Producing lamb more efficiently

The UK’s leading sheep breeding technology supplier has utilised cutting-edge genetics techniques to help improve the efficiency of lamb production, enhancing the livestock industry’s profitability and sustainability, and helping boost food security.

The need

Within businesses producing sheep, the number of lambs that a ewe produces per year influences sales outputs and hence profitability. Nationally, improving sheep production output and efficiency contributes to the sustainability of the livestock industry, which is crucial in many rural economies, as well as helping to improve food security.

A project was established to accelerate Knowledge Transfer (KT) regarding the management of sheep carrying a fecundity gene which results in more lambs per ewe. The project addressed an important industrial need to communicate the potential benefits of this technology when utilised as part of a fully integrated sheep production system.

The results

Innovis is the leading supplier of breeding technologies to the UK sheep industry, offering breeding services like Artificial Insemination and Embryo Transfer, as well as associated services such as tests to control animal health problems. In 2004, Innovis established itself as a breeding company, utilising leading technologies to produce sheep which are better suited to meet market requirements.

Advancements in genetics research mean it is now possible to identify individual gene variants that affect livestock traits of economic importance. Research has identified a naturally occurring gene variant, known as the Inverdale® fecundity gene, that improves the number of lambs born per ewe in sheep carrying the desired variant. A DNA diagnostic test is also available to identify animals carrying the Inverdale® gene.

The Biosciences KTN assisted Innovis to establish an “Industry Club”, a project to accelerate KT amongst sheep breeding businesses regarding how to successfully utilise the Inverdale® technology. KT activities such as demonstration events were used to explain the technology to breeders, with input provided from both scientific and industry experts.

By the end of the project, 100 breeders and industry representatives had been made aware of the technology as part of a thriving network, and the technology was being utilised in 34 UK sheep breeding businesses. This success has now expanded further so that 94 businesses are benefiting from utilising the technology with around 20 new businesses joining in 2010. There are now around 5,500 breeding females in use with improved fecundity and a further 4,500 ewe lambs have been produced for sale in 2010 with numbers increasing year on year.

IBERS (Aberystwyth University) is currently undertaking a project funded through the Welsh Assembly Government’s Supply Chain Efficiency Scheme to evaluate the performance of these Aberdale® ewes when compared to conventional breeding systems.

www.innovateuk.org/biosciencesktn

The knowledge-based bio-economy of the 21st Century
Additional activity

Following on from the project, there have been several additional funding awards and collaborations that have had significant benefits, including:

1. A three-year Knowledge Transfer Partnership project between Innovis and the Grassland Development Centre at IBERS (Aberystwyth University) to develop an understanding of the grassland management required for these ewes and to include this within the Innovis “Greenprint®”, a package of management support to help farmers achieve optimum performance and profitability from their sheep breeding programmes. Project value = £164,573

2. A STEP Collaboration award from the Welsh Assembly Government between Innovis and the Scottish Agricultural College (SAC). Project value = £13,000

3. A £500,000 investment from Finance Wales was made in 2007 to support the Innovis breeding programme which will enable supply of Inverdale®-carrying stock, and other breeding sheep to meet demand from farmers to utilise this stock to boost their profitability. Subsequent investments have been made of £290,000 in 2009 and £200,000 in 2010. Total project value = £950,000

4. A new project is being undertaken in 2010 by IBERS (Aberystwyth University) through the Welsh Assembly Government’s Supply Chain Efficiency Scheme to develop and evaluate a new systems approach to facilitate improvements to the economic competitiveness of lamb production in Wales. Project value = £450,000

“The Inverdale Technology, now available through the Aberdalde sheep has given us the chance to take advantage of all the years of Innovis investment and use up to date genetics to help us meet our production goals.”

Jim Campbell, Flock Manager, Cumbria

Hill and Lowland farmers learning about the benefits of the Integrated Sheep Breeding System