

Newsletter

EDITION 62, JUNE 2017



BE PREPARED FOR GREEN FEED - PREVENT, DON'T REACT!

Green crops and pastures, such as lucerne, forage oats/barley, will be ready for grazing shortly. These types of feeds can be very successful in terms of profit and maximising returns if the livestock consuming them are prepared in both health and nutrition.

Vaccinate

Prior to placing livestock on green feed, vaccinating stock with a clostridial (5in1/6in1) is extremely important. Pulpy kidney is a leading cause of death in stock that are faced with a sudden change in feed. Changes in feed allow the pulpy kidney organisms to proliferate and produce large quantities of toxins, leading to the rapid death of the animal. For a small investment, vaccinating is a very cost effective form of insurance for the health of your stock. Best practice, it is advisable that you administer your stock with the clostridial at least 10 days before the stock are due to be placed on the new feed. This gives the vaccine time to give maximum protection before the challenge arrives.

Drench

Ensuring your livestock are free of a worm burden before placing them on green feed will maximise the utilisation of the feed. Worm burdens place a large amount of stress on an animal's immune system, and their ability to convert feed to weight and/or milk if lactating, is severely impaired. This leads to significant feed wastage, and productivity loss. However, prior to drenching, it is recommended that you do a worm test to determine the burden and if required, the type of worms present. This allows for a more specific selection of drench (if needed at all) and reduces the risk of contributing to worm drench resistance. Many types of worm test kits are available at rural stores, with varying levels of testing capabilities.

Nutrition

On the surface, green feeds and fodder crops appear to contain reasonable quantities of both energy and protein. However, there are inherent problems - if not properly understood and carefully managed, they can result in both a reduction in Feed Conversion Efficiency (FCE) and a significant wastage of feeds leading to animals displaying primary signs associated with scours, bloat and grass tetany, and in severe cases, death. The main problems with these types of feed are a combination of high levels of protein/nitrogen, and low dietary carbohydrate (starch) levels. This imbalance in carbohydrate and protein, for which rumen microbes have specific requirements, results in unstable and impaired rumen fermentation.

To combat this imbalance, providing livestock with a source of starch is an effective method of combating the negative effects associated with grazing lush, green feed. Supplementing stock with high energy grains (such as barley or wheat) is an effective way to provide rumen microbes with quality starch to improve FCE, and allow your livestock to convert the feed into meat, milk, wool or progeny. It is important to note that these grains need to be managed correctly with advanced buffers to ensure the highest possible return. This is simply done by adding a specialised pellet to the grain.

If grain feeding is not an option, using starch based loose licks are a fantastic, simple and very cost effective method of delivering starch to the rumen, while reducing the incidence of scours and bloat.

By managing green feed and forage crops smartly with a specialised supplementary program, productivity is increased, and maximises your return on investment. It is easy, and very cost effective to prepare and ensure that your stock thrive on green feed!

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PASTURE PLANTS THAT JUST KEEP ON GIVING TILLAGE RADISH –THE BEST WAY TO GET THE STRUCTURE BACK.

There is an old adage when talking soil health and crop water use efficiency - 'It's not how much rain that falls on your farm, it's how much you can capture.' Capturing rainfall is all about the infiltration capacity of your soil - in simple terms what holes you have in your soil that will let water in and store it. Soil water movement can be thought of in a similar fashion to that of how blood flows through the human body. We have arteries (big tubes), veins (middle sized tubes) and capillaries (little tubes). This is also true of the soil. We need all three sized tubes or 'pores' for the soil to be working at its maximum potential. The large pores and middle sized pores let the water into the soil and transfer it deeper into the profile, and the smaller pores store the water in straw like 'capillary' structures that are made by root hairs and fungi hyphae.

Dragging steel through the soil (such as a deep ripper) is one way that is thought might help infiltration, however it is a bit like performing dentistry with a crowbar, and the soil will inevitably slump back into its former poor structure over time, determined largely by soil sodium content. Creating great soil structure is about creating pore spaces with structural integrity - macropores and micropores created by roots and fungi, and of course carbon from plant roots to hold it all together.

Tillage (daikon) radish is a great plant for fixing the soil structure whilst providing a grazing opportunity. The roots are large and extremely good at jacking open compacted soils, and the feed quality of this plant is excellent. The plant also has the benefit of a very wide planting window (sowing all year round, but sowing past the longest day will prolong maturity). Tillage radish can be planted in a multispecies cover crop mix.

Imagine creating a soil that acted like a sponge and allowed any amount of rain to infiltrate and be captured for later in the season. Imagine making money on the back of that highly beneficial operation with a great grazing opportunity.



SOIL STRUCTURE REPAIR STRATEGY	APPROX. COST/HA	PROS / CONS
Deep Ripping (fuel)	\$60/ha	Short term water infiltration benefits
Tillage radish (seed, super, fuel)	\$60/ha	Excellent, long lasting structural benefits provides excellent quality feed that more than pays for the upfront cost, meaning you make a profit out of fixing your soil.

Tillage Radish - Fast Facts

- Excellent early vigour gives quick grazing options
- Highly palatable to all livestock classes
- Reduces soil compaction via tap root
- Prevents nutrient leaching
- Summer production fits between winter crops
- Big sowing window to target feed gaps and take advantage of early season rain events





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A CLOSER LOOK AT LARVAE ON PASTURE

(By Jane Lamb, Research Scientist, Veterinary Health Research, June 2016)

This article by Jane Lamb gives a fascinating insight into the world of worm larvae.

Avoiding or maintaining very low numbers of worm larvae on pasture makes for very effective worm control, so an understanding of larvae and how they develop can help to manage or control larvae on pasture. Once eggs are deposited in faecal pellets on pasture and conditions are suitable for development, the eggs hatch to larvae (L1 or first-stage larvae), then undergo two moults to become the infective third-stage larvae (L3). If conditions are suitable for larval development, the number of infective larvae that can develop within a short time period is surprisingly high, especially with the high egg-producing *Haemonchus contortus* (barber's pole worm). As seen in Figure 1, a 24-hour faecal collection from just one donor sheep infected with *H. contortus* (WEC of 4000 epg), cultured and incubated for 7 days at 25–27°C, produced approximately 800,000 infective larvae; larvae that could potentially infect other sheep.

Larvae are very resilient and can survive low temperatures, including winter frosts, and remain viable and infective on pastures for many months. In the laboratory, infective larvae are stored alive in a refrigerator. *Trichostrongylus* spp. (black scour worm) and *Nematodirus* spp. (thin necked intestinal worm) L3 larvae can withstand cooler temperatures and are stored in water (they don't drown) at 5°C in the laboratory with still many viable at 5–7 months. In contrast, *H. contortus* (barber's pole) L3 larvae is one species which is more sensitive to temperature and will store viable for only 3–4 months at 10°C in the laboratory.

By the time larvae reach the L3 infective stage, they have developed a protective external sheath, an attribute that gives them the resilience and ability to survive over a range of climatic conditions. At this stage the larvae do not feed, but survive on reserves that have been stored in development. In warm, humid conditions the larvae are more active and will have a greater demand for their limited food reserves. Whereas, in cooler temperatures, the larvae are less active, consume fewer reserves and will survive longer on pasture. When the larvae are finally ingested by a grazing animal, this protective sheath is shed or ex-sheathed (Figure 2) and larvae resume feeding in the host to develop to the adult worm. Unfortunately, larvae on pasture cannot be viewed with the naked eye, hence the degree of contamination and the distribution on pastures is not evident, nor is the particular worm species, which can vary in pathogenicity (disease-causing ability) to grazing animals.

Conducting worm egg counts with larval cultures periodically and understanding the conditions under which those worm eggs can develop to infective larvae in the field provides a picture of the worm-risk of a paddock. Highly contaminated pastures are particularly unsuitable for young or naive and immunosuppressed sheep, which are at most risk to infection. The extent of pasture contamination with worms can also be managed by rotational grazing programs. For more information on how to reduce larval contamination on pastures or to request a worm test on your farm, please contact an AgriWest Animal Production Specialist.



Figure 1. *H. contortus* infective L3 larvae emerging up the side of the glass jar. Source: Veterinary Health Research.

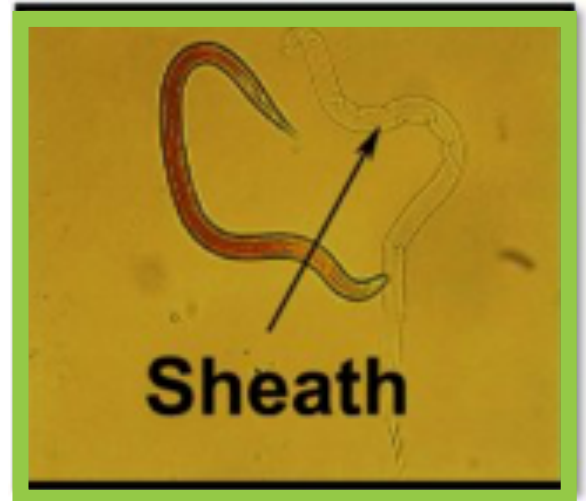


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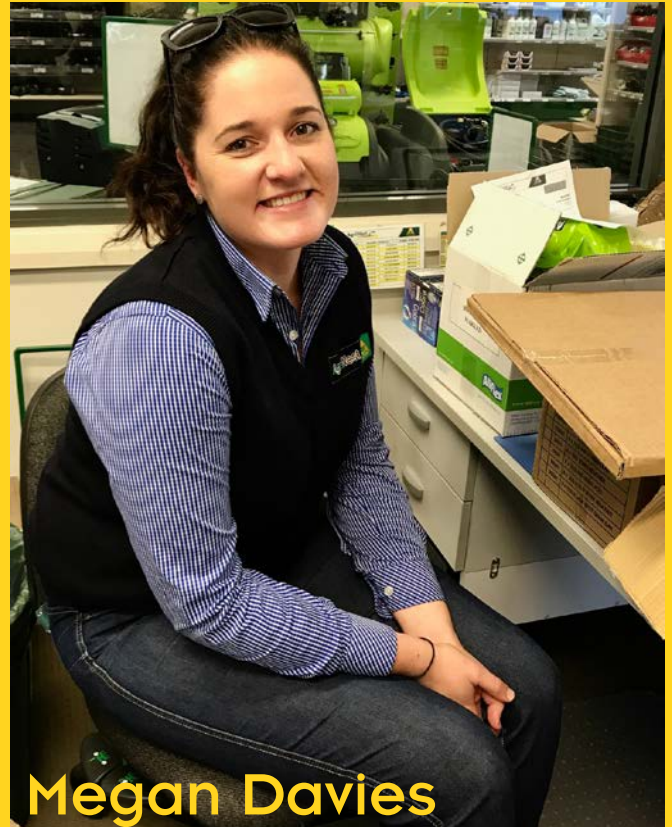


FACEBOOK: MONTHLY RECAP

Looking for more insights?

Our Facebook page is a great way to stay informed. Regular product information and specials, seasonal insights, community events and branch updates – it's all there at your fingertips! In the last month we posted about the Jemalong Polo Tournament, EOFY specials and promotions, Spike Orr's lucerne and clover paddock and much more... **Check us out and share your thoughts!**

STAFF PROFILE



Megan Davies

Nickname: Meggie

Role: Merchandise Sales Assistant

Store: Forbes, NSW

Time at AgriWest: 2 weeks

Hometown: Forbes, NSW

Industry History: Currently studying a Bachelor of Animal Science. Previously worked in an agribusiness store for three years prior to AgriWest

Interests: Camping, gardening and generally spending time on the farm with family and friends

Favourite football team: Canberra Raiders

Favourite band/singer: Rascal Flatts, Sugaland, Kings of Leon

Favourite movie: Ace Ventura: When Nature Calls

What are you enjoying most about your role with AgriWest?:

Working with a bubbly team, and doing something a little bit different every day

Contact an AgriWest specialist today for more information.

Agronomy

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