Participant questions

MLA Updates: Redefining resilience through sustainability

1. **I have a project involving a small abattoir that I want to be carbon neutral and using technology such as solar so that we few inputs and create no waste - is this a project you could assist with?**

   Relevant MLA tools and information links:
   https://www.mla.com.au/news-and-events/industry-news/energy-decisions-made-easy/

   https://www.mla.com.au/research-and-development/reports/2019/development-of-funding-and-finance-models-for-an-integrated-solar-battery-solution/

   https://www.mla.com.au/research-and-development/search-rd-reports/final-report-details/Concentrated-Solar-Thermal-and-Concentrated-Solar-Power-Assessment-for-Australian-Red-Meat-Industry/3885

   AMPC is working directly with processors to investigate opportunities. Key contact there is Matt Deegan https://www.ampc.com.au/about/our-team

2. **Doug, has MLA released some clear publication on current reality of where the red meat industry currently sits with emissions? So much conflicting info out there and it is important for producers to know exactly the current reality to engage with this. In addition, how much of the recorded decline in emissions is a result of reduced national beef numbers with herd decline?**

   Please refer to information on MLA's CN30 page for all latest numbers and supporting information, including the CN30 Roadmap which explains the numbers in detail.
   https://www.mla.com.au/research-and-development/Environment-sustainability/carbon-neutral-2030-rd/cn30/

   Cattle numbers reported in 2017 were similar to 2016, as well as the 2005 baseline year. Sheep numbers were down relative to the 2005 baseline year, however were up relative to 2016 (refer Table 5 on pg 36 of CN30 Roadmap).

   Total GHG remissions attributed to the red meat sector in 2017 were 55.72 Mt CO_2e (refer Table 4 on pg 36 of CN30 Roadmap). The decrease in net GHG emissions relative to 2005 was primarily due to a reduction in emissions from Grassland (relates primarily to changes in land management practices such as fire management, changes in woody vegetation cover, and conversion of forest land to grassland) and an increase in carbon sequestration in Forestland.

   The impact of the drought-induced herd decline in 2018 and 2019 will be reflected in the 2018 and 2019 CN30 Annual Updates. At present there is a 2-year lag on reporting national emissions via the National Greenhouse Gas Inventory.

3. **Will MLA consider widening the launch of carbon accounting tools beyond just Profitable Grazing Systems? What about private sector delivery extension/ adoption services? Are they being engaged with this process?**

   Yes – MLA materials will be available to public and private extension providers. Interested service providers should reach out to MLA's CN30 Manager, Margaret Jewell, at mjewell@mla.com.au

4. **Fiona, once you have reached max c storage capacity with mature trees, how do you plan to offset emissions?**

   The research suggests our ability to optimise carbon storage with trees will plateau out as the trees reach maturity – and that will vary with the tree species. The tonnes of carbon stored in trees per hectare includes trees and debris/dropped branches. Some of the trees we have planted are high value timber in woodlots which have the capacity to be harvested and used in furniture production. We can replant the woodlots when they are harvested. We are also still planting shelterbelt trees because they offer so many benefits but where we originally planted two and three row shelter belts in the past we now plant 5 row plantations. While these newer tree plantings will offset carbon at a greater rate than the mature trees in the future, I also see the potential to continue reducing the emissions through some of the initiatives currently in the R&D phase such as new pastures species and potential rumen modifiers etc which have the capacity to lower methane production.

5. **Fiona, are these standard 10 cm soil tests with soil carbon %. Can we use these to quantify change instil carbon and get credit for this?**

   Yes, our soil samples are the standard 10cm soil tests which we use to directly measure our soil organic carbon. While we only measure the top 10cm we use the assumption from the CSIRO's National Soil Carbon Research Programme (SCaRP) that the top 10cm of soil contains 50% of all the soil carbon in the 0-30cm. While this gives us a measure of soil carbon stored in the top 30 cm if you wish to pursue carbon credits you will need to adopt a different sampling method.

6. **Are there plans to further develop NumNuts so that it can also be available to beef producers?**

   Not in the short term. Our priority is to finish commercialisation trials to get more data on efficacy and capability. A new device will have to be designed for calves from scratch, because of anatomical differences, and the differences in handling equipment for lambs and calves. Even though the NumNuts device might work for castration if the calf is small enough, it will be a makeshift situation and not the best animal welfare outcome. The commercial owners have expressed interest in developing designs for calves.

7. **How close are we to a pinkeye vaccine that covers more strains than Pilliguard**

We have a current project looking at risk factors, treatment and prevention options for pink eye disease in cattle. It is still not clear that any other species of Moraxella actually cause infectious bovine keratoconjunctivitis (IBK).

We are considering a project that will focus on better identification of the degree to which an infected eye is in the active or healed state of the disease. This will allow for better and earlier treatments and limit the number of unnecessary rejections in sale yards and in the live export supply chain.

Other proposed work is to determine which strains/species are responsible for disease in Australia. There is then the possibility of a mucosal vaccine for this disease but that is some years away.

8. How could we be involved in the scour worm vaccine for sheep? Who do we contact?

We are early stages with this research.
We have only just received preliminary applications and will need to progress through the producer consultation framework and Red Meat Panel to get an approved project.

Please provide your contact details to our MLA Animal Wellbeing project manager Dr Michael Laurence (mlaurence@mla.com.au) and you can stay connected to progress through him.

It would be worth noting that Project report B.AHE.0325 foresees a multi-faceted program of work that will unlikely be completed in under seven years. It will be a while before there will be a candidate vaccine ready for testing in the field. At that stage, if necessary, the call for collaborating producers and trial sites will be widely publicised.

9. Where are we with knowledge on pasture feed conversion from a genetics point of view?

We have had Net Feed Intake (NFI) EBVs available for cattle based on feedlot data for around 10 years. This enables breeders to select for animals that use feed more efficiently in the feedlot finishing phase. The limitation for being able to assess animals for pasture feed conversion has been the availability of technology to measure feed intake in grazing conditions.

There has recently been organisations (e.g. CSIRO, NSW DPI, UNE and others) developing technologies that can be used to measure feed intake in grazing conditions. Examples of these include smart ear tags and gas emission measuring units. This opens up the possibility of using these technologies to capture data to see if genetic parameters can be developed.