



The Presenters

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Presentation

Title: Future Farm Systems Programme – shaping a low-emissions future for agriculture

YouTube video link: <https://youtu.be/J4q0qWKJ9z8>

Question & Answers

Thank you for your participation in the webinar. This document contains the questions that were not able to be answered during the webinar. Please note: these answers are provided by the presenters and do not represent the views of the NZAGRC or MPI.

[Referring to Case Study 1] I assume the reduction in Nitrous Oxide is as a result of reduced applied Nitrogen. In the long term, is it expected that the increase in MS produced will continue with the slightly lower stocking rate and resulting feed efficiencies, or is pasture production expected to slowly decline in line with the lower applied nitrogen, i.e. will we have a nutrient deficit over time and the MS produced revert to pre farm system change?

Yes, less nitrogen cycling more efficiently through the system would appear to be the driver behind the calculated reduction in nitrous oxide emissions. As to whether there will be a nitrogen deficit over time as a result of less synthetic N fertiliser being applied, the case study farmer isn't expecting it and to our knowledge the nutrient budget for the farm system doesn't show an N deficit.

Can Part 2 [of the research] look into the roles that institutional arrangements play in enabling the approach the community comes up with to the scenarios to be worked through and implemented - e.g. differences between sectors in their arrangements, the role of cooperatives vs disaggregated arrangements, the local and regional govt approaches to implementing the environmental legislation under the scenarios, where the power lies to implement, how empowerment is given and taken, the timeframe differences expected by community vs how change occurs etc?

Elements of this may well be explored when the future regional scenarios are analysed with stakeholders in the second phase of the programme (after June 2023). But there isn't a specific focus on this.

If you had more resources, what would be the parts of the project you would grow, or what new parts would you do?

We'd like to expand the regional scenario analysis (into other regions and explore with greater depth) and have additional farmer-led solution groups.

What about carbon capture, utilization and storage? We will need to find alternatives to oil and gas for carbon-based fuels and raw materials. Pyrolysis and biochar production?

While important, these are outside the scope of the programme and the NZAGRC's mandate.

Are you not addressing emissions from farm fuel use?

Not directly. The programme is focussed on biogenic greenhouse gases—methane and nitrous oxide. But the case studies, alternative land uses, future regional scenarios will consider the broader environmental impact associated with them, including energy use.

When you talked about improved genetics, does this cover pasture genetics and composition as well as animal?

That comment primarily referred to animal genetics and the selection for low methane emissions. But any advantages provided by improved non-GE pasture genetics and pasture composition will be considered within all elements of the programme as appropriate.

Are we assuming that land use choices will no longer be driven by market (global food) demand and NZ natural advantages and disadvantages, i.e., what market demand logic sits behind the choices to investigate?

Not at all. The choices being investigated have not been selected on the basis they will necessarily be desired by the market or otherwise. Nor that they are the best alternatives in the event the aggregate environment (markets, regulation, climate) in which farmers operate favours a shift away from ruminant protein production. Rather they are intended to allow a variety of supply chain considerations for alternative land uses to be explored and better understood.

What work are you doing with farmers to assist them with a transition plan?

Nothing directly. But the facilitated farmer-led solutions case studies might identify options, solutions and approaches that might be helpful to farmers as they transition to low emissions land uses.

Are the collective and rohe in the same area and connected at any stage or in separate areas?

No, they are both in separate areas.