

Dairy post-farm gate PGP 2013/14 Quarter 1 report

The three themes within post-farm-gate sub-programme of the Primary Growth Partnership programme on *Innovation to Transform the Dairy Value Chain* are all performing to plan in this broad and complex programme of work involving approximately 40 major projects and >100 milestones.

2013-14 Quarter 1 progress

The 2014 investment year represents a significant change in the activity within the programme with all three post farm gate themes expanding significantly. A key focus for the first half of the year is the formal initiation of the new projects identified in the 2014 business plan. Progress in the first quarter has been solid, although it is taking longer than planned to finalise the milestones and sub-contracts with science providers for some of the projects.

There are a large number of researchers involved in the programme – approximately 61 individuals, from more than 8 organisations. This figure includes 14 postgraduate students, a number of whom have come to NZ to develop their research careers because of the PGP programme and the opportunity it presents to do academically challenging and industrially relevant research. The experience and exposure students get through their work in the programme opens up future careers paths in both academic and industrial research.

World-class science and technology is being developed, some of which are already being commercialised as new processes or products. Highlights this quarter are:

- Uptake of outputs from the programme as the basis for two new product development projects within Fonterra's innovation pipeline.
- Trials of a first prototype mini-tool into a Fonterra factory to enable operators to manage an important functional property of the finished product. Mini-tools are pieces of software that are embedded into the process control system to provide additional functionality and performance. In this case the tool provides predictive information that enables control of a functional product attribute that is not directly measurable in-process.
- Members of the industrial statistics team attended an international statistical quality control workshop in Sydney and gave two presentations on new approaches to test measurement error.
- New joint health biomarkers have been validated and are now available for use in future trials.
- Encouraging results from animal studies that have shown cognitive development and performance benefits from consuming a prototype dairy ingredient. The results now need to be confirmed in human intervention studies, these are currently being planned.

The programme intends to publish research findings, wherever possible, to facilitate international acceptance on new technologies. This quarter three papers have been submitted for publication.

In keeping with the vision and goals for the sub-programme these outputs and the world-leading science and technology options have been created through an open innovation model that has significantly enhanced capabilities within NZ research providers and the quality and speed of scientific and technical solutions accessible to Fonterra and ZESPRI.

The manner in which this model is being applied led to Christina Coker (Theme 3 Leader) being invited to participate in an expert panel at the University of Queensland Experts Exchange with a focus on "What factors ensure a rewarding industry/institution partnership?"

The Fonterra – ZESPRI R&D relationship, created through the programme, has also borne fruit with Fonterra likely to apply technologies being used to measure the structure of kiwifruit for the study of cheese.

Total expenditure in the programme during the first quarter of F14 was \$1,795,691 of which industry contributed \$975,083 and MPI \$820,608.