FUTUREDAIRY information sheet

# Complementary Forage Rotations

## Economics

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An economic analysis of FutureDairy's Complementary Forages Rotation (CFR) has shown that farmers will need to consider carefully its costs and suitability to their dairy business.

A CFR involves growing two or three crops on the same area of land in a single year. The rotation may include a bulk crop such as maize, a legume for nitrogen and a brassica to break pest and disease cycles.

FutureDairy's CFRs at Camden, NSW have yielded more than 40t DM/ha/year for the past four years in a row.

An economic analysis conducted by FutureDairy showed clearly that a CFR was a more profitable option to a high input pasture system under certain circumstances but would not be viable for every dairy farm.

The study identified three key considerations in determining if a CFR is suited to a particular dairy business.

Firstly, implementing a CFR has no benefit unless the potential of pasture has been fully exploited. Dairy farmers should first focus on maximising their pasture management.

Secondly, the amount and price of grain fed affects the profitability. A CFR is a clear alternative to increasing the use of bought-in feed particularly at current and predicted future prices for concentrates (May 2008). This means the CFR may be an option for farmers wanting to expand production from limited land or irrigation water, which is the current situation in many Australian dairy regions.

When the cost of water is so high that it drives decisions about forage options, CFR should be considered.

The third consideration is the amount of area to commit to growing a CFR.

The study showed it is not worth growing a very small area of CFR. A case study indicated at least 10% of the dairying area would be needed.

This is because of the cost of infrastructure required to handle and feed out maize silage such as a silage wagon and feed pad. These costs can vary widely between farms.

The actual area of CFR grown on a farm may be limited by the availability and skills of farm staff and contracting services.

### About 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 explore how our findings work 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 researching 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 automatic 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 studying 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.

### Contact us

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