

QUARTERLY PROGRESS SUMMARY: January – March 2016

A New Vision for Pastoral Agriculture through Seed and Nutritional Technology Development

Summary of progress during this quarter

- The results from our BSA field and glasshouse trials in the later part of 2015 were highly variable. The performance of the BSA strains individually, and in combinations, were not superior to the control (bare seed + Superstrike) and therefore does not warrant further investment. The PSG accepted a recommendation in early February 2016 that no further investment be made into this project. This will reduce the likely economic returns from our PGP by between 5-10%.
- The tetraploid perennial ryegrass with AR501 has continued to show strong agronomic performance in regional trials and a selection has now been entered into the National Forage Variety trials. The nucleus multiplication of this line was harvested in January 2016 and produced excellent seed yields, however the endophyte transmission levels did not meet the required quality standard to progress with a breeders crop. A new seed increase has been sown this quarter to rectify this problem.
- We have achieved excellent progress on traits that should improve feed conversion efficiency and reduce nitrogen emissions from ruminants. Furthermore the expression and inheritance of a key trait has been shown to be stable, providing good confidence that this project is on track.
- The nucleus crop of our new hybrid brassica produced very good seed yield and seed quality and we are progressing with commercial multiplication. Ten on-farm trials of this brassica throughout New Zealand have produced very encouraging forage yield and animal performance results despite being in a range of challenging environments.

Key highlights and achievements

- The replacement nucleus seed crop has been sown of our perennial ryegrass with AR501 endophyte. This elite selection has improved bioactivity and has shown excellent agronomic performance, outperforming more than 100 other entries across 8 locations in New Zealand. The animal safety trials have also shown strong animal performance without any adverse animal health problems.
- Demonstration of the improved water-use efficiency, clubroot resistance (100%), and improved agronomic performance of our new hybrid brassica across a range of regional sites.
- The first seed increase for our new brassica hybrid has been successfully harvested and a nucleus increase has been sown in Canterbury.
- HT-C Kale is proving tolerant to Telar herbicide and is now being increased for agronomic evaluation at multiple locations.
- The first assay for AR501 endophyte viability in ambient storage trials took place in July 2015.

Upcoming

- The forage quality attributes in our improved feed conversion efficiency project will be known.
- Information on expanded insect tolerance from our new endophyte bioactivity project
- Initial results on the effectiveness of our new PGP-endophyte for controlling the facial eczema fungus and reducing sporodesmin production should be known in the next quarter.
- Our new brassica hybrid breeders seed crop has been sown and should be harvested in late-January 2017.

Investment

Investment period	Industry contribution	MPI contribution	Total investment
During this Quarter	\$278,018	\$285,334	\$563,352
Programme To Date	\$3,959,178	\$3,702,691	\$7,661,869