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## Farm<sup>IQ</sup> - Learning and extension around quality meat production

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### Introduction

#### *Farm<sup>IQ</sup>*

Farm<sup>IQ</sup> was established in August 2010, following a successful bid to the Ministry for Primary Industries' Primary Growth Partnership (PGP) fund. The partnership is between MPI and three significant farming industry entities – Silver Fern Farms (SFF), Landcorp Farming Limited and Tru-Test Group.

The founding philosophy of the partners is to create an integrated red meat value chain. Specifically the programme seeks to:

- Understand the drivers of meat production per hectare and meat quality for all the links in the supply chain from plate to pasture, and
- Ensure participants have the tools to collect and analyse objective data for making decisions

Work being done in the Farm<sup>IQ</sup> programme includes:

- Consumer research – conducting international consumer taste panels to understand preferences for meat quality characteristics that are then related back to objective carcass traits. This research has led to the development of SFF's carcass grading system (the Beef Eating Quality System was launched in October 2013)
- Genomics techniques for assessing genetics – including commissioning a new high-density SNPchip to assess a sheep's genetic potential for meat quality and yield
- Farm systems and performance – helping farmers collect accurate data about animal performance and understand how it relates to management and land resources

Consistent across this work is the approach of collecting life history and performance data on individual sheep, beef cattle and deer, a level of detail previously regarded as too difficult and time consuming to achieve. To make this possible, Farm<sup>IQ</sup> is capitalising on advances in technology that can be employed on-farm, namely: electronic identification tags (EID tags), weigh scales, livestock auto-drafters, scale head indicators, smart phones, sensors and cloud-based computer software.

### Farm<sup>IQ</sup> - Farmer Learning and Extension

Farm<sup>IQ</sup> is bringing all these technologies and approaches together within an integrated framework. As part of this, our farmer learning and extension approach has three areas of focus:

1. The Farm<sup>IQ</sup> Farm Management System (FMS)
2. A New Zealand-wide network of project farms - known as IQ Farms
3. Field days and workshops held at these IQ Farms

#### *The Farm<sup>IQ</sup> Farm Management System (FMS)*

The linking tool that brings it all together is the Farm<sup>IQ</sup> Farm Management System - an information hub that farmers can use to record and analyse data from their farm and also data fed back from other parts of the value chain. The FMS has been developed by working with groups of farmers at every step, and is still being built.

The FMS is an excellent farmer learning tool because it helps users to compare impacts of different managements and technologies on both sides of the farm gate. It helps farmers learn things that work well and those that don't in their own situation. The goal is to identify win-win farming practices – those that not only sustainably produce more but also increase the value of the product. This is something that no-one has achieved before.

We are also helping farmers understand other advantages of these new technologies. For example, they not only learn about how computers can be employed to more easily handle complex data, they also learn about the benefits of cloud-based software, which include:

- Farm information is updated as data are loaded.
- Farm data are kept on a server that is backed up – which gives you secure storage – and farmers do not have to update software.
- Information is accessible - able to be loaded from any internet-connected device.

In working with farmers, we take a common-sense approach to improving farm performance. Farm<sup>IQ</sup> Business Managers meet with a farmer in the winter to look at their goals and help set up a plan for capturing data on farm and entering it into the FMS. Plans are tailored to each farmer but will generally follow this process:

1. Make objective measurements of performance.
2. Compare against benchmarks.
3. Identify areas for improvement.
4. Implement alternative management practices.
5. Measure their impact.

Farmers new to Farm<sup>IQ</sup> are often starting from scratch and spend the first couple of years coming to grips with the technology: they initially focus on collecting and entering land and animal data to establish a base level of production.

Some other farmers have been collecting data for a long time, but they have not previously had the tools to make sense of it. Once a base level of farm production is established, we can start assessing and comparing using the FMS. The farmer can identify what is holding back farm performance, and then apply a potential fix and use the FMS to assess the outcome.

Farm<sup>IQ</sup> is developing a centralised database, providing powerful tools for benchmarking. Only individual farmers can see their own farm data, but their data also contribute to a pool of information that is used to calculate averages for each region, farm type, land class and so on.

The following illustrates one example of how farmers can use Farm<sup>IQ</sup> to improve their business. Farm<sup>IQ</sup> encourages farmers to examine fundamental drivers of production. For typical NZ breeder/finisher farms, these are:

- Getting breeding animals pregnant
- Maximising survival of the progeny
- Growth rate of finishing animals.

The Farm<sup>IQ</sup> FMS, therefore, enables farmers to record and compare data on scanning, losses post-birth (wastage) and live weight gains. This helps farmers to

clearly identify what they need to focus on. For example, farmers with good lamb growth rates but low sheep scanning results relative to their regional average know to concentrate on ewe breed and feed management from weaning to mating.

As well as our Business Manager team we also have a Support and Training team for the FMS, who train new users and remain on call to help as needed.

### ***New Zealand-wide network of IQ Farms***

The regional Business Managers also work with a national network of 11 project farms known as IQ Farms. These commercial farmers are conducting several on-farm studies each year and in doing so generate data useful to them but also to the development of the FMS and our approach to working with farmers. They receive annual funding to establish these studies. Each IQ Farm has a steering committee comprised of local agricultural professionals (veterinarians, farm advisers, accountants, agronomists and Silver Fern Farm representatives) who help identify areas for investigation and design the studies.

### ***Field Days and Workshops***

Another aspect of Farm<sup>IQ</sup>'s engagement in farmer learning and extension is that we have regular public field days and workshops at the IQ Farms. These provide a forum for the farming community to learn about the studies occurring at our IQ Farms. The events also create an awareness of Farm<sup>IQ</sup> and how they could use it for their own business.

Farm<sup>IQ</sup> aims to create an integrated information highway for NZ's red meat industry and to make sure that farmers are on it!

*For further information, see [www.farmiq.co.nz](http://www.farmiq.co.nz)*