

## A few take aways from the Shade, Shelter and Shrubs show

October 2022

This exciting collaboration of the WA research community got off to a great start at Sam Lehmann's place near Cranbrook this week. While there's been quite a bit of trial work underway on this site for some years, there is now an even bigger process at play with local researchers from UWA, Murdoch and CSIRO teaming up to answer a range of research questions around shade and shelter over the coming years. We stress that this is just the start of the project - so Tuesday was more about questions than answers!

However, we heard from many WALRC subscribers in the lead up to the event – who couldn't make it but wanted to know what went on. Well – here is our summary of how some of the discussions went:

- Without human ethics approval (🚫) researchers and farmers “experimented on themselves” on Tuesday by standing in front of a lazy Cranbrook wind – firstly in open paddocks (the control) and then, in a Casuarina stand (the experiment)! This was a real live demonstration of the efficiency in reducing wind chill in October. The team is looking forward to testing these spots for shade in summer – as Sam is planning on using the area for confinement feeding. So that was just a taster for lots more to come on this.
- Anameka saltbush on poor sandy soils at Sam's place offered 850 kg/ha of shrub edible dry matter and 4 t/ha of mixed understorey with serradella. Message here: That saltbush grows well on non-saline land! And, there is ongoing work to optimise these systems – as in, the research team reckons they can do better yet.
- We know that in some seasons lambing coincides with low pasture availability. Farmers commented that hand-feeding during lambing distracted ewes away from lambs. “It's easier for the ewe to count to two when she's not distracted!” So, it's good that one of our research questions for the project is: Can we provide shelter and nutrients in the same place?
- Guest speaker Dave Thompson of Moojepin Merinos explained how he and his son Hamish lambs in crops, a practise that dates back to 2017 with a crop he would have harvested. He has since moved to sowing a dedicated multi species paddock of forage barley (Moby variety) plus

rm4 vetch and ryegrass. He notes that he has small lambing mobs of 60-70 and its all made possible via use of temporary hot wires.

- “But the most important management change to allow lambing into the seeded paddocks, is confinement feeding from post mating to pre-lambing. Without confinement feeding, its just not possible,” Dave explains.
  
- Motivated by this, the project team is going to test crop height and twin lamb survival on four farms. Crop establishment depends on sowing time and rainfall. So the question is, is crop height important for twin lamb survival?
  
- Sam’s twin ewes in shrub paddocks had 18% more lambs marked than those in open paddocks. (We note though, that flocks in shrubs were smaller as the paddocks were smaller). Sam exceeded the researcher’s modelled expectations by 0.5% (based on 8 published studies in Australia). So it’s nice to see our farmers ground-truthing our modelling.
  
- We heard from lots of local Cranbrook producers in attendance that they are offering ewes mineral supplements. Sam’s shrubs accumulate the key vitamins and minerals associated with antioxidant pathways and provide shade. The researcher team is keen to explore if ewes and rams improve reproductive success through self-supplementation.
  
- So, in summary, the team figure they can improve twin lamb survival by looking at how to create systems that optimise productivity and shelter value. But to do this, they want to know if palatable shrubs attract ewes and if we need unpalatable ones to optimise density? And how about orientation and density? They need to understand that better too. Also, they need to figure what are the trade-offs between shrub density and understory management? There are loads of questions to answer and the farmers in the paddock this week just gave them more!
  
- As a final part to the day, researchers demonstrated the impressive new tech that the team will use to assess ewe and ram behaviour and body temperature relative to environmental conditions. Human foetal specialists are helping to develop lamb monitoring tools. The team are also using BOM and NASA data to map risk.

**The project has been co-funded by MLA and AWI in partnership with UWA, Murdoch, CSIRO and NSW DPI.**