Mulga – your stock, your supplement – with Clynt Johnstone

Summary

- It's important to understand the nutrients required by stock and the quality of the diet to provide an effective supplement.
- The Mulga and Nutrition Day helped producers combine their local knowledge with science to improve their understanding of mulga, its nutritional value, and how to best manage the requirements of different classes of stock.
- Clynt was able to tailor their supplement for his breeders and his country with the help of contacts made at the workshop.
- The main changes he made to his lick were:
    - decreasing the urea making it safer but still providing a good amount of protein and increasing overall intake of mulga
    - increasing sulphur to cater for the low levels in most mulga diets, and
    - changing to a more practical form of phosphorus supplementation to ensure the stock were actually getting what they needed.
- The new ration required smaller quantities to be fed, stock more readily ate it and it was specific to his stock's needs, providing better value than the original mix which was cheaper per ton.
- As the main fodder source for his cattle, Clynt is keen to maximise the production he can get from mulga and with this new lick, he has better conditioned cattle which will wean heavier calves and reconceive faster.

In Clynt's words, "the market is good so why not improve your cattle to go along with it".

- The GrazingFutures project hosted the Mulga and Nutrition Day.
- GrazingFutures is funded by the Queensland Government's Drought and Climate Adaptation Program (DCAP) which aims to help Queensland primary producers better manage drought and climate impacts.

This case study provides an example of the benefits of attending a GrazingFutures project event as well as being a positive story about practice change. It contains some technical information to compliment that provided by the producer.

Background

Clynt Johnstone is the manager at Cowley and Beechal Creek stations near Quilpie. He manages over 80,000ha of hard mulga with areas of more fertile open and wooded alluvial plains and — as Clynt explains — productive grass knobs within these frontage areas. They run 1,300-2,000 breeders, predominantly Droughtmaster, in mixed age groups. The main herd is continuously mated using pregnancy testing as a management tool and heifers are joined at two years of age. They vaccinate their cows with 5in1 and calves with 7in1 (both with Vitamin B12).

Image 1 – Cows and calves at Cowley Station

Clynt attended the 2017 Mulga and Nutrition Workshop hosted by DCAP's Grazing Futures project. During the workshop, producers gained an improved understanding of the nutritional requirements of stock and how this applied specifically to stock grazing mulga, particularly considering supplementation options. There was also information on how to include mulga in a forage budget, the nutritional qualities of mulga and grazing management strategies. These days allowed producers to combine their own experience, local knowledge and the science to achieve practical outcomes for their stock and businesses.

Clynt made the decision to go along because his previous experience was managing buffel country. A run of poor seasons since 2013 has also made nutritional management a priority at Cowley Station. Clynt knew dry weather was bearing down and that his job depended on producing a quality product to sell. His main goals were to maintain good body condition score (BCS) in his cows, achieve good quality weaner steers for sale and give the replacement heifer calves a good start. Clynt described the mulga trees as "the tools" on Cowley, so understanding more about mulga was critical to achieve these goals. Clynt knew a little bit about nutrition before this workshop, but the new knowledge he learnt prompted him to reassess their supplement approach and make some changes.

Key points

Clynt said the key things he took home from the workshop were:

- Each property is different so why would a standard lick work on every place?
- Know the energy and protein requirements to keep cattle going.
- The quality of lick is important – it may be more expensive but it will do a better job and give a better return on investment if it fits your needs.
- Animals chewing bones is more likely a phosphorous deficiency than calcium.
- Water quality can have a big impact on nutrition.
- Feed budgeting, including how to account for mulga, is better than a visual guess and is more accurate as to how long feed will last.
- If you need to feed, do it early – if you see weight loss in stock you are six weeks too late.
- Combine the feed budget, knowing what stock need, what lick to feed and when to pull them out of the paddock for the best results.

Supplement changes

The supplements previously fed on Cowley were a 20% urea dry lick and a 48% phosphorus block. The cattle were picking up the blocks attempting to get enough phosphorus, and the high urea content was risky if it wasn't fed correctly. For Clynt, mixing his own lick was too expensive and commercial licks weren't suited to his needs, so he opted for getting a custom lick made with help from the contacts he had from the workshop. He used what he learnt, previous experience, and advice from a nutrition consultant who presented at the workshop to determine a ration that was well suited to his breeders grazing mulga.

While stock can do very well on mulga, it has a low digestibility. This means it is slow to pass through the digestive tract and much of the protein is bound up with tannins, making it inaccessible to stock. Mulga diets are also often low in sulphur and the country is typically deficient in phosphorus. These challenges, as well as the high requirements of pregnant or lactating stock, guided the changes Clynt made. A few of the key components of his mulga ration were:

- High protein, particularly in the form of urea.
    - This not only supplies some of the high requirements of lactating stock, but also increases intake, meaning cattle will actually consume more mulga.
- Appropriate level of phosphorus for deficient country.
    - Low phosphorus can cause reproductive problems, predispose stock to botulism and also decreases overall intake.
- Appropriate levels of sulphur for mulga diets.
    - Sulphur is an important part of the metabolic processes that digest urea.
- Balanced nutrients.
    - It is important that rations are balanced as many of the nutrients affect the absorption, metabolism and accessibility of one another. The required and toxic quantities of some nutrients can also be very close together.

Details of the new lick Clynt is feeding are shown in Table 1.

Table 1 – New supplement

Total Crude Protein	Min 53%	Salt	Min 10%
Crude Protein	Min 17%	Calcium	Min 70g/kg
Equivalent Crude Protein	Min 35%	Phosphorus	Min 36g/kg
Urea	Min 15%	Sulphur	Min 37g/kg
Various trace minerals and vitamins Feeding rate 100-250g/hd/day Cost: $825/tonne delivered on farm			

Clynt trialled the new lick on one mob soon after the workshop. He extended the new supplement mix to the rest of the property once he saw it working (increased time spent grazing and improving condition). Clynt estimates his cattle are eating 250g/day from what he is putting out.

Mulga management changes

Clynt already manages his mulga carefully. He considers how long it will last and how much the cattle need. He pulls dense high regrowth, within current guidelines, and leaves the low mulga to regrow for future seasons. If possible, Clynt considers how he pulls to make it useful for mustering or roads.

Image 2 – Manager Clynt Johnstone putting out his new supplement

Having done the mulga version of a pasture budget in the workshop, Clynt was able to get a more accurate assessment of how much mulga was available for the stock to graze on Cowley and Beechel Creek. This method involved taking a representative branch and walking a straight line through a paddock, counting how many branches (compared to the representative branch) were within browse height of the stock and one metre either side of the line. This was multiplied to determine the available quantity in one hectare depending on the length and width of the line measured. The dry matter (DM) of the mulga could then be determined for very accurate assessment of total DM/ha available for an overall estimate. After doing the budget a few times, Clynt feels he can better use his visual check for a quick estimate and still be more accurate than before.

The Mulga and Nutrition Workshop also improved his understanding of when to move his stock to ensure he is preserving the land condition. He has combined his mulga management with the new lick, and knows his cattle are better using the available feed.

Effectiveness

Clynt has seen many benefits since he changed his feeding regime. “Cows are putting on weight, their udders are much bigger and the cows are stronger, so they are out foraging more instead of standing around the trough,” he said. Clynt has improved BCS to be consistently 2-2.5. The calves are growing out well and Clynt said he is proud to put them on a truck – even in a drought. He knows they will turn off more calves this year and they will be able to do so early. This means the cows will be in better condition and ready for the next calf. They are aiming for 85% calving rates and to achieve this Clynt says they need to have healthy cows and bulls and have their nutrition management right or the cows won’t cycle. The market is good at the moment so Clynt believes it is worthwhile improving reproduction to go along with it and nutrition is an effective way to do this.

Over the last few weeks, Clynt noticed a few cattle coming in that hadn’t been getting the lick due to watering elsewhere. They were a long way behind the others which had been on the lick for four months at this stage. Clynt described how these new cattle were already brighter, foraging better and their dung softened up – all indicators to Clynt that their diet quality improved after only a few weeks on the supplement.

There were also some unexpected benefits from improving his supplementation regime. The cattle are much quieter and even mickies that were previously missed on musters are coming in since putting out the lick regularly. They are now working towards setting up more trap yards as the stock are coming in to water and looking for the lick. This will improve the mustering percentages as well as making the handling easier and quicker. In terms of nutrition, Clynt says the cattle are in a much better position to respond when it does rain and he is planning on working out a wet season lick to make sure the mob keeps going forward.

Costs and challenges

There have been some additional costs associated with the management changes. Clynt noticed a bit more wear around the troughs, so will aim to put in more troughs and spread cattle over the paddock better. He tried putting the supplement away from the water points but found the cattle were walking past it. This is a problem he is working to overcome. When they first started feeding, Clynt also noticed “boss cows” hogging the lick. They invested in more and larger feed tubs which meant they could spread these cattle out and ensure all the cows could access the supplement. Clynt intends to make cover sheds for the tubs in the future.

Another cost was increased labour. “Given staff were already doing a water run, it meant taking some lick with them so this hasn’t been a significant cost,” he said. “The benefit is by having to stop to put feed out, troughs are getting cleaned more often and it gives a chance to have a better look at the stock.”

One challenged Clynt faced was in taking the information from the workshop into the paddock. Some of the information had to be tweaked to local conditions, such as the recommended salt content in a lick. Clynt thought that with their water quality, it would be too

high. So he applied the new information with his experience of what would work on the ground.

Producer thoughts

Clynt's advice to producers interested in knowing more about nutrition or attending any other workshop is to go with an open mind. "The weather has changed — everything has changed — so we need to change," he said. "There is so much new information and people to teach you. Try it first then make your own way of doing it." Clynt is eager to attend a Nutrition EDGE workshop now because he is sure there is more he could learn and more improvements he could make. It is possible to have good production on just mulga if you get the nutrition right. In Clynt's words "the cattle will be better, the calves will be better and you will sleep better".

If you want to know more about how Clynt made the changes or what impact it has had on the property you can contact him at Cowley station cowleystation1@gmail.com or call 07 4656 4810.

For further information about the Drought and Climate Adaptation Program visit www.longpaddock.qld.gov.au.

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