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FUTURE WATER

BEFORE THERE IS MILK – THERE IS WATER.

Dairy Australia's Future Water program researches ways to maximise farm profit through the use of irrigation water.

Access to suitable water is a crucial issue for all dairy farmers – particularly in a country like Australia that is often subject to drought. Dairy Australia wants to help farmers build businesses that are flexible and equipped for a successful future by maximising their water efficiency.

In a joint program with a range of partners, Future Water will research farming systems and alternative irrigation technology. It will look at methods and ideas that can be applied on working farms to make maximum efficient use of available water, and help ensure adequate continued supply in the years to come.

Sub-surface drip irrigation systems under grazing will be tested for different dairy production systems, to improve efficiency in water use.

Improved water usage is all about setting up farms that can continue to work and profit in the long term. It's important that farmers can be more confident of access to water and protecting their farm from droughts.

Looking even wider than the farm, Future Water is also an important environmental initiative. Another side of the research will be to look into further reducing dairying's impact on the environment, making sure dairy farming is seen by the community in a positive light.

FUTURE DECISION SUPPORT

DAIRY AUSTRALIA'S FUTURE DECISION SUPPORT PROGRAM WILL DEVELOP A WHOLE-FARM MODEL TO ALLOW:

1. Better Research and Development investment decisions
2. Better Research and Development questions
3. Better decision support tools for advisors.

The program covers a range of issues, from Research and Development investment, to strategic planning, to on-farm tactical

decisions. It explores how best to incorporate new technologies into farm operations and examines how to manage climate risk. As always, the program will include real-world ideas that can be applied in a practical, affordable way to improve the lives, businesses and future prospects of dairy farmers.

Depending on the complexity of a decision, the Future Decision Support program might produce a simple hard copy reference sheet, or a computer software system. For farmers, this means making decision-making easier.

The program is also being discussed with Meat and Livestock Australia to examine opportunities for our industries to work together. Benefits of the program are expected by about 2008.

FUTURE FORAGE

The Future Forage program is concentrated on rain fed farms in southern Australia, and includes the 30/30 project in Victoria, the 20/12 projects in Tasmania and South Australia and the Greener Pastures project in West Australia.

Pasture and forage costs account for a large proportion of a dairy farm's total costs. There is plenty of scope for improvement in forage production and use, and any improvements made can only help provide a sustainable lift in profitability.

The 30/30 project aims to boost return on assets by 30% through a 30% lift in forage utilisation. Project 30/30 is not about one-off gains, once again it's about looking for continued improvements in forage production and usage throughout the farm. Real gains in this area have the potential to contribute in a major way to overall farm productivity and profitability.

There's currently an excellent level of cooperation in place, with three of Dairy Australia's partner Regional Development Programs working on Project 30/30. Western Dairy is collaborating in the Greener Pastures project, while DairySA and DairyTas are engaged in 20/12.

Dairy Australia is also working with the University of Melbourne and the Department of Primary Industries Victoria in the Future Forage program.



Future Performance Dairy



INTRODUCTION/OVERVIEW

WELCOME TO THE FUTURE!

Dairy Australia's collection of "Future" research programs is designed to help farm businesses boost production, profit and sustainability.

Dairy farmers are creative by nature; they have to be. It's simply good sense for farmers to constantly investigate new methods to optimise production in ways that can help their business when nature or market forces work against them.

Some of these innovations they develop themselves. Sometimes what's needed is a bigger, industry driven-effort. That's where the dairy levy and Dairy Australia's skilled professional resources come together.

Dairy Australia conducts research into new systems, technology and practical new ideas that can make a farm more profitable.

Our farm research is focused on improving management of three main areas: the feedbase, animal performance and natural resources. In 2005/06, Dairy Australia will invest approximately \$12 million on projects in these three areas.

The company will continue its close working relationship with all State departments of agriculture or primary industry, the CSIRO and several universities. Cooperative work across this broad base of knowledge and resources helps Dairy Australia give farmers maximum value for their dairy levy contribution.

Dairy Australia's collection of major farm research projects - working under the "Future" umbrella are:

- Future Dairy
- Future Cows
- Future Grain
- Future Water
- Future Decision Support
- Future Forage

FUTURE DAIRY

Imagine a dairy farm that puts technology to work in ways that minimise labour and make farming life easier.

That's what Dairy Australia's Future Dairy is researching. It aims to test the boundaries of new feeding systems and technology in the dairy.

The research program looks at labour as a major variable cost in dairying. It seeks to apply technology to overcome labour costs, boost profitability and improve lifestyle.

The project is investigating new technologies like automated milking, sensors to estimate available pasture and remote video imagery of farm operations. The aim is to replace tedious, boring jobs with automated equipment. The research could assist with precision farming, where controlled systems help farmers to "think and plan" rather than just "do".

Every year for the next five years, Dairy Australia plans to invest about \$1.5 million on this important area of research. It will work in partnership with public and private sectors and Regional Development Programs and leverage this initial investment to benefit all Australian dairy farms.

Dairy Australia expects to see results from the forage research by 2006. The feeding and sensor research could yield results by 2008 and the milking work by about 2009.



FUTURE COWS

Dairy farm productivity over the past 10 years has risen - and improved genetics in dairy herds has played a big part in that improvement. It's estimated that genetics evaluation funded by Dairy Australia helps lift profit by \$6 per cow per year, every year.

The dairy industry has led the way in artificial breeding. Artificial insemination (AI) is common practise, with about 90% of all herds resulting from AI.

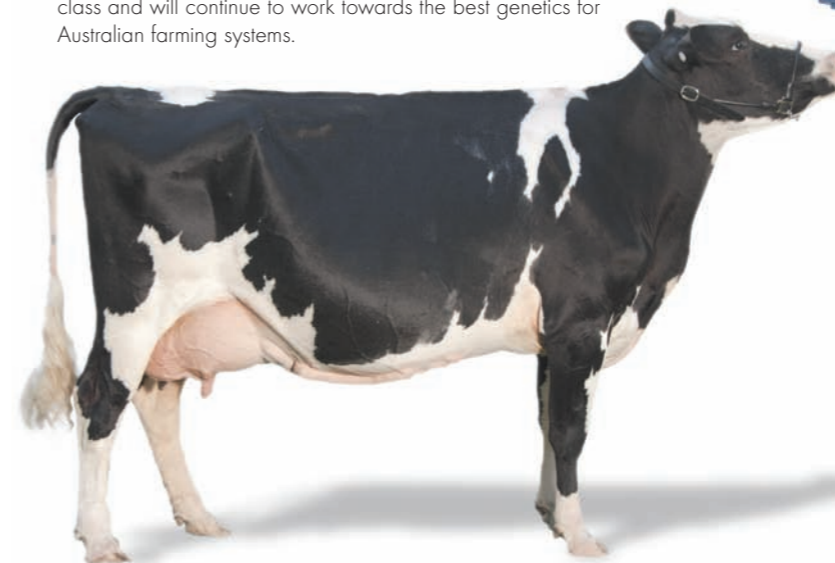
Dairy Australia's Future Cows research program is now focused on further accelerating the gains made through genetics, with a view to increasing the productivity in the entire national herd.

The research aims to do more than improve breeding systems whilst reducing negative effects on cows' fertility, health or longevity. It also sets out to develop a faster system of selection for elite bulls and more fertile heifers, and to identify cows that can be milked for extended periods.

Another Future Cows focus is to develop breeding strategies to produce cows that are "custom made" as the best and most profitable for a particular farm production system... the perfect cow for a given farm.

Specific research will target the damaging "Phantom Cow" phenomenon, where cows conceive, but lose the embryo and don't return to service for an extended time.

Previous Dairy Australia investment in genetics and reproduction has produced very good results. Australia's genetics program is world class and will continue to work towards the best genetics for Australian farming systems.



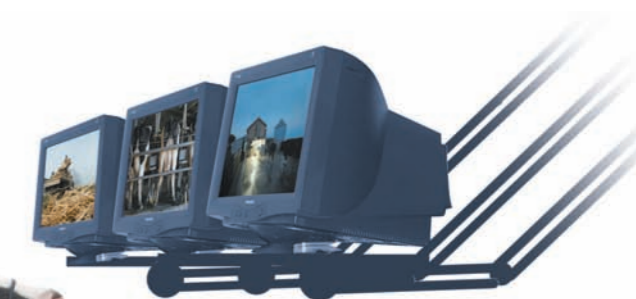
FUTURE GRAIN

Grain and concentrate feeding practices have grown in popularity among Australian dairy farmers in the past 15 years. Despite this, there are still conflicting opinions and confusion about the amount of grain feeding needed for profitable dairying.

Currently, grain feeding offers the Australian dairy industry a competitive edge over New Zealand.

Grain is expected to become relatively cheaper in the future, and with this in mind, Dairy Australia's Future Grain program is putting research into ways to get the most out of grain feeding.

The research aims to deepen our understanding of the relation between milk solids and grain feeding from cows at pasture. It will provide advisors and farmers with information on marginal responses to feeding cows another kilogram of grain, and the profit impact of this feeding.



Results from Future Grain research will be available by around 2008. They will provide dairy farmers with clear guidance on the productivity gains and profit impact that grain and concentrate feeding offers. From there on in, farmers will be able to make informed decisions on the feeding practises that could best benefit their farms.