AUSTRALIA TO ADAPT AUTOMATIC MILKING SYSTEMS

The FutureDairy project has announced it will collaborate with a leading milking equipment manufacturer, DeLaval, to develop a *new concept* automatic milking system to suit Australian conditions.

FutureDairy Chair and dairy farmer, Shirley Harlock, said that automatic milking systems currently on the market had been developed for European dairying systems and needed to be adapted to suit Australia's pasture-based system.

Under the leadership of Professor Bill Fulkerson the FutureDairy team at the University of Sydney's Camden campus will work with DeLaval to develop a new system which will still be 'voluntary' where cows move to and from the dairy on their own accord.

To be feasible for the Australian market, the new concept has to be acceptable to Australian dairy farmers in terms of total benefits, compared with conventional milking facilities. To achieve this it must have much higher throughput than the current automatic milking units.

"That's quite a challenge which is why this is a long-term project," Mrs Harlock said.

Automatic milking is just one of a number of studies being under-taken by the FutureDairy project which aims to address the challenges dairy farmers are expected to face in the next 20 years.

The main challenges are expected to be related to the cost and availability of land, water and labour; and the associated lifestyle issues.

FutureDairy's activities are structured around three priorities – Forages, Feeding and Innovations – where there are opportunities to address these challenges.

Automatic milking fits within the Innovations module and has the potential to improve labour efficiency as well as lifestyle.

"Automatic milking is a very exciting venture for the Australian dairy industry, which is demonstrated by the fact that the study has been backed by Dairy Australia, NSW Department of Primary Industries (DPI), the University of Sydney and DeLaval," said Mrs Harlock.

"We are delighted to have the dairy industry and government working together with a commercial company," she said.

Research will commence in March next year after a pre-study to develop an appropriate system and farm layout around the existing automatic milking systems. The automatic milking system will be installed at NSW DPI's Elizabeth Macarthur Agricultural Institute (EMAI) at Camden.

QUOTES FROM INVESTORS/COLLABORATORS

DeLaval

"DeLaval is excited to be working with the FutureDairy team to adapt our Voluntary Milking Systems (VMS) technology to suit Australian dairy farming conditions," said Mark Brummel, Managing Director, DeLaval Australia.

Dairy Australia

"Automatic milking has the potential to achieve a quantum improvement in labour efficiency and lifestyle. Although it may take some years to develop a system suited to Australian conditions, we expect it will deliver an excellent return to farmers from their levy investment," Dr Mike Ginnevin, Managing Director, Dairy Australia.

University of Sydney

"It's really exciting for the University of Sydney to see high technology being applied to the dairy industry through FutureDairy's automatic milking systems project. It fits with our growing applications of technology in e-agriculture, e-mining and e-health," Prof Beryl Hesketh, Vice-Chancellor, School of Science and Technology.

NSW DPI

"Automatic milking systems are a cutting edge technology offering dramatic improvements in labour management and lifestyle for dairy farmers in NSW," said Ian Macdonald MLC, the NSW Minister for Primary Industries.

FUTUREDAIRY

FutureDairy aims to help Australia's dairy farmers manage the challenges they are likely to face during the next 20 years. The challenges are expected to be related to the availability and cost of land, water and labour; and the associated lifestyle issues. Our activities are structured around three priority areas – **Forages, Feeding and Innovations**. These are the areas where there are opportunities to address the challenges related to water, land and labour resources.

FutureDairy's approach is unique in that our work considers Science, Systems and People issues. In addition to conducting trials on research farms (**Science**), we test our findings under commercial conditions on Partner Farms (**Systems**). We also use social research to help understand the social issues (eg labour, lifestyle and practical implications) involved in taking on new practices and technologies (**People**).

Our **Forages** work is all about producing more home grown feed from the same area of land. We are investigating the potential to concentrate resources (water, fertiliser and management). Our target is to produce more than 40t DM/ha/yr in a sustainable way. To achieve this we are trialling a 'complementary forage rotation' based on growing three crops a year: a bulk crop (eg maize); a legume for nitrogen fixation (eg clover); and a forage to provide a pest/disease break and to improve soil aeration (eg a brassica).

Our **Feeding** work is investigating if it is more profitable to use extra bought-in feed to feed more cows (ie increase stock numbers) or to increase production per cow. FutureDairy is investigating a number of **Innovations** that could improve farm efficiency, labour management and lifestyle. We have a major study on automated milking systems (AMS), the obvious labour saving innovation. We are adapting automatic systems to be profitable and suitable for Australia's pasture-based, large herd situation. We are also investigating innovations that allow precision farming without increasing labour needs. Some examples include remote sensing of animal function and pasture status, and the use of video cameras to monitor paddock activities (eg calving) remotely via a computer.

FutureDairy is working with DeLaval to develop an automatic milking system suited to Australian conditions