg DM/cow/day.

The allocation is based on a measured pre-grazing cover of 2,900 kg DM/ha, with a post grazing residual cover of 1,750 kg DM/ha giving 1,150 kg DM/ha of available pasture. In addition, the cows receive 4.5 kg of grain supplement and 2 kg of silage giving a total allocation of 18kg DM/day/cow.

At a daily production level of 1.1 kg MS/cow/day, the cows are being fed 3 kg above their daily requirement of 15 kg DM and therefore, were increasing in body condition in preparation for calving.

Physical Details for Forester Lodge:	
Total area	517 ha
Potential effective grazing area	440 ha
Current developing grazing area	380 ha
Irrigated (9 pivots)	220 ha
Dryland (60 ha renovation)	160 ha
Water requirement	14 ML/day
Water resource	Great Forester & new dam
60 unit rotary dairy	
Calf rearing shed - 200 calf capacity	

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Discussion Group Round-up continued

With cooler autumn weather upon us, the discussion centred on extending the grazing rotation to increase pasture cover in preparation for calving as predicted leaf emergence rate and pasture growth rates will slow down as the weather cools.

With a measured pasture growth rate for the fortnightly period at 40 kg DM/ha/day and estimated pasture demand at 41 kg DM/ha. (Current stocking rate of 3.5 cows/ha and intake of 11.6 kg DM/cow = 40.6 kg DM/ha) feed supply and demand was in a break-even situation.

To extend the rotation from 28 to 40 days another 90 cows were to be dried-off to reduce the pasture demand.

Young stock are also carried on farm and have access to 50 hectares of irrigated pasture and some dryland pasture.

Feed Wedge

Information obtained from the weekly farm walk is entered into a spreadsheet creating a feed wedge which identifies paddocks with the highest pasture cover and indicates changes in average pasture cover (APC) allowing pasture management decisions to be reviewed regularly.

The following steps show how available pasture is calculated and allocated on farm.

1. Calculate available area, based on desired rotation length

Irrigated area 170 ha ÷ current rotation length 28 days = 6 ha

2. Calculate available pasture /ha

Pre grazing cover 2,900 kg DM/ha - residual cover 1,750 kg DM/ha = Available pasture of 1,150 kg DM/ha

3. Calculate total pasture available

6.0ha x 1,150 kg DM/ha = 6,900 kg DM

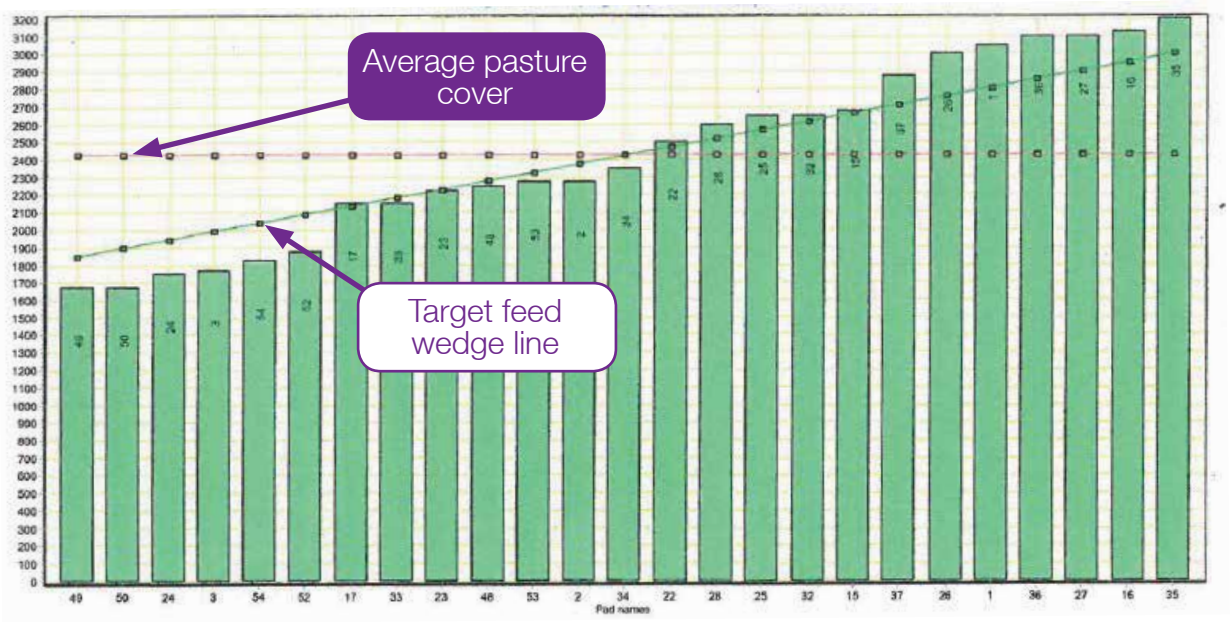
4. Calculate feed available per cow

6,900 kg DM ÷ 590 cows = 11.6 kg DM/cow

Grazing management for autumn

- Leaf emergence and pasture growth rates are visibly slowing down, which means the focus on all farms should be on **extending the grazing rotation length** in preparation to build cover for calving.
- The focus should be on setting a target pasture cover at calving and building towards this. Research has shown that target pasture covers should be around a minimum of 2000 kg DM/ha, depending on your calving date.
- The leaf appearance rate for ryegrass in late April was 11 days per leaf. This means the rotation length should be a minimum of 33 days to graze pasture at the three-leaf stage. Rotation length needs to be extended as leaf emergence rate slows.
- While irrigated pasture growth rates (feed supply) for late April was measured at 40 kg DM/ha per day, on most farms growth rates will be slowing, and will likely be lower than the daily pasture requirements, depending on your stocking rate.
- Stocking rate varies on a weekly basis for many farms as cows are dried off and either wintered on or off farm.

Forester Lodge feed wedge 17/4/18 (Irrigated)



- A feed budget is a useful tool for calculating feed requirements from now until dry off and over the winter period.

Up-to-date information pasture growth information can be obtained by subscribing to the TIA Regional Pasture Growth Rate & Evapotranspiration weekly update. Send an email to Nathan.Bakker@utas.edu.au if you would like to receive this update.

Dry cow management

The dry cow period provides the cow time for a much-needed rest, it is when new udder tissue is created in readiness for the next lactation. It also provides an opportunity for the udder to rid itself of many potential mastitis causing pathogens. Some pathogens, such as E-Coli will not survive from one lactation to the next.

- Mammary cell secretions combined with an increase in natural antibodies are able to kill bacteria and existing infections.
- A cow needs a minimum of 6–8 weeks of dry period for the udder to fully regenerate.
- If cows are not dried off, future lactation yields can be compromised by 25-30%.
- After drying off, a natural keratin plug forms in the teat canal as a barrier to infection, this process takes time.
- Research suggests that up to 50% of teats do not have a functional seal 10 days after drying off.
- As many as 5% of teats will not develop fully sealed teat plugs during the dry period. This highlights the importance of not putting freshly dried off cows onto muddy laneways or paddocks.
- Teat seal will provide extra protection.
- Research has found that quarters receiving dry cow treatment as a dry off strategy had significantly higher rates of closure for the teat canals during the first four weeks of dry period than untreated quarters, as dry cow treatment facilitates physical sealing of the teat canal.
- Cleanliness is the priority when drying off and teat sealing cows and heifers.
- Do not put dry cow or teat seal tubes directly into hot water.
- Start drying off the front teats first and then move to rear teats.
- Restrict cows to clean paddocks and avoid muddy laneways as much as practically possible after drying off.

Body Condition

- Cows should have a body condition score (BCS) at calving of 4.5 -5.5.
- Cows calving within this range have 12% better 6 week in calf rates than cows calving below BCS 4.5. Cows with higher BCS at calving begin to cycle earlier than thinner cows (cows inseminated on their second cycle will have conception rates 7-8% higher than cows inseminated on their first.)
- Cows losing more than one condition score at calving time will have a lower chance of reproductive success
- Cows will produce an additional 15-20 kg MS/cow over a lactation as a result of a condition score above 4.5 at calving
- If you expect to have 15% of cows below a body condition score of 4.5 at calving, now is the time to take action.
- It is sometimes easier to put body condition on cows in late lactation than through the dry period.
  - » Put light cows on once-a-day milking
  - » Split the herd into low and good condition cows and preferentially feed the poorer condition cows.

Technology the focus at recent discussion groups

Sam Flight, TIA

There are a lot of jobs on a farm that technology can assist with, but a strong message coming from the most recent Devonport and Central North Discussion Groups was that technology can't replace your farming skills. Effective farming relies on your ability to contextualise problems to make sound decisions. From operating a robotic milking system at Garry and Bev Carpenter's to managing the variable rate irrigation system at Nigel and Rachael Brock's farm, the farmer's role is still just as valuable as ever.

While much of this technology can be time-saving, farmers still need to be present to identify issues and intervene when necessary.

There was great discussion among farmers at both discussion groups, with 20 attendees at each.

Devonport Discussion Group

Milking with robots has benefits

Garry and Bev Carpenter gave us a run down on how they have adapted to milking with robots after years milking in a conventional dairying system:

- The robotic milking system allows more farmer lifestyle flexibility.
- Cows are more relaxed in the robotic system.
- Technology within the cow collar, along with milk production information, helps determine heats and identify sick cows.
- Technology doesn't replace the need to know your cows nor the importance of good general farming skills.

Continued over page

Correct pasture allocation is key

Garry has strong pasture management skills, while Bev focuses her attention on the cows. Garry has recently been focusing on pasture renovation, getting new pastures established and reducing the presence of weeds.

Garry and Bev individually feed concentrates to their cows, and based on production and stage of lactation, they feed higher producing cows more. A three-way-grazing system is being used on the farm – correct pasture allocation is key to ensuring cows voluntarily and consistently move around the grazing system. Garry explained the implications of over and under-allocating pastures. If pastures are over-allocated cows need to be pushed out of paddocks, and if under-allocated, cows return to the dairy too soon.

Consider renewable energy on your farm

Rachel Brown, Tasmanian coordinator at Dairying for Tomorrow, outlined things to consider when using renewable power. She emphasised the importance of considering system efficiencies before converting.

See this website for factsheets and information on smarter energy use on Australian dairy farms, particularly the Saving energy on dairy farms booklet:

http://frds.dairyaustralia.com.au/events/smarter-energy-use/

Central North Discussion Group

Collar technology may help detect health issues

This month we've focused on technology use and John Leddin from Allflex Australia contributed his knowledge on current cow collar technology. He explained the potential uses of collars for heat detection, early detection of mastitis, and other health/nutritional issues. John's presentation showed how monitoring activity and rumination can help identify changes in cow behaviour and therefore help identify underlying health issues.

Cow ID assists with feeding in the dairy

Host farmer Nigel Brock is using individual cow identification in the dairy to assist with feeding. Cows are individually fed concentrates based on production and stage of lactation. Despite this, a major challenge is getting cows in-calf. Discussion Group participants suggested looking at pre-calving condition score and pre-mating feeding to make sure cows are on a rising plane of nutrition going into mating. Nigel hopes his bull selection method will help address this. When selecting bulls, Nigel will give more attention to reproduction and fertility traits, rather than just production.

Irrigation helped by VRI technology

Nigel Brock's use of technology doesn't stop in the dairy! Nigel has installed variable rate technology on his pivot to deal with irrigation issues caused by wet and dry areas under the pivot. VRI technology can provide water savings of up to 30% in a normal irrigation season – particularly helpful if the water saved is used to grow even more grass. This dramatically changes the payback period to less than two years if an extra 1tDM/ha of pasture is consumed.

A VRI system suits a farm with a lot of variability in soil moisture holding capacity. For Nigel, it has also helped where good drainage was difficult to achieve due to minimal fall under the pivot.

Points to consider before investing in VRI:

- An EM38 survey can assist you in understanding the topographic and soil variability across the site.
- Determine what the relative available water (RAW) is at various locations under the proposed irrigation site to help with the design of the water application map.
- Consider the areas that won't require water at all times, such as during the irrigation season (laneways, hay, silage paddocks) or very wet hollows.
- Use correct start-up time.
- Match the pasture's requirement for water throughout the season.

See Dairy Australia website for more details:

https://www.dairyaustralia.com.au/farm/animal-management/technologies/pasture-and-feeding-technologies

Rotations extended due to slowed pasture growth

On the farm walks it was noted that pasture growth rates have slowed (on irrigated areas) over the last few weeks and the leaf emergence rate is increasing – now up to 12 days. Farmers said that they have been extending their rotations accordingly.

Thanks to everyone for getting involved in their local discussion groups.

Developing a vaccination program

Lesley Irvine, TIA

Many diseases cause illness in cattle and there are an increasing number of vaccines that can prevent these diseases.

How vaccines work

When foreign invaders, such as bacteria and viruses, enter the body, immune cells respond by producing antibodies. Millions of antibodies are produced and these antibodies fight the invaders and protect against further infection. However, when the immune cells first encounter a particular invader, it can take several days to produce the particular antibodies needed. This allows the invader time to spread the infection.

A vaccine is a killed (or weakened) version of the invader. While the invader can no longer cause an infection, the body still recognises it as an invader and the immune cells produce antibodies to fight it.

Once the 'threat' is over, the antibodies are broken down but the immune system retains memory cells of the antibodies produced. These memory cells allow the body to respond much faster the next time it is exposed to that invader, quickly producing millions of antibodies and stopping the invader before it can spread.

General vaccination principles

- Make sure you have good cattle handling facilities in order to be able to carry-out vaccinations properly and safely (for you and the cattle).
- Always follow the manufacturer's instructions for storage and handling. Incorrect storage (particularly exposure to heat) can reduce the effectiveness of the vaccine.
- Ensure needles are clean and sharp.
- Ensure vaccination equipment is working properly and set to deliver the right amount of vaccine.
- Vaccinations are given in several ways: sub-cutaneous (under the skin) injection, intra-muscular (into the muscle) injection or by intravenous (in the vein) injection. Always check which method is needed for the particular vaccine you are using.
- Follow the manufacturer's instructions for timing of vaccination. Some vaccines, such as 7-in-1, require two vaccinations a certain number of weeks apart. If only one vaccination is given, the antibodies don't reach the required level for providing protection against the diseases. Some vaccines, again such as 7-in-1, also require annual boosters. If you purchase animals and don't know their vaccination status, they will most likely need to be treated as if previously unvaccinated and will require two initial vaccinations several weeks apart (check with your vet as this may depend on the vaccine).

Pre-calving vaccination

Pre-calving vaccination against certain diseases can boost the antibodies contained in colostrum. Cows begin making colostrum four to six weeks prior to calving. This means any pre-calving vaccination with the aim of providing increased calf immunity in addition to protection for the cow, should be conducted six to eight weeks prior to expected calving. It is then critical that the calves drink the colostrum, otherwise they won't receive any benefit from the cow's increased level of antibodies.

A vaccination program

With a large range of vaccines now available, it is a really good idea to discuss a vaccination program with your vet, especially if you plan to vaccinate against pestivirus or Bovine Johne's disease. Your vet can help you work out a vaccination schedule that will give your animals (and people – don't forget diseases can often be transmitted to humans so protecting your animals is also protecting you and your team) the best protection from diseases they are at most risk from.

DairyTas update

For more information contact DairyTas Executive Officer Jonathan Price, phone 6432 2233, email admin@dairytas.net.au, or go to the DairyTas website: www.dairytas.com.au.

Your Levy at Work

What is happening at DairyTas?

Events for you over the next few months:

InCalf – Planning Your Herd's Fertility Course – 5 days over May/June, Smithton

This course will help you develop a reproductive management plan for your own herd and also learn what technologies and strategies are available to help maintain a tight calving pattern and improve fertility. *Details available at dairytas.com.au/*

Young Dairy Network (YDN)

Trivia nights are heading to a town near YOU! ALL Events include free dinner and prizes! See flyers, and info online at

dairytas.com.au/projects/young-dairy-network/

and our Facebook page

facebook.com/ydntas/

Effluent Expo – 24 May, Togari Community Centre

Tasmania's first Effluent Expo is being organised by DairyTas. It's a must-attend day if you are planning an effluent system upgrade and looking for innovative solutions for your farm. See the Effluent Expo article in this newsletter for more information. RSVP to Rachel Brown: *rbrown@landly.com.au*

Focus Farm – Next Open Day 14 June – sponsored by Zoetis

We will be looking at lessons learned from this season and setting up the farm, animals and facilities for next season.

Data uploaded fortnightly at *dairytas.com.au/projects/focus-farm/* and *facebook.com/TasFocusFarm/*

Nutrition Fundamentals – two-day course 16-17 May, Smithton

An experienced dairy nutritionist will provide participants with the information to efficiently and effectively use supplements while still maximising pasture consumption. Numbers are limited. *Details at dairytas.com.au/*

'Cups on Cups off' courses June and July, Smithton, Deloraine and Scottsdale

This popular two-day course is for anyone working in the milking shed. Come along for a refresher in best practice milk harvesting. There will be an emphasis on the detection, treatment and prevention of clinical mastitis. *Details at dairytas.com.au*

Healthy Hooves – Calling for Expressions of Interest

Due to popular demand, we will be running another FREE course before the end of the financial year. Email your interest to admin@dairytas.net.au.

Effluent Expo at Togari

Tasmania's first Effluent Expo will be held on 24 May at Togari Community Centre, organised by DairyTas. It's a must-attend day if you are planning an effluent system upgrade and looking for innovative solutions for your farm. The Expo will introduce a range of options and go-to information for further advice.

As with many things in farming, simplicity is the key to good effluent management. For many locations in Tasmania with good clay soils, a simple two pond effluent system is a cost effective and practical option. However, Togari and other parts of Circular Head have some of the most **challenging sites for effluent management** in Australia. These sites need innovative thinking and technologies, which informs the focus of the Expo.

The focus of the day will be on effluent management for challenging situations eg. soil type/high water table, increased herd size/industry growth, high rainfall, labour availability.

Trade displays and short talks from Tasmanian and NZ effluent equipment suppliers and designers will offer an opportunity to gain an overview of commercially available options. Presentations will be given by the Training and Development Institute of Australia (TDIA), and Dairy Australia's effluent expert, Scott Birchall, plus we will get updates on some recent effluent projects on Tasmanian farms.

The farm tours will visit two very different effluent systems in Togari – both designed to meet the challenge of a high rainfall region with permeable soils and high water table. We will visit the brand new cowshed and above ground storage tank at "Hatfield" (owned by Dutch Mill and managed by Tim Harris) and the van Adrichem family farm with a robotic milking system with underground concrete storage bunkers for effluent.

RSVP by 22 May
to DairyTas 6432 2233

Free lunch packs will be provided to eat on the bus tour

Please wear clean boots – biosecurity booties will be provided for farm tour

For more info, contact Rachel Brown, Sustainable Dairying Adviser, 0409 333 381

The in calf challenge

Re-energise and prepare for winter

Grant Rogers, Dairy Systems Ltd, BVSc

Many farmers will have dried off part or their whole herd by now. This means now is the time to celebrate this season's successes, take some time off, and start preparing for the next calving. Here are some tips for the dry-period.

Time to recharge

Setting up for next season starts with celebrating this season's successes and giving yourself, and your staff, time off to get refreshed and re-energised ahead of next season. Having some time off to do what you enjoy will help you and your staff be up for the challenge once calving starts.

Staff training and inductions

The dry period is a good time to welcome new staff and get them familiar with the way your farm runs. It's also a good time to complete some staff training. Having everyone on the same page, and increasing skill levels ahead of calving, may help to prevent mistakes during calving that impact on herd reproduction, e.g. being unable to correctly identify, treat/manage and record sick cows.

Winter management

Ensuring that your cows have enough good quality grass to eat in spring starts now. Winter grazing management is about ensuring pasture grown in autumn/winter is in good condition in early spring so that you can achieve your target average pasture cover at calving. This helps you meet the feed requirements of your milking herd, and minimise BCS loss after calving.

Transition management plan

The spring transition period is a cow's riskiest time of year, as most metabolic and infectious diseases occur at this time. Well-transitioned cows have fewer uterine infections, reduced chance or severity of mastitis, and increased milk production through better health. Work with your team to put together a transition management plan so everyone's ready at calving time.

Keep the R2s on track

Once the heifers are in calf, they need to keep gaining weight right up to when they calve. Recent research has shown that 65% of heifers are still entering the herd at least 5% or more below target liveweights. To keep your girls on track, monitor liveweights at least every 2 months, and actively manage those below target.

Start preparing for calving

Do your calf sheds need any maintenance or repairs? Have you got your calf rearer all lined up and ready to go? Getting on the front foot with your calving preparations will help reduce the risk of important tasks being missed, or having to be hurriedly done at the last minute. Review what worked well/not so well with calf rearing last season to help you make improvements ahead of the coming calving period.

Ensuring that your cows have enough good quality grass to eat in spring starts now.

DAIRY DIARY 2018

May

16 May: YDN Trivia night. The Hub, Derby. (DairyTas)

16&17 May: Nutrition Fundamentals Course, Smithton (DairyTas & TIA)

22 May: Euthanase Livestock, Smithton (TasTAFE)

24 May: Effluent Expo, Togari (DairyTas)

24 May: Euthanase Livestock, South (TasTAFE)

29 May: InCalf Herd Fertility Course, Smithton. Day 3 of 5. (DairyTas)

30 May: Euthanase Livestock, Scottsdale (TasTAFE)

30 May: Yolla/Wynyard Discussion Group, D Macdonald's from 11am to 2pm, BBQ lunch provided by Yolla Co-Op. (TIA)

30&31 May: Pasture Management Workshop, Burnie (TasTAFE & TIA)

31 May: Euthanase Livestock, Deloraine (TasTAFE)

June

12&13 June: Cups On Cups Off, Smithton (TasTAFE)

14 June: Focus Farm Open Day, Montagu (DairyTas).

19 June: InCalf Herd Fertility Course, Smithton. Day 4 of 5. (DairyTas)

19 June: Transition Cow Workshop, Smithton (DairyTas)

20 June: Transition Cow Workshop, North East (DairyTas)

21 June: Transition Cow Workhop, Deloraine (DairyTas)

20&21 June: Financial Literacy for Dairy Farmers. Day 4 & 5 of 7. (TasTAFE & DairyTas)

26 June: InCalf Herd Fertility Course, Smithton. Day 5 of 5. (DairyTas)

26&27 June: Cups On Cups Off, Deloraine (TasTAFE)

28 June: Financial Literacy for Dairy Farmers, Day 6 of 7. (TasTAFE & DairyTas)

Contact us

Tassie Dairy News is provided free to all Tasmanian dairy farmers and is funded by TIA and Dairy Australia.

For more information, please contact a TIA Dairy extension officer, phone 6430 4953 or email tas.dairynews@utas.edu.au.

Electronic copies of this newsletter are available at www.utas.edu.au/tia/dairy.

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