

MODELLING DAIRY FARMING SYSTEMS

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Providing robust analysis of the impact of potential changes on the profitability of dairy farm systems

PROJECT RESULTS

ECONOMICS OF ONCE A DAY MILKING ON A NORTHERN VICTORIAN FARM

There is interest in once a day (OAD) milking as a long-term option for full lactations to save labour and as a short-term response to events such as the 2006/07 seasonal conditions (where supplementary feed prices were high and there were difficulties in sourcing feed).

Once a day milking was compared with twice a day (TAD) milking as a long-term labour saving option for full-lactations on a northern Victorian case study farm. Analysis suggests operating profit and internal rate of return was similar to TAD milking if the decrease in milk protein + fat production was less than 12%, with no change in the protein:fat ratio. A decrease of this magnitude may be achievable on some farms in Australia. However, the decrease in milk protein + fat production is likely to be greater than this on many Australian farms, resulting in less profit when changing from TAD to OAD milking. To achieve comparable operating profit to TAD with OAD milking, the farm system would need to be well suited to OAD milking, and the implementation well planned and executed. The impact on profitability of switching to OAD milking is also sensitive to the amount of genuine savings of labour costs or real earnings from off-farm employment.

For the case study farm analysed, it is unlikely that increasing the stocking rate when switching to OAD milking will be an appropriate option. In situations where cows are consuming less grain per cow and more pasture per cow, it may be appropriate to increase stocking rate when switching to OAD milking.

A partial budget approach was used to analyse a short-term change to OAD milking for part of the lactation in 2006/07. The results suggest that the reduction in income and costs associated with OAD milking are approximately the same, provided there is also a reduction in labour costs. The marginal return also depends on the extent to which milk production decreases. Hence, it is important to investigate whether OAD milking suits an individual farm and then plan the implementation carefully. The marginal return was also sensitive to the price of the saved feed. The price of feed in 2006/07 was generally more than double the long-term price.



PROJECT OBJECTIVES

- ◆ **Analyse** the impacts of climate and seasonal variability and labour saving technologies on the profitability of dairy farming systems in Victoria.
- ◆ **Create** strong extension and research links.
- ◆ **Develop** capability in systems analyses.
- ◆ **Examine** the needs of other dairy regions or industries.

NEW STAFF

- ◆ Clare Leddin has joined the team as a Farming Systems Researcher following interviews conducted in early September. Clare will be based at DPI Warrnambool.
- ◆ Will Dalton from the DPI Policy group has joined the team to work on water policy issues associated with modernisation of irrigation infrastructure in northern Victoria.
- ◆ A graduate position through the DPI Graduate program will be appointed soon.

FURTHER INFORMATION:

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COMMUNICATION STRATEGY

- ◆ Lyndal Metcalf presented an outline of the communication plan for 2008/09 at the Steering Committee meeting in Kyabram on 28th August 2008. Key outcomes from the discussion were:
 - ➔ The project should continue to have a strong focus on policy issues and consider the Policy group as important end users, in addition to other end user groups previously identified.
 - ➔ There should be an increased emphasis placed on identifying users of the project's information by other groups (e.g. service providers and if and how they use information from the project when working with farmers).
- ◆ Bill Wales and Lyndal Metcalf are meeting with Penny Shaw (Program Manager Dairy) in October 2008 to discuss the effectiveness of the project linkages and communication strategies to extension in reaching a wider audience.
- ◆ Bill Wales is meeting with Murray Dairy in October 2008 to discuss their expectations, linkages and how effectively information from the project is reaching a wider audience.

COLLABORATION WITH OTHER PROJECTS

- ◆ The project team have been in discussions with Gavan Dwyer (NRM policy) and Bob Douglas (Melbourne Economics group) on how the different groups can work more closely together around FoodBowl Modernisation questions and issues. Bill Wales and Dan Armstrong have met with Gavan regarding linkages with the Policy group and have developed a draft project proposal on analysis of the impact of FoodBowl Modernisation on dairy farms.
- ◆ The project team met with the 30:30 and Whole Farm Systems & Analysis Tools project teams to discuss potential collaboration between the projects. Based on the focus, strengths and future directions of each project, it was proposed that the projects collaborate and work in with the south-west Victoria region over the next nine months.

PROJECT ACTIVITIES

- ◆ The project team attended an @Risk software training at the University of Melbourne on 22-23rd October 2008. The training is designed to build capability in risk analysis within the project team and will enable fluctuations in key farm variables and costs to be tested more easily.

- ◆ Janna, Dan and Christie have completed a draft report on the economic analysis of installing sub-surface drip irrigation for grazed perennial pastures in northern Victoria. General impressions from the Steering Committee were that it was a valuable analysis. Some additional analysis will be carried out following questions raised by the Committee. Janna and Dan have met with Lucy Finger to discuss the findings.
- ◆ The report on the analysis of automatic cup removers for various shed types and herd sizes has been finalised.
- ◆ The Gippsland Steering Committee held their 3rd meeting on the 10th July 2008. Progress on the analysis of development options for the case study farm were presented by the project team. Selection criteria for a second case study farm was discussed. Possible farm types considered were a farm with lower annual rainfall, a more or less intensive farm, and a farm that uses supplementary irrigation. The 4th Steering Committee meeting was held on 18th September 2008.
- ◆ In early July, Katherine Tarrant gave a presentation on the work she is undertaking on the project at the 2008 Undergraduate Research Conference. The conference was held at the National University of Singapore, and 51 students from 17 universities around the world attended. The purpose of the conference was to allow undergraduate students to showcase their research to an international audience of fellow students and academics, and to develop professional networks.

STAFF PROFILE

Lyndal Metcalf Dairy Extension Officer Northern Victoria

- ◆ Lyndal joined the project team about 2 years ago and is based at DPI Kyabram. She currently leads the extension arm of the project and is looking forward to developing and delivering activities to extend the recent and upcoming results from the project over the next 6 months.



- ◆ Lyndal has been a Dairy Extension Officer with DPI for over 3 years. She graduated from Melbourne University, Dookie College with a Bach of App Science and has previously worked as a milk factory field officer. Lyndal has also been a dairy farmer so is able to bring a practical perspective to the project.