



BEEFTALK
Taking stock of your future

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Make top-quality silage

It's important to make the most of conditions if the opportunity presents itself for growing and conserving feed in summer.

SILAGE-BASED rations can be used in paddock or feeding systems to maintain or finish various classes of cattle. Producing good-quality silage when the season permits is a great tool to help mitigate seasonal variation risks.

In light of last season's challenges, it's important to make the most of conditions if the opportunity presents itself for growing and conserving feed in summer.

There are two major challenges when preserving forage. At ensiling time, or what is known as the 'front end', silage managers need to achieve rapid preservation of forage to maximise retention of nutrients and minimise dry-matter loss.

Secondly, at feed-out, or what is commonly called the 'back end', silage managers face the challenge of maintaining good shelf life (aerobic stability) to minimise wastage and maximise performance from every kilogram of silage fed.

Making quality silage is important for farm productivity as the decisions made at harvest will influence the feeding value of the silage in time to come. There are some important practices required for success.

MANAGING CROPS AT HARVEST

- Harvest timing and plant maturity influences quality and quantity.
- For best fermentation

aim for 32-36 per cent dry matter for most summer and cereal silages.

- Correct chop lengths of 16-19 millimetres depending on crop moisture.
- Transport to storage areas as quickly as possible.
- Aim for clean, uncontaminated forage that is free from dirt, wire, wood, rocks and other foreign objects.
- Achieving minimum pit or bun densities of 750kg/as fed/m³ or 230kg/dry matter/m³ has a big influence on silage stability and quality at feed out.

FORAGE INOCULANTS

- Use research-proven silage inoculants containing guaranteed numbers of viable bacteria (colony-forming units) to drive a rapid fermentation and provide aerobic stability.
- Ensure inoculants are applied evenly to every piece of forage through the forage harvester with the correct equipment.
- Use strain-specific bacteria that are proven to be the most efficient in producing a strong fermentation and aerobic stability at feedout, such as *Lactobacillus plantarum*, *Pediococcus pentosaceus*, *Lactobacillus buchneri* 40788 and *Lactobacillus hilgardii* 4785.

SEALING SYSTEMS

- Use high-quality plastic.
- Consider the use of an



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Lallemand Animal Nutrition

oxygen barrier film (with oxygen transfer-rate research data), the latest

technology for sealing silage pits and preserving the most dry matter and

nutrients possible.

- Seal all edges and joins thoroughly using gravel bag sealing weights, tyres or sand on the edges so no air enters the silage mass/plastic joins.
- Maintain the plastic i.e. no holes that allow air or water to create spoilage.
- For longer-term protection against damage, especially for drought reserves, consider a physical protection barrier like woven UV protection covers.

PIT MANAGEMENT

- Ensure pit size fits your operation - not too big as

silage may spoil before feeding.

- Clean the silage face daily - no loose material, maintain a tight face on the pit or bun.
- Ensure plastic is rolled back and managed appropriately, keeping the rest of the silage sealed and only exposing the required amount of silage for two to three days.

In recent times, it is evident that producers are using silage pits that have been down for up to 20 years and are benefiting from long-term planning and good risk mitigation.

Most of the silage produced in northern Australia is from irrigated, rain-grown forage and grain sorghum crops. Corn has highly digestible grain and fibre, requiring greater amounts of water and management to reach its potential.

The use of forage sorghums is very effective in most dryland and opportunity cropping systems. Forage sorghum is not the same quality as corn, however has the potential to deliver a large amount of bulk feed.

Conventional grain sorghums have been used as silage in the past, with higher energy due to a higher grain to stover ratio, however some yield is sacrificed in the process.

Winter cereals also make great silage, even if the yields under dryland conditions are less than the summer crops. Irrigation of these crops during winter can be cost effective when evaporation rates are much lower.

■ Article supplied by Lallemand Animal Nutrition.

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NORTHERN
TERRITORY
GOVERNMENTDepartment of
Primary Industries and
Regional DevelopmentQueensland
Government

ASF on Australia's doorstep

WHETHER you own one pig or feral pigs are present on your property, you have a role to help protect Australia's pig herd, and the 36,000 jobs and regional communities that rely on the pork industry, from the deadly African swine fever (ASF).

Since arriving in China, where ASF is now considered endemic - meaning it's there to stay - ASF has spread throughout south-east Asia, making a jump to Timor Leste in October, a mere 700 kilometres from Australia's northern border.

With close to 100 per cent mortality rate for pigs and no vaccine available, ASF is currently the most pressing disease threat to the Australian livestock sector.

ASF is spread by direct contact with an infected pig or carrier, biting insects and soft-shelled ticks, or via contaminated clothing and equipment. The virus can survive extreme temperatures (hot and cold) and persist in meat products for months at a time, even after it has been cooked. Pigs can also remain carriers of the disease for quite some time.



With close to 100 per cent mortality rate for pigs and no vaccine available, ASF is currently the most pressing disease threat to the Australian livestock sector.

If you keep pigs, simple biosecurity measures will help minimise the risk. These measures include ensuring clothing is washed and boots are thoroughly cleaned with detergent if you or a guest

has had any recent contact with pigs in Australia or overseas. This is equally important if you have feral pigs on your property.

Swill can be a significant pathway for ASF and cannot

be fed to pigs. It should not be discarded where feral pigs or livestock can access it. Swill is anything that contains meat or has come in contact with meat. This means if you had a t-bone for

dinner and didn't finish your vegetables, the vegetables on your plate are considered swill because they had contact with a meat product.

Australia has a blanket ban on feeding swill to pigs, due

to the potential of spreading diseases like foot and mouth disease (FMD) and ASF. While we do not import pork or pork products from known ASF or FMD infected countries, there's always a risk that something is imported illegally or is accidentally brought into Australia by a visitor. Never accept a shipment or gift of meat you suspect has been brought in illegally.

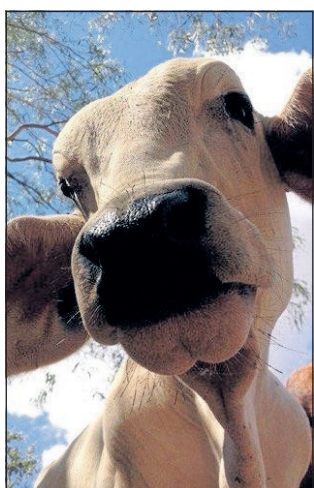
If you notice multiple dead pigs or pigs displaying signs of high temperatures, breathing difficulties, diarrhoea, vomiting, or blotchy skin report this immediately to the Emergency Animal Disease Watch Hotline on 1800 675 888.

If hunters assist you with culling programs on your property, ensure they know the signs of ASF and know to immediately report suspicious signs.

Learn more about on-farm biosecurity for pigs at farmbiosecurity.com.au/industry/pigs and African swine fever at qld.gov.au/AfricanSwineFever

■ Article supplied by Animal Health Australia.

TROUGH TALK: WHAT ARE THE DAILY WATER REQUIREMENTS FOR LIVESTOCK?



IN NORTHERN Australia, hot summer temperatures significantly influence daily intake of water.

A rise of 10 degrees (for example from 25 to 35 degrees) can almost double daily consumption, particularly if there is high humidity as well.

For example, at 25 degrees dry cows may drink 40 litres but this will increase to 70L at 32 degrees, and higher during very hot conditions.

Lactating cows may have a 30 per cent higher daily water intake than dry cows.

The requirements for Bos taurus cattle in hot conditions will be higher than those of Bos indicus cattle.

The daily water requirements and intake by livestock varies considerably according to class of stock, production status, age and condition of the animal, dry-matter intake, quality and nature of feed, climatic conditions, and the quality

of the water.

Good water quality is very important. Poor water quality can reduce water and feed intakes as well as health and performance.

For improved pasture utilisation, it is also beneficial if cattle do not have to walk more than two to three kilometres to reach water.

The following is a guide to daily consumption of various classes of cattle and sheep per head per day.

Cattle: Dairy cows in milk: 70-85L; dairy cows dry: 45-60L; beef cattle: 45-60L; calves: 22-30L.

Sheep: Lactating ewes on dry pastures: 9-11.5L; mature sheep on dry pastures: 7-8.5L; mature sheep on irrigated pastures: 3.5-4.5L; fattening lambs on dry pastures: 2.2 - 3L; fattening lambs on irrigated pastures: 1.1-1.5L.

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

CONSIDERATIONS

Suitability of water for livestock is determined by the following:

- Water quality, which includes salinity, acidity, chemical elements and compounds, and algal growth.
- Environmental factors, such as climate and feed quality.
- Animal factors, such as type, age and condition of the animal.

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Effectively use vaccines

Not using vaccines at all or not using them correctly, is causing many businesses to suffer significant financial losses each year.

VACCINES are a critical component of cattle production.

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.

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.

Examples are giving 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



Figure 1. Correct orientation for vaccinating needles.

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. Re-usable 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 and 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 carcass 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 carcass damage.

Avoid injecting more than one vaccine at the same site. Determine which vaccine goes where beforehand: for example, forward or back part of 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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Condition scoring pays

Physical exam can boost ewe fertility

WOOL growers wanting to boost both ewe fertility and productivity are encouraged to make body condition scoring a regular part of their management practices.

Condition scoring is a simple physical examination that assesses the fat and muscle over the loin area of the animal.

While condition scoring and the information it generates is useful across all classes of sheep, it is highly beneficial when used on ewes before joining to help determine their nutritional wellbeing and preparedness for reproduction.

Queensland Department of Agriculture and Fisheries extension officer Jed Sommerfield said the body condition score (BCS) assessment was a quick way for wool growers to get a better understanding of how to manage their ewes through joining and into lambing.

"Condition scoring is a quick way of assessing the flesh cover over the sheep's spine and short ribs, and the eye-muscle area between them," Mr Sommerfield said.

The BCS scale runs from 1 to 5, with 1 being the poorest condition and 5 being the fattest condition.

Generally speaking, the better the BCS prior to joining and lambing, the higher



Condition scoring is a simple physical examination that assesses the fat and muscle over the loin area of the animal.

the conception rate and the greater the likelihood of lamb and ewe survival (although over-fat ewes can pose some risks).

"The chances of ewes with a BCS of less than 2 being able to conceive, carry and successfully lamb down are low," Mr Sommerfield said.

"It is recommended ewes be joined with a BCS of 3, and lamb with a BCS of at least 2.5."

Wool growers are encouraged to condition score ewes two to four months before joining.

"By assessing ewes a few months prior to joining, wool growers will have time to manage their flock accordingly and build up the nutrition of animals with a lower BCS in time for joining," Mr Sommerfield said.

TARGET SCORES

Source: Geoff Duddy, Sheep Solutions

- Joining: Minimum condition score 2.5, target condition score 3+
- Pregnancy: Minimum condition score 2.5, target condition score 3+
- Lactation: Minimum condition score 2.5, target condition score 3+
- Rams at mating: Minimum condition score 3, target condition score 3.5 to 4
- Weaners (wool): Weighing preferable, but generally >2.5
- Lambs (meat): Assess growth targets to meet market specifications

"To improve lamb survival, it's important to either

maintain or increase a ewe's body condition from day 90 to day 150, particularly for multiples."

According to Sheep Solutions consultant Geoff Duddy there is a direct correlation between ewe body condition and mortality rate, and condition scoring is a simple way to both reduce the risk of losing valuable ewes, and increase lamb survival and, ultimately, weaning rates.

"With mutton, wool and lamb prices the way they are, ewe mortality can have a big impact on your bottom line," Mr Duddy said.

"Production is largely driven by nutrition. Lamb survival will depend heavily on ewe body condition.

"Every business is different, but generally, a 10 per cent improvement in

weaning rates will increase profit margins from 13 to 25pc.

"A breeding ewe may be worth between \$800 to \$1500 over her lifetime in terms of lamb, wool and mutton values. Costs associated with monitoring body condition and strategically feeding ewes according to their stage of production can quickly be recouped and productivity and profit increased."

Condition scoring gives producers the valuable ability to be targeted in their feeding regimes and limit the risk of wasting feed on already healthy ewes. It makes the process of condition scoring well worth the small amount of additional labour.

"The beauty of condition scoring is that you can sort a

mob and manage a feeding regime based on their condition, meaning you might only end up needing to supplementary feed 200 ewes in a mob of 1000," Mr Duddy said.

"While condition scoring requires some extra labour, it's simple, quick and well worth it.

"The eye muscle is a very good indicator of the short-term nutritional status of a sheep, and a hand is the only tool you need to condition score your sheep.

"While many producers in western and southern Queensland don't bring sheep in that often, it's worth that small extra effort at key production times like joining and before lambing, to make sure nutrition is managed at the right time, particularly for higher risk multiple pregnancies and poorer sheep."

Body condition scoring is an important practice for people wishing to increase their lambing percentages.

There is training available to assist you in incorporating body condition scoring into management decisions and actions for your enterprise.

Picking Performer Ewes and *Lifetime Ewe Management* are two great courses.

For more information email leadingsheep@daf.qld.gov.au.

There are also many resources on the Leading Sheep website, including case studies, and even a phone app.

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