

Tassie Dairy News

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Be quick to wilt when making silage

Frank Mickan, Agriculture Victoria, and Sam Flight, Tasmanian Institute of Agriculture (TIA)

The process of silage making is all about ensuring an efficient fermentation to reduce the loss of pasture quality. This requires the pasture or crop to contain the correct dry matter when it is ensiled. The target dry matter is 35-50 percent for baled silage and 30-40 percent for pit or stack silage.

The time taken for the pasture or crop to wilt to the required dry matter has an impact on the quality of the silage. There are very low losses in quality (energy and protein) and dry matter if the wilted crop is in the pit or bale within 24-48 hours after mowing. After this time, quality losses substantially increase and so does the risk of rainfall on the mown pasture.

Faster wilting can be achieved through a combination of management and equipment. Management options to achieve a faster wilt include cutting lighter crops, typically early in the season; allowing the dew to lift before mowing or tedding; and timing mowing with fine weather conditions as much as possible.

Use a tedder straight after mowing

Plant leaves contain thousands of stomata per square centimetre. Stomata are essentially holes in the plant that allow moisture to move in and out during respiration. Stomata only remain open for one to two hours after mowing, and the warmer the weather conditions, the faster they close. Once the stomata are closed, the rate of wilting is substantially reduced and wilting time extends.

Using a tedder to spread the forage as thinly and evenly as possible straight after mowing, while the stomata are still open, will increase the rate of moisture loss by up to 50-80 percent for a few extra hours. Bruising of leaves and stems will also occur, which will promote faster wilting.

Use the correct type of mower conditioner

Mower conditioners vary in style, which suits specific crops. Tined and flail mower conditioners are most suited to pastures, younger Lucernes, clovers and vegetative cereal crops; while roller mower conditioners are more suited to stemmier crops such as cereal cut with a seed head, summer forage (e.g. sorghum) and mature Lucernes.

The operator's experience, speed of mowing, clearance settings, machinery maintenance and width of swath can all affect the rate of wilting.

And remember that the quality of your silage is only as good as the pasture you cut.

Considerations when buying silage inoculants

Frank Mickan, Agriculture Victoria and Sam Flight, TIA

Microbial inoculants are products which you can add to silage while it is being made. The aim of using microbial inoculants is to increase the efficiency of the silage fermentation, resulting in improved preservation of nutrients and dry matter (DM), which can have positive flow-on effects for animal performance. Some inoculants have recently been developed to specifically improve aerobic stability (when the silage is exposed to air at feed out). Both types of inoculants are extremely useful in reducing nutrient and DM losses in silage stacks and bales.

With a lot of different inoculants on the market, some factors to consider when choosing if, or which, inoculant is right for your situation are:

1. Type of bacteria
2. Number of effective bacteria
3. Availability of independent research
4. Purpose of the additive
5. Suitability of product form – dry vs wet vs pre-incubation
6. Quality of packaging

Type of bacteria

Most commonly used in silage inoculants are the classic homolactic acid bacteria such as *Lactobacillus plantarum*, *Enterococcus faecium* and several species of *Pediococci*. These improve initial fermentation by promoting the production of lactic acid and constraining the production of undesirable end products that may reduce fermentation efficiency.

Some silage inoculants contain a mixture of bacteria which, in some studies, have led to improved efficacy. However, not all combinations of inoculants are better than an inoculant with only one organism.

Some silages are prone to aerobic deterioration resulting in large DM and

nutritive value losses generally due to poor shelf life (not just fermentation losses). Many research projects have been undertaken to improve the aerobic stability of silages. To date, of the heterolactic acid bacteria studied, only *Lactobacillus buchneri* has been proven by independent research to be an effective inoculant that delays the onset of aerobic deterioration. *Lactobacillus buchneri* has minimal effects on the initial fermentation process but converts moderate amounts of lactic acid to moderate amounts of acetic acid during storage, inhibiting the growth of yeast and moulds.

Number of effective bacteria

To be effective, silage inoculants must be applied at a rate high enough to compete against detrimental bacteria, moulds and yeast and to dominate the fermentation process.

Bacteria in silage inoculant are measured as a colony forming unit (cfu). Because bacteria are so small, the number contained in a gram of inoculant is quite large. This has led to a shorthand method of recording the number of bacteria. For example, 400,000 cfu/g might be expressed as 4×10^5 cfu/g, or 100,000 might be expressed as 1×10^5 .

However written, it is important to ensure the correct rate of inoculant per fresh tonne is applied, especially when forage is damp. Never add half the recommended rate to save money as this will substantially decrease the probability of the product working.

Availability of independent research

An effective silage inoculant will have undergone independent (non-company) research involving sound analysis and any publication will include supporting data. The greater the support data the more credible the product is. Be aware of misleading

information and brochures that show “research data” from university studies that have not been published.

Purpose of the additive

Don't assume that anything with “inoculant” in the name will necessarily do the job. Many different inoculants have been developed for different purposes and sometimes for specific crops.

Suitability of product form

Inoculants come in various forms – liquid, dry granules or a product needing pre-incubation (mixing in a supplied substrate and left for a specific time period before application). Research has shown dry granular inoculants to be satisfactory until the DM of the pasture or crop being ensiled exceeds about 50 per cent DM (50 per cent moisture). Liquid inoculant covers the material more evenly and starts the fermentation process faster than granules. This is because granules rely on the moisture from the forage to grow. The granular form is less ideal on balers, as granules get lost through the bottom of the baling equipment.

All inoculants must be handled strictly as instructed but products which require pre-incubation require extra attention to detail. Most liquid products, once mixed, usually need to be used within 24 hours. It is preferable to use fresh liquid inoculant mixes each time, rather than topping up the mix, because the spray jets can be affected by a build-up of bacteria. If this occurs, the correct amount of inoculant won't be applied.

Product packaging

Look closely at the packaging. Are the containers sewn or heat sealed? Sewn bags can allow moisture in, which is detrimental to the bacteria. The product should be in moisture-proof packaging to ensure a long-lasting shelf life. It's important to look for expiration dates, date of manufacture and lot numbers, which indicate manufacturing professionalism. Be aware that products containing live bacteria do expire regardless of the packaging.

New Tasmanian Focus Farm



Jacki Hine, Dairy Australia

DairyTas have announced the new Focus Farm Project. The project is an initiative funded by Dairy Australia. The project will run over the next two years and will have a strong focus on business performance and the “bottom line”.

All are invited to the the Open Day on the 1st November 2017, from 11am–2pm. There will be a free BBQ lunch provided thanks to the support of Roberts Ltd.



Focus Farmers

“the Fields” Dave & Jane Field
(Production Manager: Luke Tuxworth)

Farm location & details

- Located at Montagu, in the heart of the most intensively dairy-farmed region of Tasmania, Circular Head, North West Tasmania.
- Total size is 800 ha, consists of a 450 effective hectare milking area (250 ha irrigated) and 300 effective hectare support block.
- Split calving system – 500 cows calved in autumn and 900 cows calving in spring.
- Our focus farmers, the Fields, will milk 1400 cows over the 2017/18 season. They are targeting 525,000 kg milk solids under a once-a-day milking system.
- Pasture focused system – aiming to grow and harvest more pasture over time.

How long have the Fields been dairy farming?

Dave and Jane Field have been farming in Tasmania for two years and were previously dairy farming in New Zealand.

Dave and Jane are both graduates of Lincoln University, NZ. They progressed through the dairy industry by managing farms, 50/50 sharemilking and then farm ownership in 2006. They purchased a dairy farm to develop and subsequently two grazing blocks located at Murchison near the top of

the South Island, NZ. The dairy farm in NZ is currently managed by a sharefarmer.

What type of herd do the Fields have?

The herd is made up of Holstein and crossbred cows. Going forward, the emphasis will be on gaining genetic merit and increasing the proportion of crossbred cows in the herd. The Fields see this as an important step as they focus on increasing pasture consumption and adapting to the once-a-day milking system.

What business development stage are the Fields at?

The business has been in a development and growth phase since the Fields’ purchase of the farm two years ago. Development will continue during the Focus Farm Project. The Fields’ aim to operate a simple pasture based system, which is focused on growing and harvesting more pasture over time by increasing soil fertility, irrigation, pasture species, cow genetics and associated management. To help achieve these developments, the Fields changed to a permanent once-a-day milking system in May this year.

Who is guiding and supporting the Fields’ farm development?

Basil Doonan is the lead consultant supported by Georgia McCarthy, both from Macquarie Franklin. The project is

coordinated by Jacki Hine (Dairy Tas). The support group members consist of volunteers, including several farmers, a TIA representative and an accountant, who were recruited by the Focus Farm team. The support group members are Wolfie Wagner, Samantha Flight, Wayne Hansen, Aaron Robertson, Bob Bush, Gerard Mulder, Hugo Avery, Rhys Palmer and Leigh Schuurung. Other professional experts will be asked to join the group as required.

What are the benefits for other local farmers having this Focus Farm on their doorstep?

Many dairy farmers are seeking to increase efficiencies and better work/life balance while focussing on the bottom line. Over the life of this project, farmers will have the opportunity to look at various strategies applied on farm to improve the bottom line and to balance priorities. The open days will allow opportunities to talk to the farmers, see their progress and understand the rationale behind their decisions and outcomes.

There will be up to six free open days in the two years of the project. The first open day will be held 1st November on the farm. It is a free event and is open to all farmers. A BBQ lunch will be provided by Roberts Ltd. The day will include a whole farm tour and session with Bill Cotching (TIA) who will do an “in the paddock” session on the basics of drainage.



Feeding trial commenced at TIA Dairy Research Facility

Mark Freeman, TIA

The individualised feeding of concentrates to dairy cows in the dairy is something that is possible on many dairy farms.

“Is it worth it?” – we often hear farmers ask.

We have commenced a trial at TIA's Dairy Research Facility (TDRF) to try to provide an answer. The scenarios and questions that led to our trial are described in this article, followed by details of the trial's structure.

Feeding ‘better cows’ more

At first glance, it seems obvious – if you feed a cow more, she will produce more – and better cows will produce more than poorer cows if given the same feed. That's why you have a range of differing production levels in your herd. So, pick out the top performing cows and feed them a

bit more (a few extra kilograms of concentrate) and your production goes up.

Well, that's the theory, but if it is so simple, why isn't everyone doing it?

Studies have shown that very few farmers persist with differential or individualised feeding, some don't even try it, and most revert to batch feeding (the same level of concentrate to all cows) within a few years.

Measuring the ‘better cow’

If we look at the idea of ‘feeding better cows more’ it does make sense, but how do we choose what is a ‘better cow’?

Example:

It's five days after calving.
Cow 1 is producing 25 litres and
Cow 2 is producing 21 litres.

It looks like Cow 1 is the ‘better cow’ and should get more concentrate. However, is choosing cows at five days

post calving a good measure? Should it be 10 or 20 days post calving, or should you just use last year's milk production as the measure? Cow production differs between lactations so using last year's figures, while a good indicator of potential production, may not actually work.

In the above example, litres of milk is the assumed measure, but it may not be the most helpful or accurate. Would it be better to base the calculation on milk solid production? In that case, you'll have to wait for herd testing to find out what the cows are producing in milk solids. And will one test be enough to get an accurate result?

If production suddenly doesn't seem to be the best metric to be using, at least not on its own, what is the best metric or combination of metrics?

Well, we don't actually know and we're hoping our local feeding trial will provide some answers. Most research into differential feeding has been conducted in North America or Europe

where cows are often housed and do little grazing. Even where research has looked at this issue in pasture-based dairies, the pasture allocation has been very generous with no restrictions, which isn't the case in the real world of pasture-based dairy farming. If we think about possible metrics that could be used to determine feeding levels, it isn't hard to come up with a fairly large list that includes:

- production (in all its guises)
- genetics
- liveweight
- age
- stage of lactation (more important in year round milking)
- lactation number
- health record, and
- order of milking.

Order of milking

'Order of milking' is an interesting topic. In a large herd, the last cow milked may get to the paddock two or more hours after the first cow. This is a bit

like being the last to get to the buffet and finding only soggy lettuce and carrot sandwiches remaining. These later cows may have lower production compared to the cows that get to the paddock first and have had the best selection of the pasture on offer.

This scenario raises the question:

Is it better to feed more concentrate to the cows that have higher production because of their milking order? Or, is it more worthwhile to feed more concentrate to the cows with less grazing opportunities and boost their production? Once again, we simply don't know the answer yet and we're hoping our feeding trial will provide data to help answer these questions.

Feeding trial design

The full lactation feeding trial at TDRF is looking at three of the possible metrics for determining individualised feeding levels for pasture-based dairy cows. The three metrics chosen for this study are production (litres, although milk solids will also be measured), liveweight and genetics. We have chosen to assess these three parameters first

as they are the easiest for a farmer to determine and, with the exception of daily litres, don't require the use of any specialised equipment. All cows are managed in the same herd, which also includes all non-trial cows. No heifers have been included in the trial.

Table 1 below indicates how the trial is structured.

You'll see under the column 'Grain Levels' that two levels of supplementary concentrate (either 2 or 6 kg DM of pellets) are fed each day. The feeding trial will allow measurement of the long-term effects from these two feeding levels. In the trial, cows are allocated to treatments by matching the non-measured parameters, as well as the measured parameter. For example, cows chosen for high production levels will have similar genetics and liveweight to those cows chosen for their low production.

This feeding trial will be completed at the end of this season after which we will analyse the data. We hope the new information obtained will help us answer the questions raised throughout this article. We will share updates in future Tassie Dairy News editions.

Table 1: Design for concentrate response trial

Parameter to be tested	Number of cows	Parameters similar across all cows	Parameter difference	Number of cows	Grain levels (kg DM/ cow/day)	Number of cows
Liveweight	60	Production Genetics	Liveweight Heavy cows	30	2	15
			Liveweight Small cows	30	6	15
		Liveweight Genetics	Liveweight Heavy cows	30	2	15
			Liveweight Small cows	30	6	15
Production	60	Liveweight Genetics	High current production	30	2	15
			Low current production	30	6	15
		Liveweight Genetics	High current production	30	2	15
			Low current production	30	6	15
Genetics	60	Liveweight Production	Friesian	30	2	15
			Friesian	30	6	15
		Liveweight Production	Crossbred	30	2	15
			Crossbred	30	6	15

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?

Dairy Tas AGM

17th November | 10am–1:45pm

Hagley School Farm

- Morning tea and lunch included
- Meet the 3 new board members
- Join us for a tour of the Hagley Dairy Demonstration Shed and Farm
- Hear the latest from Dairy Australia

RSVP by 10th November for catering purposes

Successful Careers Day held on 27th September

The DairyTas and IntoDairy supported “Pro-Dairy Group” recently initiated and ran a successful dairy Careers Day in Smithton. A total of 275 students attended and interacted with the 24 exhibitors. The students were made aware of some of the many careers available in and around the Dairy Industry, including on farm careers and associated careers in technical support and service industries.

Dairy Mentoring Program – 5 & 6 December

This program assists people from across the dairy industry to establish and formalise meaningful and rewarding mentoring partnerships.

DairySage Mentoring is open to anyone involved in the Australian dairy industry, including farmers, manufacturers and service providers.

As a participant or mentor, you will have access to:

- The six month mentoring program
- A free two-day introduction/training workshop (includes meals and accommodation)
- Speed networking and a dairy industry dinner where you will meet inspirational mentors
- Opportunity to work on your personal goals with the support of a committed mentor
- Monthly webinars to monitor your progress through the program
- Access to reputable and highly regarded trainers
- Mentor training
- Opportunities for you to establish a supportive network with like-minded dairy industry people
- Places are limited – Register on line HERE https://www.surveymonkey.com/r/Dairysage_Mentee_Application

Tactics for Tight Times

With the unseasonal weather continuing, you may be eating further into your resources than expected.

Now may be a good time to have a consultant visit and review your situation under the **Taking Stock program**.

A limited number of Taking Stock visits will be available to farmers across the state. Farmers will have access to one Taking Stock visit for their farm per season.

Dairy Australia is also supporting dairy farming communities to gather in local groups to discuss options for support at a one-off group gathering.

Funding of up to \$1000 is available under the Tactics for Tight Times Project for **local area group meetings**.

These are farmer driven initiatives whereby local dairy farmers have the opportunity to get together with other farmers within their local area/ community to discuss pressing issues.

For further information please contact DairyTas on 6432 2233.

YDN – Post calving Social Evening

All Young Dairy Network members welcome.

- Meet at venues 7pm – 7:15pm
- Pizza served 7:30pm
- Entertainment:
 - » presentation on the learnings from the New Zealand Study Tour
 - » three laser tag games from 8pm
- Free to attend (*however if we get a large number of attendees, members may need to make a small financial contribution*)

North/North East

Monday 30th October
Meet at “Zone 3 Laser Tag”
7:15pm
9 Swanston Park Drive, Waverley, Tasmania 7250

North/North West

Tuesday 7th November
Meet at “In the Zone Laser Tag”
7:15pm
12A Wilson St, Burnie TAS 7320

More Information available here <https://www.facebook.com/ydntas/> or contact DairyTas.

Changes to livestock production assurance

Changes have recently been made to the Livestock Production Assurance program. This program is part of the red meat food safety system which also includes the National Vendor Declarations (NVD) that are used when cattle are sold, and the NLIS database.

Dairy farmers are encouraged to record their Dairy License Number with LPA and complete the LPA reaccreditation process any time after 1st October 2017. Once you have completed the LPA reaccreditation process you will be exempt from LPA random audits.

Alternatively, you'll be contacted approximately two months before your reaccreditation is due and given instructions for working through the new process online. You will remain LPA accredited throughout this process and your LPA accreditation will only be at risk if you do not complete the reaccreditation process when it is due. No fee will apply.

Dairy farmers are exempt from the LPA learning modules (including animal welfare and biosecurity), as dairy industry quality assurance programs and licensing arrangements address these requirements.

Check how to use
the eNVD at

www.mla.com.au/envd

Electronic NVDs (eNVDs)

The LPA eNVD is now available through the LPA Service Centre and licensed software providers. It is available for printing but not everyone can receive it electronically yet.

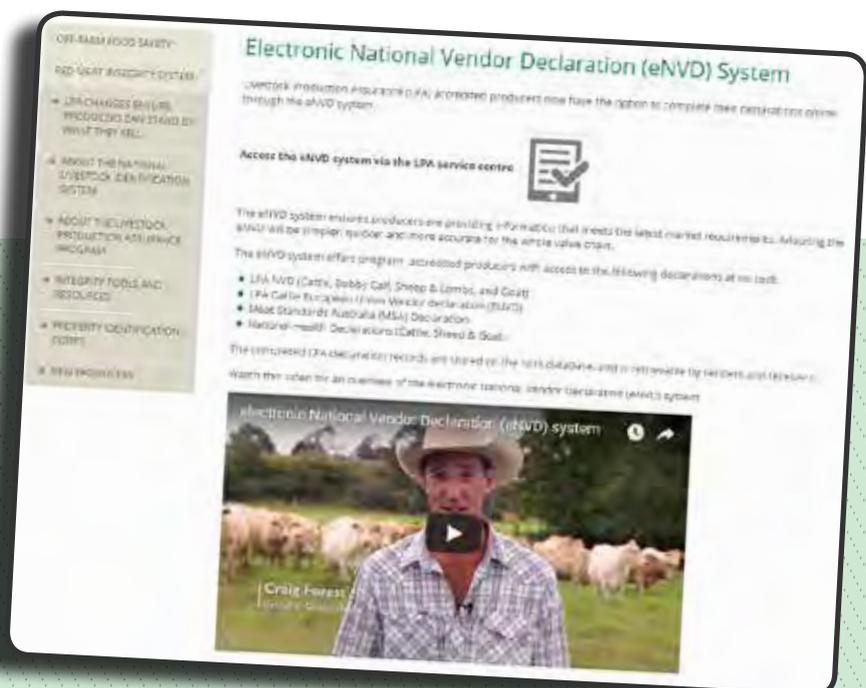
It is not compulsory for producers to change to the eNVD. You can continue using paper LPA NVDs (which will remain at \$40 incl GST per book) or you can download or print the eNVD free of charge.

Check how to use the eNVD at www.mla.com.au/envd.

Information sourced from "LPA Accredited dairy farmers: stand by what you sell" fact sheet produced by Integrity Systems. For more information, visit www.mla.com.au/lpa.

To complete the reaccreditation, LPA-accredited dairy farmers need to:

- Log in to the LPA Database (<https://lpa.nlis.com.au>)
- Select 'Dairy' as your enterprise type
- Input your Dairy License Number, and if required update relevant LPA contact details
- Complete the short LPA assessment
- Complete your LPA declaration (including confirmation that you will notify LPA of any changes to the License status of the Dairy)
- Record whether any other species or enterprise types are being run on your property.



DAIRY DIARY 2017

October

24–25 Oct: Chainsaws, Launceston (TasTAFE)

24–26 Oct: Forklift, Burnie (TasTAFE)

25 Oct: North West Discussion Group, Smithton Community & Recreation Centre, 6pm–8pm. Guest speaker is Craig Dwyer from Smithton Veterinary Services. Meal provided. Please RSVP to Symon on 0418 876 089. (TIA)

25–26 Oct: First Aid, Burnie (TasTAFE)

25–26 Oct: Cups On Cups Off, Scottsdale (TasTAFE)

26–27 Oct: ChemCert, Launceston (TasTAFE)

31 Oct–1 Nov: Breeding Strategies and Livestock Production, King Island (TasTAFE)

November

1 Nov: New Focus Farm Field Day, Dave & Jane Field's, Montagu, 11am–2pm. Free BBQ lunch. (DairyTas)

1–2 Nov: ChemCert, Burnie (TasTAFE)

1–2 Nov: 8 Steps Program, Agritas, Smithton. Contact Nicki Hayward 0477 334 080 (No.8HR)

3 Nov: Annual Industry Forum and TAPG AGM, Waterfront Function Centre, Devonport, 10:30am (TAPG)

8 Nov: Industrial Relations Seminar, Smithton, 11am–1pm (DairyTas)

8 Nov: Industrial Relations Seminar, Dairy Plains, 6:30–8:30pm (DairyTas)

9 Nov: Industrial Relations Seminar, Scottsdale, 10:30am–12:30pm (DairyTas)

14–15 Nov: ChemCert, Launceston (TasTAFE)

15–16 Nov: Diploma / Certificate IV Workshop Series – Budgets & Financials, Deloraine (TasTAFE)

17 Nov: DairyTas AGM, from 10am at the Hagley Farm School, 2508 Meander Road, Hagley. Lunch provided, please RSVP. (DairyTas)

21–22 Nov: 8 Steps Program, Legerwood Hall. Contact Nicki Hayward 0477 334 080 (No.8HR)

21–22 Nov: Chainsaws, Burnie (TasTAFE)

22–23 Nov: Tractors (TasTAFE)

24 Nov: Dairy Australia AGM, Melbourne (Dairy Australia)

24–25 Nov: Chainsaws, Launceston (TasTAFE)

29–30 Nov: ChemCert, Hobart (TasTAFE)

29–30 Nov: 8 Steps Program, Deloraine. Contact Nicki Hayward 0477 334 080 (No.8HR)

December

5 Dec: Southern and Northern Midlands Discussion Group, Ouse (DairyTas)

5–6 Dec: ChemCert, Launceston (TasTAFE)

6 Dec: TIA Open Day, TIA Dairy Research Facility (TDRF), Elliott (TIA)

12–13 Dec: Beyond 8 Steps Program, Deloraine. Contact Nicki Hayward 0477 334 080 (No.8HR)

12–13 Dec: Small Business Finance, King Island (TasTAFE)

2018

13–15 Feb: Australian Dairy Conference, Melbourne

14 Mar: Tasmanian Pre-Conference Tour, North East Region

15 Mar: Tasmanian Dairy Conference and Dinner, Launceston Country Club Casino

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 Centre adviser, phone 6430 4953 or email tas.dairynews@utas.edu.au.

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



Your Levy at Work



TIA is a joint venture of the University of Tasmania and the Tasmanian Government

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