

Dairy Pre-Farm Gate PGP Quarter 2, 2013/14 (October- December 2013)

Executive Summary

The two major themes of the pre-farm gate component of the Dairy PGP programme continue to perform as intended. While progress has been made across all areas of the programme, specific highlights for each of the themes this quarter include:

1. Theme 1 – On Farm Innovation and Research

- The objectives of the **Precision Agriculture** programme are to extract value from information technology on dairy farms and to evaluate automation technologies. Data analyses have been completed for exploring the ability to rank paddock performance using automatically captured sensor data of milk yield, live weight, herd size, paddock and grazing hours. Preliminary results indicate that this approach may have potential value in ranking paddocks to identify low performing paddocks in particular for renovation or additional management. There are some limitations to improving the results and these include improvements in the accuracy of pasture estimation using the Rising Plate Meter, manual recording of supplements and the grazing management required.
- The **Pasture Persistence** programme's objective is to analyse and understand persistence of perennial ryegrass-based dairy pastures and use this information to support pasture renewal farm practices and plant breeding programmes. New findings from Pasture Persistence trials around survival of ryegrasses include:
 - o Plant populations revert toward the smaller leaved, dense and prostrate growth habit, which appears to be an adaptive feature of perennial ryegrass, indicating long-term competitiveness with survival depending on grazing 'avoidance'
 - o When grown as spaced plants, survivor plants commonly show much greater vigour; less vigorous plant genotypes within a seed line are 'knocked out' very early in the life of the pasture, possibly even during the initial establishment phase.

These new findings from Pasture Persistence trials are being communicated with plant breeders, to inform the development of future breeding populations, and will be communicated to farmers in forums such as field days and conferences.

2. Theme 2 – Building Capability for a Sustainable Future

- A new **Stocksense workshop** on lameness detection and prevention has been developed and piloted. This workshop seeks to improve lameness management and prevention on-farm. Veterinarians will be trained in January 2014 to deliver this workshop, with delivery to farmers occurring in autumn 2014

Stocksense workshops are 3-4 hour on-farm learning sessions for new or junior farm staff. The focus is to deliver practical skills-based training on animal husbandry topics that focus on trainees learning basic stockmanship and animal care skills. Topics

covered to date include calving management, humane slaughter, calf rearing, animal handling and cow health and well-being. (Objective 2.7)

- The **research programme from the Centre of Excellence in Farm Business Management** has successfully completed two projects:

- o *New Zealand Dairy Farmers and Risk: Perceptions of, Attitude to, Management of and Performance under Risk and Uncertainty*

The results of the study suggest that farmers can be grouped into four farm typologies namely, “entrepreneur”, “here and now conservative”, “competent conservative” and “experienced but cautious”. Strategies of managing debt, planning of capital spending and using practical planning steps were common for all typologies. Entrepreneurs were less likely to think the two less highly ranked strategies of ‘not producing to full capacity’ and ‘keeping debt low’ were important, and they also displayed a more positive perception of sources of risk, the ability to see the glass half full rather than half empty. However these traits did not reflect in better business performance, indicating the need for further work in determining the characteristics of farmers successful in managing volatile environments

- o *‘Future Farm Management Options for Smaller Dairy Farms’*.

This research concluded that farm owners with small herds have objectives centred on time and sufficient cash for the family. They follow a business strategy that focuses on generating a strong cash-flow and debt management or minimisation, and prefer a system that can be comfortably managed by a family and a maximum of one employee. This information will enable extension programmes and commercial products and services to be better tailored to the needs of small herd owners.

The findings are reported on the OneFarm website and will be integrated into the education programme and other delivery. Identification of the skill and knowledge requirements on-farm and delivery to these are a key for increasing the capacity and capability of the dairy industry.