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Information for rural business in Central Queensland
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Use the right technique

Get your vaccine protocols correct

VACCINES are a critical component of cattle production and every year many businesses suffer significant financial losses from not using vaccines or not using them correctly.

With diseases such as botulism and black leg the impact is seen dramatically through deaths, but a disease such as vibriosis can have a major impact on breeder fertility without any obvious symptoms.

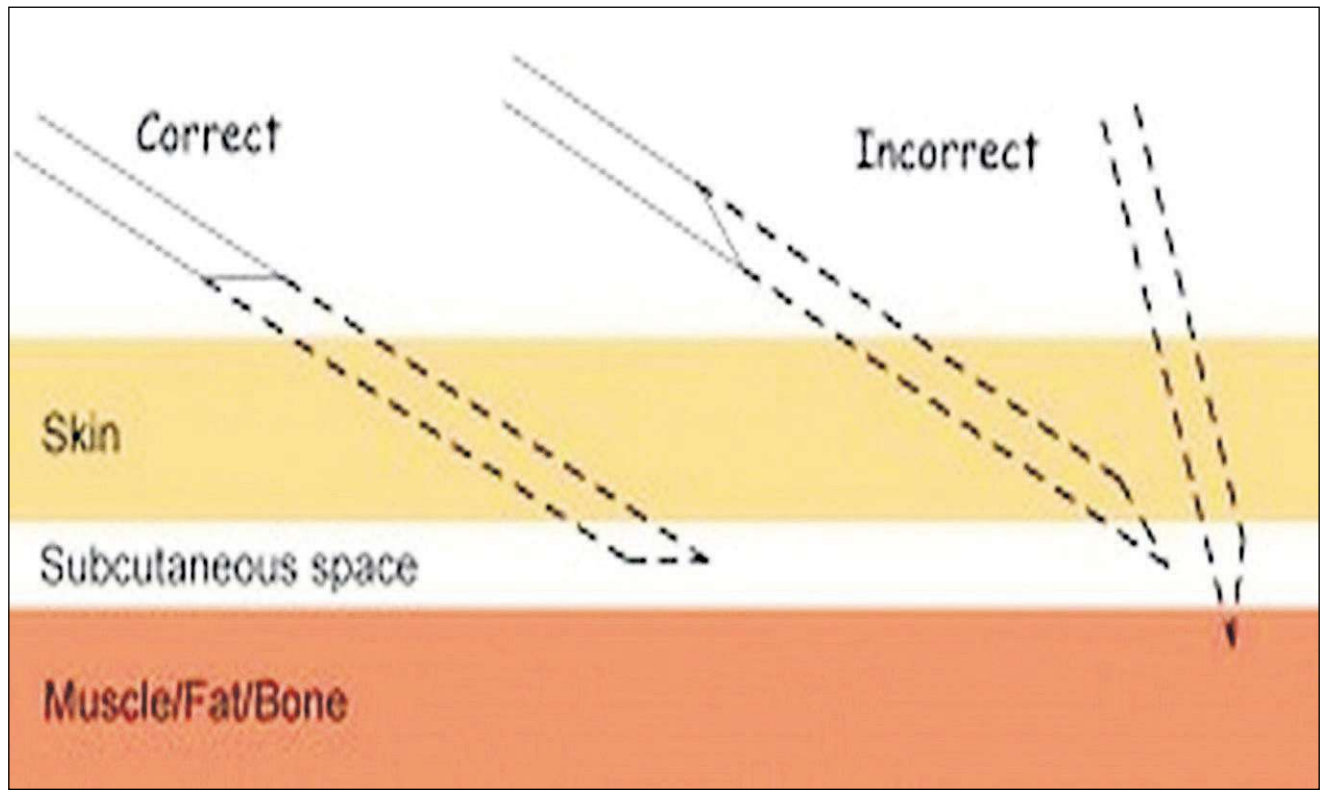

Figure 1. Correct orientation for vaccinating needles.

Vaccine types and timing

The information sheets that come with vaccines contain critical information on the vaccine, handling and use.

There are two types of vaccines - killed and live.

- Killed vaccines are the most common and contain disease pathogen(s) that have been killed to prevent infection and compounds, called adjuvants, that stimulate the development of immunity. Water based adjuvants are most common, but some vaccines contain oily adjuvants e.g. SingVac® and Vibrovax®.
- Most killed vaccines require two initial injections four to six weeks apart to develop effective immunity. An annual booster is required to maintain immunity.
- Some killed vaccines (e.g. some botulism vaccines) have been formulated to enable one injection initially.
- Live (attenuated) vaccines contain disease pathogens altered to produce immunity, but not the disease. Most require only one injection.

Vaccinate animals before their likely exposure to the disease, but as close as possible to the likely period of transmission. For example, give vibriosis vaccine to bulls before mating and the three-day sickness (bovine ephemeral fever) vaccine before the wet season.

Some vaccines such as Trivalent tick fever vaccine can interfere with the development of immunity from other vaccines given at the same time. Consequently, it is recommended to give the tick fever vaccine separately.

A common scenario is producers wanting to give both botulism and tick fever vaccines at weaning. This can be managed by giving the botulism vaccine as soon as the calves are weaned and giving the tick fever vaccine seven to 14 days later when the weaners are turned out.

Vaccines must be handled properly to ensure efficacy and safety

Vaccines are sterile, carefully manufactured products and should be treated the same way as milk.

Freezing or heating will render them useless. It is critical to ensure vaccine packs are kept chilled during transport and stored in the refrigerator before use.

During use vaccine packs need to be kept cool.

Some vaccines must be used within one day, others within 30 days. Check the labels and use accordingly.

Some tips include:

- Use clean gear. Reusable guns should be disassembled, cleaned, sterilised and reassembled between each use. Discard disposable guns after use.
- Be careful not to inject yourself or other people as there can be nasty reactions. Oil-based vaccines can cause very serious reactions that may require surgical excision; seek medical attention immediately.
- A swelling will occur on most animals at the injection site. Severe reactions are rare, but if it does occur, contact the manufacturer so the case can be investigated.
- Avoid vaccinating wet cattle, as the chance of them getting an infection is much greater.

Setting up vaccination equipment

Needles should be sharp, clean and changed frequently. The most suitable needles are 1/2 inch long and either 16 gauge or 18 gauge. Thick oily vaccines such as Vibrovax are much easier to administer with the thicker 16 gauge needles.

Common problems when injecting are: (i) Persistent post-vaccination lumps, especially after using oil-based vaccines, and (ii) High resistance to the needle when injecting.

Both of these problems are commonly caused by incorrect orientation of the needle on the syringe.

A needle is a pipe cut at an angle with razor sharp leading edges.

The objective when vaccinating is to get the needle opening resting between the skin and underlying tissues. This is achieved by positioning the needle on the vaccinator so that when injected at about 45 degrees to the skin, the needle bevel is parallel with the skin (Figure 1).

Always have a pair of pliers in the vaccination kit to orientate the needle.

Oils in vaccines will cause rubbers in guns to perish quickly. Consequently, it is important to thoroughly clean re-useable vaccinators after use and have spare rubbers to service vaccinators.

Good vaccination technique is important

The preferred vaccination site is above the backbone in the neck area forward of the hump. This will minimise potential carcase damage. It is also a good site because of the constant skin movement which improves absorption.

Sites such as the paralumbar fossa (the indentation in front of the hip) and the anal fold are not suitable because of the potential for infection to cause carcase damage.

Avoid injecting more than one vaccine at the same site. Determine which vaccine goes where beforehand: for example, forward or back part of the neck area. Try to keep injection sites at least one hand width apart.

- Megan Gurnett, Beef extension officer, DAF Toowoomba, 07 4529 4221.

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Worry less about getting lost

THE Australian outback is well known for its perilous nature and people becoming lost on a property, poses a significant health and safety risk.

The information available to people travelling on properties varies. Most properties have infrastructure maps with varying levels of detail, while others have internal roads, tracks and water points marked with signposts or objects.

Acclimatising to a new patch of country comes naturally to some, and not so much for others. Fortunately, advances in technology have paved the way for contemporary solutions to an age-old problem.

Acclimatising to a new patch of country comes naturally to some, and not so much for others. Offline mobile apps help out with this problem.

What is an offline mobile map app?

As the name suggests, offline mobile map apps work without wi-fi or network connectivity. Some apps like Google Maps and Apple Maps allow you to download maps offline, but this is generally limited to public roads and tracks, not infrastructure and internal roads on properties.

Can infrastructure maps be connected to offline mobile map apps?

Yes, property infrastructure maps can be connected with offline mobile map apps via georeferencing.

Digital property maps are usually in PDF format. A georeferenced map will have the coordinates of the property stored within the PDF. When accessed through specific software applications, the GPS locations of anything within the boundary of that map is available.

How do offline mobile map apps work?

When using a navigation system, a dot generally appears on the screen to indicate the user's current position.

When a georeferenced property map is accessed through the appropriate mobile software application, a dot will also appear to indicate the user's position.

The difference is that the map being viewed is a property map - which, if up to date, will show where the user is in relation to infrastructure such as tracks, fences, water points and yards.

Do they offer other features?

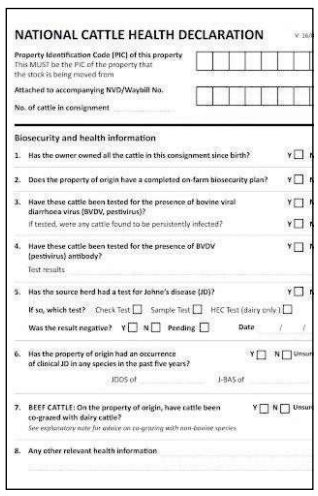
There are several mobile map apps, and their features vary.

With some products users can: plot and record information about locations; import/export place marks; measure distance/area; and georeference photos.

In addition to using the app for navigational purposes, it can be used to record the coordinates of broken infrastructure or where equipment was left behind, so others can locate it.

- For more information, contact Meg Humphrys, pastoral extension officer, Department of Primary Industry and Resources, Alice Springs, 08 8951 8144.

DECLARING IS CARING: NEW CATTLE HEALTH DECLARATION NOW AVAILABLE


NATIONAL CATTLE HEALTH DECLARATION

Property Identification Code (PIC) of this property
This MUST be the PIC of the property that the stock is being moved from

Attached to accompanying NVD/Waybill No.

No. of cattle in consignment

Biosecurity and health information

1. Has the owner owned all the cattle in this consignment since birth? Y N
2. Does the property of origin have a completed on-farm biosecurity plan? Y N
3. Have these cattle been tested for the presence of bovine viral diarrhoea virus (BVDV, pestivirus)? Y N
If tested, were any cattle found to be persistently infected? Y N
4. Have these cattle been tested for the presence of BVDV (pestivirus) antibody? Y N
Test results
5. Has the source herd had a test for Johne's disease (JD)? Y N
If so, which test? Check Test Sample Test HEC Test (dairy only)
Was the result negative? Y N Pending Date
6. Has the property of origin had an occurrence of clinical JD in any species in the past five years? Y N Unsure
JDDS of J-BAS of
7. BEEF CATTLE: On the property of origin, have cattle been co-grazed with dairy cattle? Y N Unsure
See explanatory note for advice on co-grazing with non-bovine species
8. Any other relevant health information

ONE of the most important biosecurity tools has been updated, with a new version of the national Cattle Health Declaration now available.

The declaration is designed to capture important information about the health of a mob of cattle at the time they are sold, assisting the buyer in managing their introduction to the property and their integration into a new herd.

Effective disease management depends on animals getting their initial vaccinations and annual booster doses at the correct time. Disease problems often occur with bought animals due to confusion over their vaccination status.

"The declaration has sections on current vaccinations and treatment history," Dr Rob Barwell, senior manager biosecurity at Animal Health Australia explained.

"This lets you see a more complete picture of how the health of the cattle has been managed by their current owner prior to sale, and how you should proceed with their health management into the future."

The declaration is available at farmbiosecurity.com.au, as part of the resources found under both 'Beef Cattle' and 'Dairy Cattle' tabs.

It's available as both a printable and fillable form, meaning producers can print as many copies as they need, or save a digital version with some key information already filled in.

"While the Cattle Health Declaration is a voluntary document, we highly recommend you request one whenever you buy cattle, and provide one when selling them," Dr Barwell said.

"To that end we've made it as easy as possible to access, fill in and hand over when the sale is complete."

New cattle health declaration

- The declaration provides important information about the health of cattle when they are sold.
- Current vaccination status and treatment history are provided.
- The declaration is available in both printable and fillable format.
- Declaration available at farmbiosecurity.com.au.

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Determine when to sell

Assessing beef economic options

Herd rebuilding

Meat & Livestock Australia (MLA) reported that the ongoing drought during 2019, caused the female proportion of total slaughter cattle to reach 55 per cent and in three consecutive months (June-August 2019) an unprecedented 58pc.

MLA forecast herd rebuilding to commence in the second half of 2020 and continuing to at least 2023.

Individual Queensland beef producers, when maintaining a steady herd size, will typically have 40-47pc of their total sales as females.

Herd rebuilding usually involves additional females being retained with steers sold as usual to produce a cash flow.

The prices available for heavy live export steers to markets like Vietnam and for local slaughter suggests a range of recovery pathways are available.

Where a choice is to be made between keeping a breeder and producing a weaner or keeping a steer to grow out, it is important to consider both the potential profit and grazing pressure for the options.

Economic analysis shows that in most cases growing a steer will result in about 25pc more profit per unit of grazing pressure applied than keeping a breeder and producing a weaner.

Another key consideration is that the herd turning off older heavier steers, is likely to be more drought resilient than one producing weaners.

The combination of greater long term profitability and drought resilience suggests that holding steers to heavier weights, as an alternative to retaining breeding females, should be considered.

Grass fever

Over recent months young cattle liveweight (lwt) prices have surged, largely driven by demand from producers wanting to restock after recent rain.

Data available from MLA market statistics shows this has occurred at both the national and Queensland market level (Figure 1).

The price variations in early 2020, were much larger than the average seasonal variation in the price for restocker steers.

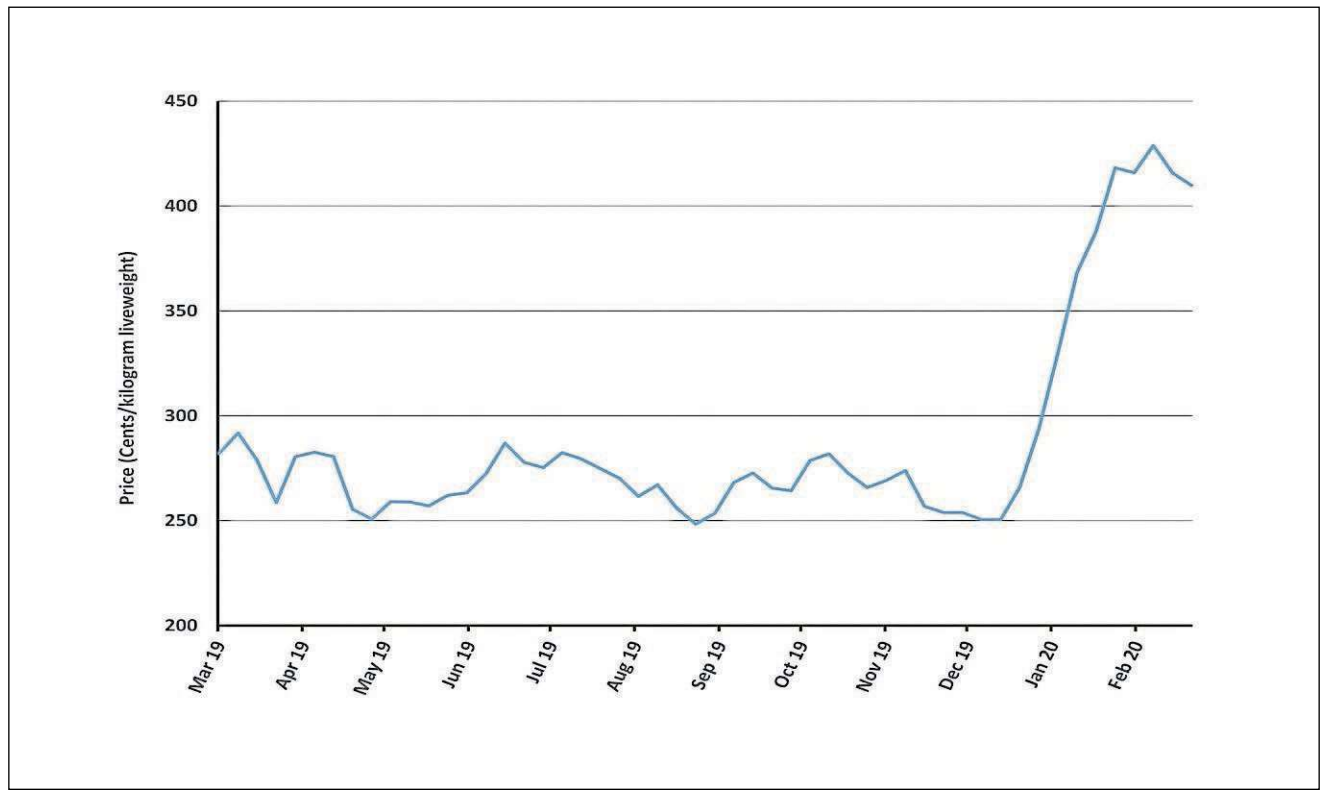


Figure 1. Queensland restocker steer prices March 2019 to February 2020 (Source MLA).

TABLE 1

Average difference between the monthly average liveweight price and the May average price for the decade to the end of 2017

- January | 8c/kg
- February | 7c/kg
- March | 4c/kg
- April | 1c/kg
- May -
- June | 0c/kg
- July | 5c/kg
- August | 7c/kg
- September | 11c/kg
- October | 11c/kg
- November | 13c/kg
- December | 17c/kg

Table 1 shows the average difference between, the monthly average price and the May average price for the decade to the end of 2017. Steers sold in January achieved, on average, 8c/kg lwt more than those sold in May or June.

When to sell?

The question on the mind of many beef producers was whether they should sell into a very strong market or hold cattle for further weight gain and sale at the usual time.

Fred Chudleigh, Principal Economist and Mick Sullivan, Principal Beef Extension Officer, both with the Department of Agriculture and Fisheries (DAF), Queensland examined this and found the answer was sensitive to the alternative uses of the pasture freed up by the early sale of livestock and the potential weight gain of the stock to be held.

The following information demonstrates where store steers could be sold for $3.60/kg lwt or sold in 60 days' time.

If it was possible to effectively utilise the pasture with other livestock and little weight gain was expected in the next 60 days, then to breakeven you had to get a better or similar price to the current price at the future sale date.

For example, if no weight gain was expected over the 60 days, then the future sale price had to be 13c/kg more than the current price. If a weight gain of 0.5kg/day could be achieved, the future sale price could be 21c/kg lower than the current price and the beef producer would be no worse off.

Breakeven lwt prices for steers currently worth $3.60/kg lwt after 60 days at various growth rates

- Expected lwt gain: 0kg/day | Breakeven price at future sale date: $3.73/kg | Price change - current sale price to future breakeven sale price: $0.13/kg.
- Expected lwt gain: 0.10kg/day | Breakeven price at future sale date: $3.65/kg | Price change - current sale price to future breakeven sale price: $0.05/kg.
- Expected lwt gain: 0.30kg/day | Breakeven price at future sale date: $3.52/kg | Price change - current sale price to future breakeven sale price: -$0.08/kg.
- Expected lwt gain: 0.50kg/day | Breakeven price at future sale date: $3.39/kg | Price change - current sale price to future breakeven sale price: -$0.21/kg.
- Expected lwt gain: 0.70kg/day | Breakeven price at future sale date: $3.27/kg | Price change - current sale price to future breakeven sale price: -$0.33/kg.
- Expected lwt gain: 0.90kg/day | Breakeven price at future sale date: $3.16/kg | Price change - current sale price to future breakeven sale price: -$0.44/kg.
- Expected lwt gain: 1kg/day | Breakeven price at future sale date: $3.11/kg | Price change - current sale price to future breakeven sale price: -$0.49/kg.

Find spreadsheets to evaluate sale options at futurebeef.com.au

Contact Fred Chudleigh, Principal economist, DAF Toowoomba, 0439 898 816 or Mick Sullivan, Principal beef extension officer, DAF Rockhampton, 0428 104 374.

LEADING SHEEP FLOCK TALK 13 25 23 leadingsheep.com.au

awi Australian Wool Innovation Limited Queensland Government

Worm egg counts: worth it

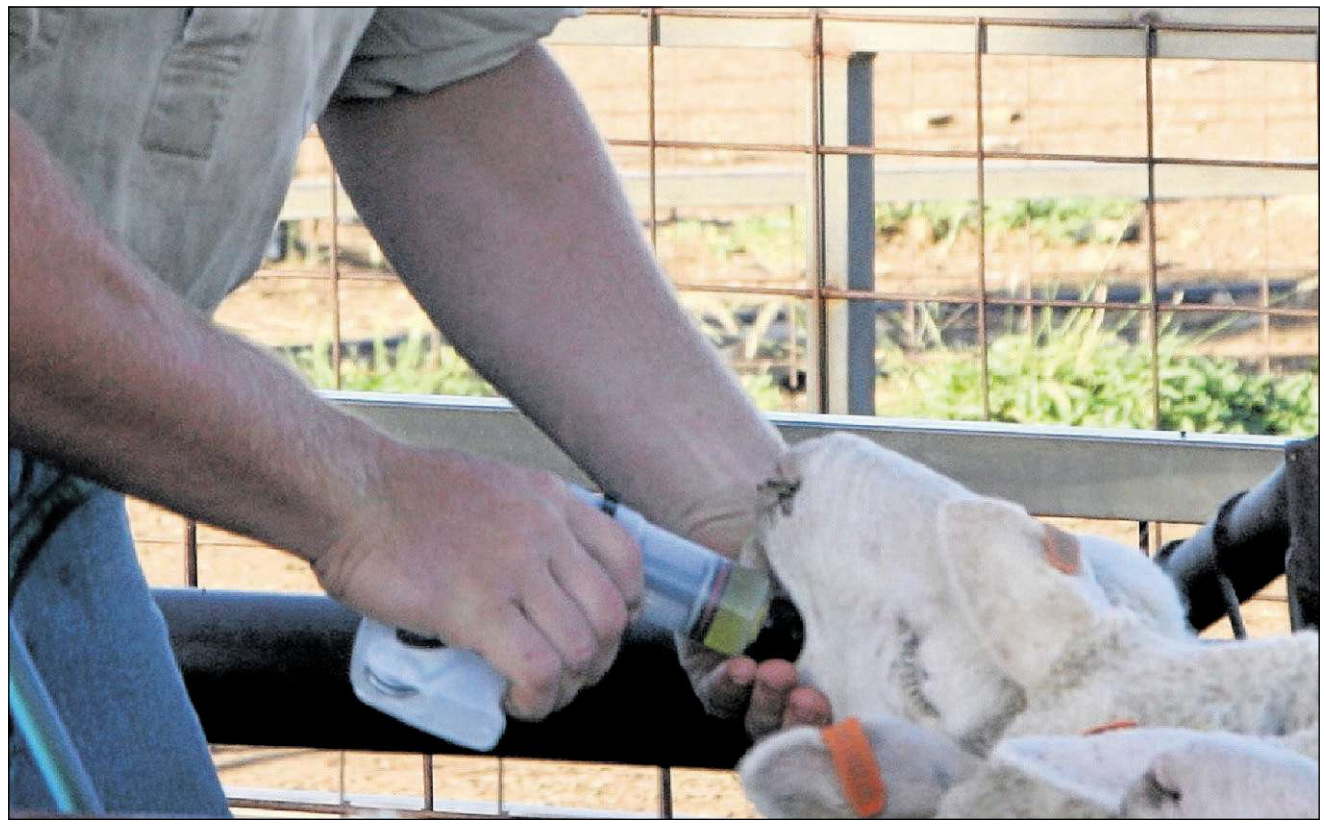
WITH improved seasonal conditions across much of the state, sheep producers are being reminded that visible symptoms of a worm burden in even a small percentage of the mob should be taken seriously.

Jed Sommerfield, Leading Sheep Manager and Senior Extension Officer with the Queensland Department of Agriculture and Fisheries, said symptoms like pale inside eyelids and gums, lagging or collapsing, scouring and bottle jaw, are all signs that sheep may have worms and need testing.

A Worm Egg Count Test (WEC) is the most efficient way to understand the presence of worms in a flock, as it identifies the number of worm eggs in sheep faeces which indicates the worm burden of the animal.

Critical to accurate WEC testing is ensuring that a representative sample size is tested.

"It's really important that producers don't just test the handful of sheep that appear symptomatic," Mr Sommerfield said.



A WEC test is the best way for a producer to understand whether sheep should be drenched.

"For larger mobs, especially where Barber's pole worm is an issue, the more animals sampled the better.

"The number of worms varies greatly between animals, the more animals you can sample the more accurate the results."

A WEC test is the best way for a producer to understand whether sheep should be drenched. Additionally, it helps producers identify the type of drench needed and when additional testing might be required.

"It is recommended that WEC testing is carried out when you have sheep showing symptoms, when lambs are four to six months old or prior to weaning, before mustering, six weeks after a green flush of feed or after congregation in a small area."

The steps to complete a WEC test are straightforward, and include:

- getting a WEC test kit from your supplier
- deciding when to test (ensuring time for postage of samples that avoids tests being held in the post over the weekend)
- collecting fresh dung, ideally when the mob is camped or grazing close together
- completing the submission paperwork, packing and posting the samples in line with the instructions
- you will then receive results that will show the average level of worm infection in your sheep.

Leading Sheep recently held a webinar on managing worms.

To view the recording, visit leadingsheep.com.au and look for Recorded Webinars under the Resources tab or visit wormboss.com.au.

Leading Sheep is an important partnership between the Queensland Department of Agriculture and Fisheries and Australian Wool Innovation and is supported by AgForce.

For more information, contact us at leadingsheep@daf.qld.gov.au.

LIVESTOCK PRODUCERS MUST PREPARE FOR THE EMERGENCE OF TOXIC PIMELEA

AS WE move into the cooler months with some autumn rain in the gauge, livestock producers need to be mindful of the potential germination of pimelea.

The plant is most toxic when it is in its dry form and can lead to major cattle losses.

"While most cattle will avoid grazing green pimelea, the dry stalks are difficult to spot amongst other pastures and it only takes two grams of dried pimelea per day to lead to toxicity in small weaner cattle," Queensland Department of Agriculture and Fisheries extension officer Hannah Vicary said.

Pimelea is most prevalent when dry summers are followed by wet winters, and rainfall events in early autumn through winter can lead to widespread germination.

"Most poisonings occur between August and January, when the dry plant material is present," Miss Vicary said.

"While the clinical signs are more prevalent in cattle, sheep can be impacted with intestinal irritation and black scours, which can be fatal.

"Fortunately, sheep do not experience the oedema seen in cattle, as they lack the thick pulmonary muscle. This means that grazing sheep or goats in pimelea infested paddocks can be a viable management strategy for producers, provided they are closely monitored for any signs of diarrhoea or loss of condition."

If you have a paddock with a mix of pimelea and grass, consider grazing it with sheep.

To view case studies on how other sheep producers have managed pimelea, visit futurebeef.com.au (search for 'Understanding Pimelea Poisoning of Cattle') or email leadingsheep@daf.qld.gov.au

WEBINAR SERIES

- First time sheep producers have the chance to learn from Australia's leading industry experts.
- Leading Sheep's 'H Series' webinar program features educational information across sheep and wool production topics.
- Register online via leadingsheep.com.au.