

ORAL

Technical Session 10

Adoption and Incentives to Breed for Methane Mitigation

Challenges and options around incentivisation of genetic approaches to mitigation of methane emissions from ruminants

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Challenges and options around incentivisation of genetic approaches to mitigation of methane emissions from ruminants. Genetic improvement offers a cost-effective, cumulative and permanent means of reducing methane emissions from ruminants. As with any other approach, such as anti-methanogenic compounds, achieving any change requires some form of practice change by farmers. For genetic approaches, the change is to breed and/or retain animals with superior genetic merit for methane emission. In modern breeding practice, decisions to select and/or retain animals are based on a breeding objective, where the relative weighting of traits in a selection index are usually determined by the expected economic impact of the trait improvement on system profitability. That implies a price can be applied to the estimate of genetic merit for the trait, with that price being the expected impact on income and or cost, ideally across the entire value chain at some point in the future. This is problematic because there is currently no widely accepted price on carbon. Accordingly, there is no clear incentive for farmers, including breeders, to account for methane in selection or replacement decisions. In the short term, this suggests the need for governmental and philanthropic initiatives, hopefully to reinforce private initiatives aimed at creating future market advantage. A second order challenge is to decide what form and where in the value chain to apply any incentive. Options include subsidisation of semen price, some form of credit to the farmer for methane-reducing actions, and market premiums for food ingredients or products with reduced methane footprint. Therefore a number of questions must be addressed:

- What value should be placed on lower than average emissions – essentially defining the carbon price?
- How to incentivize adoption - with cash, or some form of credit tradeable for something of value to farmers?
- Where in the value chain from production to retail to incentivise?
- How to determine the size of the incentive and potential incentive mechanisms -what to pay for and how? Building on approaches to these questions, we identify two crucial roles for national or international genetic evaluation services;

1) establishing the language or currency upon which incentives applied in a particular jurisdiction are based, and 2) potentially generating the metrics required as a routine service. Absent these roles, confusion and resulting lack of action seem inevitable