



Typically, calving time is when the highest incidence of cow and calf health challenges need to be met.



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Know what is normal and what is not

Lesley Irvine, TIA

Typically, calving time is when the highest incidence of cow and calf health challenges need to be met. Knowing what is normal and what is not is the first step in identifying when there is a problem and whether intervention is necessary.

At a Dairy HIGH online discussion group in July, Dr Craig Dwyer from Smithton Veterinary Service shared some very useful information on common calving time problems.

The three stages of labour

Stage one is when the cow is getting ready to calve. During this stage, which will take from 3-6 hours in cows and up to 12 hours in heifers, you are likely to see:



continued >>>

- Separation from the herd
- Tail lifting and swishing
- Mild kicking of the belly
- Increased lying down-getting up
- Presence of 'water-bag'

If stage one lasts for more than six hours, the cow should be examined to determine if there is a problem.

In **stage two**, the cervix is fully dilated and the cow will have visible abdominal contractions ('straining'), the water bag breaks, the calf enters the birth canal and is born. Stage two normally takes 30 minutes to four hours. In this stage, the cow needs to be making progress the whole time – for example, if the tip of the feet and nose have been visible for 30 minutes and there hasn't been any progress during that time, it indicates there could be a problem and the cow should be examined.

Stage three occurs 2-12 hours after the calf is born with the expulsion of the foetal membranes. In a normal calving with the delivery of a healthy calf, the calf will stand and start suckling during this stage. This results in a release of oxytocin (a hormone) within the cow which acts on the uterus and helps foetal membranes detach and be expelled.

The receptors in the uterus are only 'open' to oxytocin for 6-8 hours after birth. If the cow does not have a natural release of oxytocin during this time, for example if the calf is born dead, she is more likely to have retained foetal membranes. To avoid this, the cow could be milked which will stimulate the release of oxytocin, or she could be given an injection of oxytocin. It is very important to make sure she has actually calved (and there isn't a twin still to be born) before giving oxytocin – oxytocin causes the uterus to contract which makes it difficult to deliver a calf.

Difficult calvings

There are several reasons why a cow may have trouble delivering a calf:

- Excessive body condition (greater than BCS 5.5)
- Calf is too big/dam is too small
- Weak or absent uterine contractions
- Twisted uterus
- Abnormal delivery position of the calf

Some of the causes of difficult calving can be managed by having well grown heifers, appropriate sire selection and a good transition cow diet – all these will reduce the number of cows requiring calving assistance. However, there will be some cows needing help and the first step is to be prepared. This involves having:

- A well-stocked calving box – ropes, gloves, calving lube, oxytocin, anti-inflammatory drugs and a calving jack
- Adequate restraint – a crush or tied with a halter to a fixed object
- Two buckets of warm water – liquid soap and disinfectant
- Good hygiene – all equipment (including your arms) must be thoroughly cleaned to avoid contamination of the reproductive tract

Assistance should be given to a cow if there is no progression from stage one labour after six hours or no progression from stage two labour after two hours. If uncertain, it is better to intervene early rather than leave it too long.

The normal presentation for a calf being born is two front feet and headfirst (see diagram) however, it is not that abnormal for a calf to be born backwards – an overseas study showed 40% of calves were born backwards. Malpresentations include 'head back', 'head to the side' and

'rump first'. It is very important to feel and work out what you are dealing with before starting to pull the calf out. You need to be sure you have the two front legs, or the two back legs – not a combination of both, or a leg from a second calf. If you are not able to determine the position of the calf or are uncertain about what to do, ask for help – either from someone with more experience or a vet.

If you can determine the problem with the delivery of the calf and decide to assist the cow yourself, assess the size of the calf relative to the birth canal. The calf should be able to be delivered if you can fit your hand over the calf's head in the pelvis of the dam (calf coming forwards) or your hand can fit over the calf's hips in the pelvis of the dam (calf coming backwards).

Attach the calving ropes (or chains) to the calf's legs using a double half hitch, as shown in the diagram. Use calving lube as this will make the delivery of the calf easier. Whether you are trying a manual pull or using a calving jack or pulley, if the calf has a normal presentation, it is important to apply traction to each leg alternatively and pull in a slightly downward motion. When both front legs are out of the vulva, traction can be applied on both legs at the same time. Coincide traction when the dam is straining and once the shoulders have passed through the vulva, rotate the calf 90° to help prevent 'hip lock'.

You should call the vet if:

- The cow has a prolonged calving and you can't assist the cow yourself
- There is a prolonged stage 1 but you can't find either the legs or the head.
- You cannot advance your arm into the birth canal.
- There is no progression in the labour after 20 minutes of you trying to deliver the calf.

- There is a fetid smell or an obviously dead calf.
- The calf is very large – it feels like there is no room.

If you deliver a live calf, it should:

- Take its first breath in 30 seconds.
- Lift its head in 1-2 minutes.
- Roll onto its chest in 2 minutes.
- Attempt to stand in 15 minutes.
- Begin shivering in 30 minutes.
- Be standing in one hour.
- Be suckling in 2 hours.

The calf should also have:

- A rectal temperature of 38.8-39.4°C after birth and stabilising to 38.3-38.8°C within one hour.
- A heart rate of 100-150 beats per minute, regular rhythm, strong pulse.
- 50-75 breaths per minute.
- No swelling or discolouration of the head, limbs or tongue.
- Pink, moist mucous membranes.

The calf should also respond to stimulation with head shaking and

movement of the limbs. If the calf isn't behaving normally, it needs assistance.

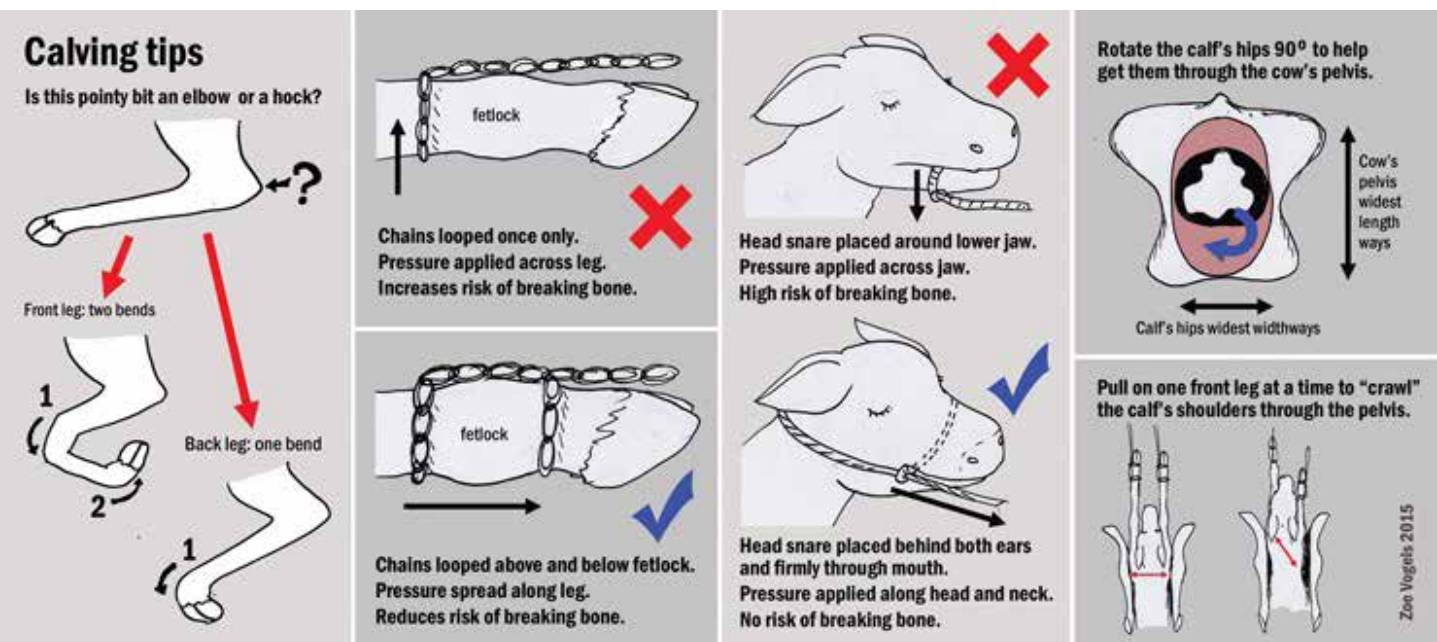
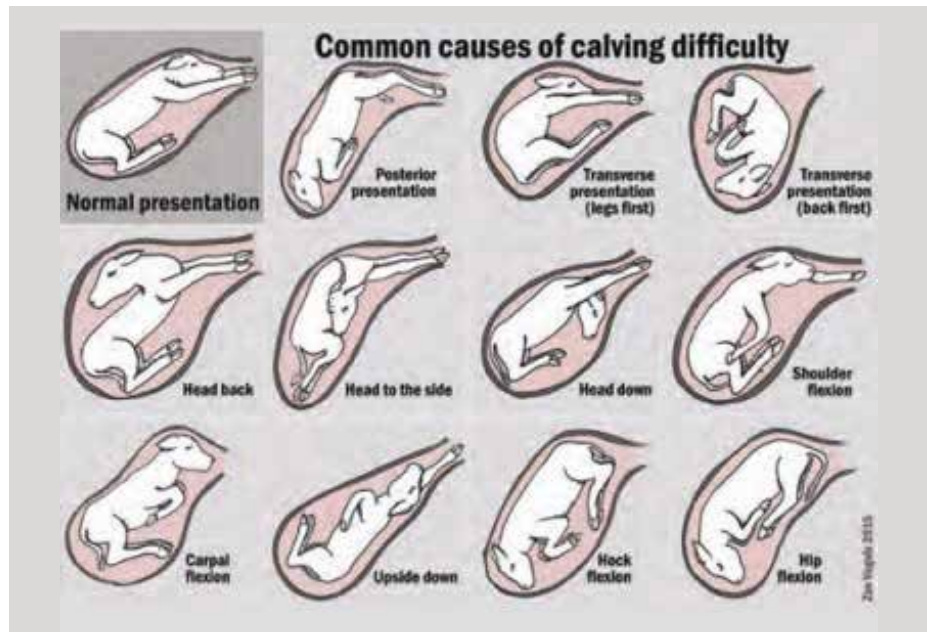
Position the calf on its chest with the hind legs pulled forward on either side of the body. Clear mucous from its nostrils and mouth.

Stimulate breathing by rubbing the calf's body, pinching or tickling the nostrils or splashing water into its ear. If the calf is cold, find some way of warming it up – a warm bath, blankets, hay, hair dryer, heater...

Calf resuscitation kits are available which deliver oxygen to the lower airways of the calf. This could be included in your calving box.

Craig also shared tips on how to deal with milk fever, prolapse and retained foetal membranes. A recording of the discussion group is available in the TIA Dairy Discussions Facebook group or if you would like the link emailed to you, please contact me at

Lesley.Irvine@utas.edu.au



Important updates regarding effluent management

Rachel Brown, DairyTas

As part of the alternative to Effluent Expo 2020, an "Effluent Need to Know" webinar was held on 21 May. Ashley Hossack from the Tasmanian Dairy Industry Authority (TDIA) presented some important information:

- Future re-issuing of dairy licenses will require an updated Effluent Management Plan to be provided to the TDIA every three years
- Dairy farm licenses are NOT automatically transferred when a property is purchased
- Newly constructed storages (and storages which are extended) will require a Notice of Completion of Dam Works in addition to the existing requirements. This essentially means referral under Division 4 dam permit process, involving:
 - Division 4 permit – Off stream irrigation or waste dam
- Notice of Intent to Undertake Dam Works submission with DPIPWE
- Approval will be provided within approximately 14 days of lodgment if all required categories are passed.
- Council application with dam on site referral - referral with plumbing permit (in accordance with s165f of the Water Management Act 1999)
- Notice of Completion issued in accordance with the dam works permit lodged and approved by Water Management Branch.
- Storage for effluent - reduce risk of runoff, enable strategic use of water and nutrients
- Solids are managed - prevent blockages, desludging is carried out
- Sufficient reuse area - reuse area at agronomic rates.


TDIA dairy farm licence requirements are summarised in below table available at (<https://tdia.tas.gov.au/Documents/Dairy%20Farmer%20Licence%20Application%20Steps.pdf>)

In the same webinar, Scott Birchall, AgSystems Design, provided photos and tips for The three S's of successful systems:

Some rules of thumb for effluent management are:

- Effluent should be spread over 5 ha per 100 cows (without feedpad)
- Limit effluent application rate to 8-15 mm per application unless tested
- Limit sludge application rate to 5-10 mm per application unless tested

Quate Lockett, from Irrigation and Dairy Solutions, provided an update on a recent project, which is, monitoring water use in a Montagu Dairy, where measured water use averaged 40 L/cow/day.



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Virtual Sustainable Dairying and Effluent Expo 2020

This biennial event was scheduled for May 2020, but COVID-19 changed our plans. Four online webinars were recorded instead, used as an opportunity for some important regulatory and technical updates around effluent management, dam permits, water licensing, carbon farming and water quality. The next Sustainable Dairying and Effluent Expo is scheduled for May 2022 at Meander, Tasmania.

All of the information presented at Virtual Effluent Expo is available on the event web page.

<https://nrmnorth.org.au/water/education/2020-virtual-sustainable-dairying-and-effluent-expo/>

Please contact **Rachel Brown 0409 333 381** if you have any queries.



Application Process Steps – Dairy Farmer Licence

To obtain a Dairy Farmer Licence from the TDIA you will need to meet the following requirements. © TDIA 2020

Requirement	New Licence (Greenfield site)	New Licence (Existing Dairy Premises)	Licence Transfers
Certificate of Occupancy (from Building Surveyor)	✓	X	X
Certificate of Completion – Plumbing Permit (from your local Council)	✓	X	X
Notice of Completion of dam works, as aligned with dam works code lodged and approved by DPIPWE Water Management Branch (Water Management Act 1999)	✓	Yes, if changes made to current effluent system	Yes, if changes made to current effluent system
Dairy Farmer Licence Application/Transfer Form	✓	✓	✓
Payment of Dairy Farmer Licence Application/Transfer prescribed fee	✓	✓	✓
TDIA-approved Food Safety Program (from licenced Supply Company)	✓	✓	✓
Dairy Farm Premises Effluent Management Plan (updated) (Conducted by TDIA)	✓	At discretion of TDIA	At discretion of TDIA

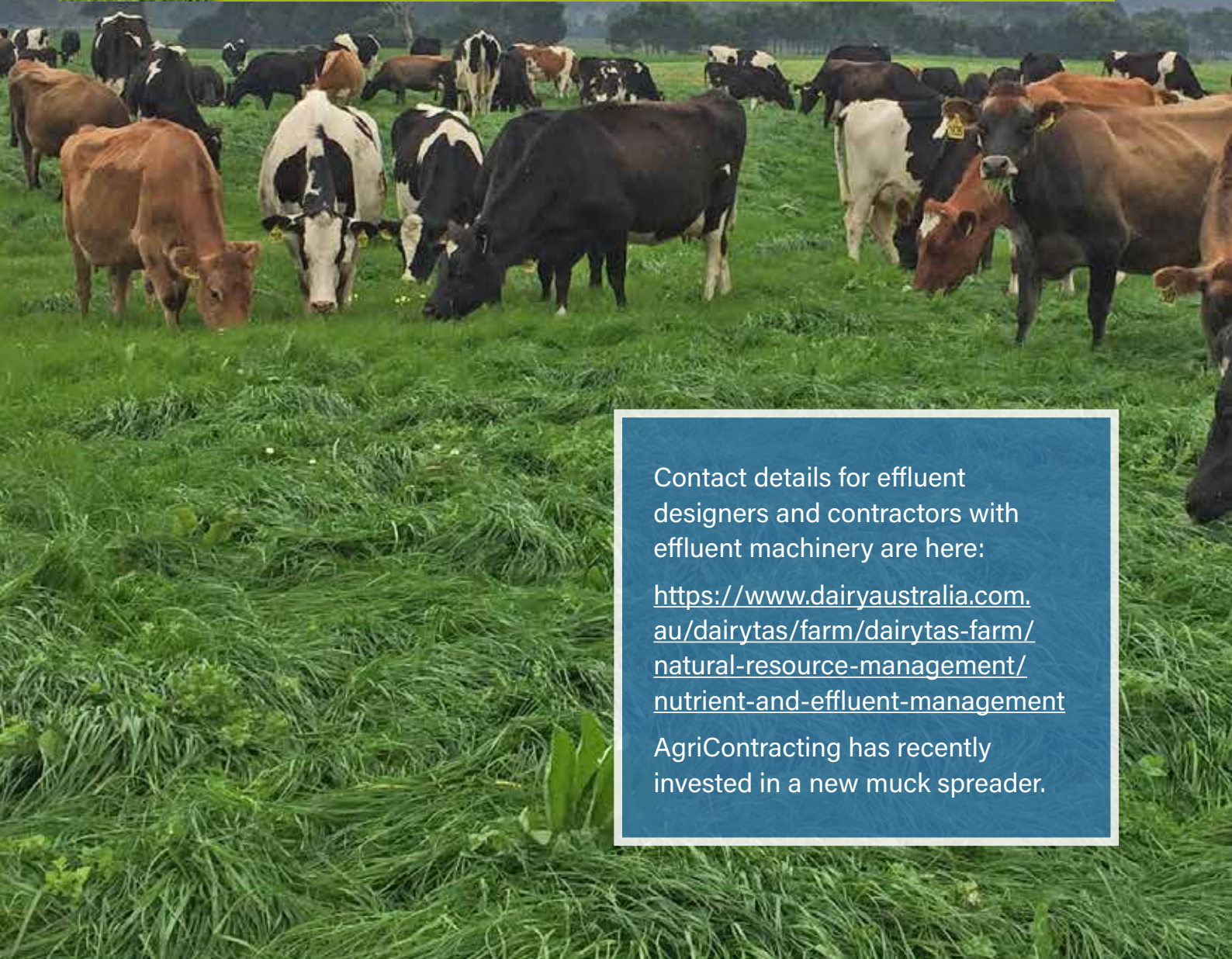
Dam Legislation
 Division 3 – In stream irrigation dam
 Division 4 – Off stream irrigation or waste dam

Tick now completed:

- Step 1: Certificate of Occupancy (from Building Surveyor)
- Step 2: Certificate of Completion – Plumbing Permit (from your local Council)
- Step 3: Notice of Completion from DPIPWE Water Management Branch
- Step 4: Dairy Farmer Licence Application/Transfer Form
- Step 5: Payment of Dairy Farmer Licence Application/Transfer prescribed fee
- Step 6: TDIA-approved Food Safety Program - Licenced Supply Company or TDIA Generic Food Safety Program. If you intend to supply milk to a company that makes raw milk products, there are additional requirements that need to be met - contact the TDIA for more information.
- Step 7: Effluent Management Plan - updated to reflect current operations and management
- Step 8: On-Farm Site Inspection (Conducted by TDIA)

Please note, it can take up to four weeks for the application review and licence approval process – make sure the TDIA are aware of your plans well before you wish to commence milking.

Note – Requirements for Licence Transfers and New Licences differ. Contact the TDIA and your local Council to ensure your dairy farm premises meets all necessary requirements – you may also require planning approvals for new or modified premises.



Contact details for effluent designers and contractors with effluent machinery are here:
<https://www.dairyaustralia.com.au/dairytas/farm/dairytas-farm/natural-resource-management/nutrient-and-effluent-management>
 AgriContracting has recently invested in a new muck spreader.

Plan your spring rotation

Grazing management during calving is tricky. There are multiple herds with differing feed requirements and a desire to ensure fresh cows are well-fed. To add to the pressure, research in New Zealand has shown grazing management in the first 2 months after calving largely determines production to Christmas. Having too fast a rotation too early in spring will result in reduced pasture growth and a lowered average pasture cover.

The good news is, there are simple tools readily available to help manage rotation length:

1. Monitor the leaf stage of your paddocks about to be grazed. Ryegrass dominant paddocks

should be grazed when the ryegrass is between the 2.5 to 3 leaf stage. If the leaf stage of the paddock next to be grazed is less than this, the grazing rotation needs to be slowed.

2. Use a spring rotation planner. A spring rotation planner determines the area of the farm that can be allocated each day up until the breakeven point. Following this tool is another way of ensuring the grazing rotation does not get too fast. DairyNZ has a useful online spring rotation planner tool (just do an internet search for "spring rotation planner tool"). To use the planner, you just need to answer a

few questions and it will produce a printable rotation planner for you to use.

If you would like any more information about grazing management in spring, please contact a TIA dairy extension officer:

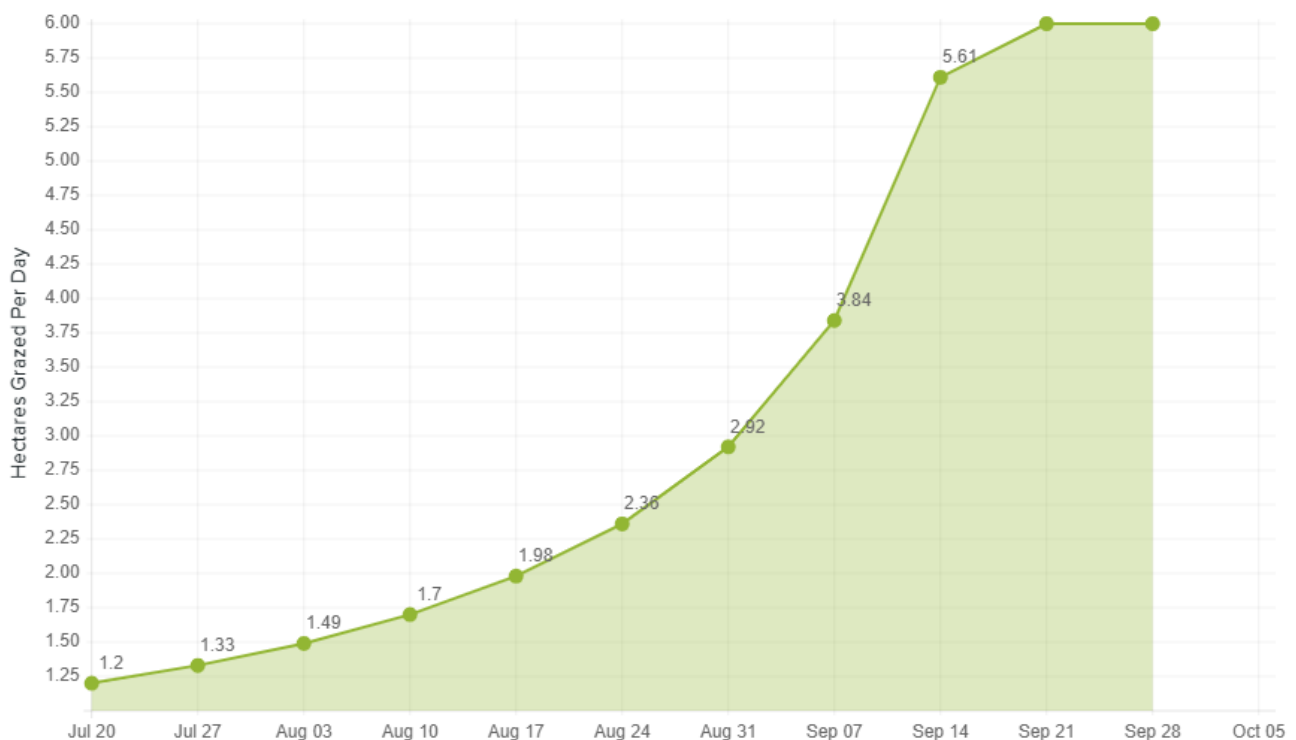
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SRP - Area Grazed Per Day (ha)



PRINT GRAPH

Do the right thing

Lesley Irvine, TIA

It is important that ALL animals on EVERY dairy farm are cared for properly. Below are the key points for bobby calf care on dairy farms. Bobby calves must:

- be fed colostrum (2-4 L/calf) within the first 24 hours of life.
- be fed daily with adequate milk or milk replacer and have access to water at all times.
- have protection from excess heat, sun, wind and rain, and are kept clean and dry with bedding. Exposed concrete, bare earth and mud floors are not acceptable.
- be handled gently at all times. Do not throw, hit, drop or drag a calf at any time. Bobby calves must not be moved using dogs or electric prodders.

If you are selling bobby calves through a saleyard or to a processor, they must be at least five days old and fit and healthy for the intended journey. They must also:

- have been adequately fed milk or milk replacer on the farm within six hours of transport.
- have an auditable and accessible record that identifies the date and time they were last fed.
- be alert with no visible disease, deformity, disability, injury or blindness.
- be able to bear weight on all four limbs and to rise from a lying position.

In addition, their hooves should be firm and worn flat and navels should be dry and wrinkled, withered and shrivelled and not pink or red coloured,



raw or fleshy. Having a dry navel cord should not be the only factor used to determine a calf's age.

Each farm should have a system in place to track the age of bobby calves – the use of spray dots (one dot for each day or colour for the week day it is born), tail tape (particular colour for the day of the week the calf is born), tag number... .

It is important to note, that while it is the responsibility of the transport driver to not load calves that are unfit for transport, it is the responsibility of the producer (or their representative) to ensure only calves that meet the above requirements are presented for collection by the transport driver.

It isn't ok to expect the transport driver to sort through a pen of bobby calves to 'work out' which ones are fit to sell.

While calves less than five days old cannot be sold in a saleyard or consigned to a processor, they can be

sold to a calf rearer. Calves being sold to a calf rearer must:

- be fed a liquid feed within six hours before loading.
- be provided with thick bedding and room to lie down.
- be protected from cold and heat.
- not be transported for longer than six hours.

Dairy Australia has information resources available including the "caring for bobby calves before and during transport" booklet available here: <https://www.dairyaustralia.com.au/farm/animal-management/animal-welfare/bobby-calves>

If you would like any of the online resources in hard copy for your farm team, please contact DairyTas on 6432 2233.

Information for this article has been sourced from Caring for bobby calves before and during transport published by Dairy Australia.

Survey Participants Needed

'Exploring replacement heifer management in the Australian dairy industry.'

The way we manage and rear replacement heifers can affect the way that they behave when they ultimately enter the milking herd. Some behaviour displayed by heifers early in their first lactation suggests that they are under stress during this period. This stress can result in reduced productivity and longevity in the herd, as well as creating challenges for stockpeople.

Our current research aims to investigate these challenges, as well as management practices which may be associated with improved outcomes during first lactation. It will also examine the relationships between herd size, management practices, and the attitudes of farmers and stockpeople towards working with cows and their job satisfaction.

We are looking for people who work with dairy cows in Australia to participate in a survey to help with this research. We will ask a number of questions about management and working with dairy cattle. We are especially interested in your views on the behaviour of cows in your herd, how they respond to handling, and some of the different calf management choices that are made on your farm. This survey will take about 17 minutes. All answers are anonymous and participation is completely voluntary, and we would really appreciate your help. For more information, please contact Dr Lauren Hemsworth at: lauren.hemsworth@unimelb.edu.au

If you would like to participate in this research, please scan the QR code or visit the survey link at: bit.ly/AusDairyHeifer



The Animal Welfare
Science Centre



Find out what TIA dairy extension activities are happening by:

- ✓ Subscribing to the electronic version of Tassie Dairy News
- ✓ Joining TIA Dairy Discussions Facebook group
- ✓ Adding your name to our discussion group mailing list

The TIA dairy extension team would also like to encourage Tasmanian dairy farmers to participate in the dairy benchmarking program.

To find out more about the benchmarking or be added to any of our mailing lists, please send an email to lesley.irvine@utas.edu.au.

If you would like to receive the weekly regional pasture growth, rainfall, evapotranspiration and weather forecast email please contact Nathan.Bakker@utas.edu.au.

DairyTas also a wealth of information.

To find out about DairyTas' activities you can:

- ✓ Follow the Dairy Tas Facebook page
- ✓ Subscribe to the fortnightly DairyTas eNews – email admin@dairytas.net.au

DairyTas also manages a few other Facebook pages:

- Tasmanian Dairy Focus Farm
- Young Dairy Network – Tasmania
- Australian Legendairy Women's Network – Tasmania

DairyTas have also just set-up a DairyTas Resource Hub Facebook group which is home to online recorded webinars. This a great chance to catch-up on any you have missed.

Keep up-to-date by joining the TIA Dairy Discussions Facebook group. If you do not use Facebook, we are also communicating through our regional discussion group email lists. If you don't receive these emails from us and would like to be added to the list, please contact one of the TIA dairy extension team.

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STAY CONNECTED.

Contact us

Dairy HIGH is provided free to all Tasmanian dairy farmers and is funded by Dairy Australia and the Tasmanian Institute of Agriculture (TIA).

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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