

# Macalister Demonstration Farm

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## NEWSLETTER 33

Monday April 12<sup>th</sup> 2010



*Extension projects at the MDF are funded by Dairy Australia, Sustainability Victoria and Department of Agriculture, Fisheries and Forestry, with support from GippsDairy.*

### Is part of your irrigation system underperforming?

Join a discussion at the MDF led by Gavan Lamb, DPI Maffra, about the future of the bike shift paddocks and how we might improve their performance. What can we do to improve their current operation? Should we be looking at another system? What is the right system for that soil type? What investment makes the most financial sense?

**Macalister Demonstration Farm on Tuesday May 11<sup>th</sup> 10.30am-12.20pm**

Lunch provided

More information call Neil Baker on 0409 940 782

### Yellow Rag Bit

Jason McAinch, Dairy Advisor DPI Maffra

#### Unlocking the Potential on your Farm.

The **Feeding Pastures For Profit (FPFP)** program is about making the most of your resources. It's about working with what you have – rather than asking you to make large investments to change the way you do things. The program can assist with all dairying systems, whether they are large or small operations, irrigation or rainfall, high producing cows or low input.

The MDF use the principles from the FPFP program and have adapted them to their unique circumstances. Other farmers have said of the program:

Glen & Carol Morley – Gormandale – *“After 25 years of farming, we understand our farm better, we are more in control. It made us think, particularly the marginal response to inputs and about our whole farming system. We recommend every farmer does the program.”*

Peter Coulson – Sale – *“We have a complicated system; we have fescue pastures, annual and perennial ryegrass pastures, lucerne, rape and millet. It's easier with the rotation right tool. It has taken the thinking and calculating out of my head and allows me to think of other things.”*

Chris Nixon – Orbest – *“I am at least \$100, 000 better off, all 500 cows are milking better, I am growing more pasture and I am not over-sowing pasture as often.”*

Through understanding the principles and using the tools, participants get the most from the forage available, supplements and cows. How far you go is dependent on your own aims and needs. We will provide support to the group over a 12-month period with group days and individual farm visits. The aim of the on farm days is to challenge the way that we are currently managing our feeding, and look for opportunities to improve.

#### Who should consider participating?

FPFP is for dairy farm owners, managers and farm staff who are in charge of, or financially responsible for, the day to day decisions relating to the allocation of pasture and supplements to the dairy herd. The best results are realized when all members of the farm team attend the course days together.

Numbers in these programs are limited (Program 2 is booked out), so it will be 'first in best dressed':

Program 1 - Trafalgar. Bowling Club Monday May 10 and 17

Program 2 – Maffra DPI, Tuesdays, May 11 and 18

Program 3 – Modella Hall Tuesday May 11 and 18

Program 4 – Yarram, Tuesdays June 1 and 8

Program 5 – Maffra DPI, Thursdays June 3 and 10

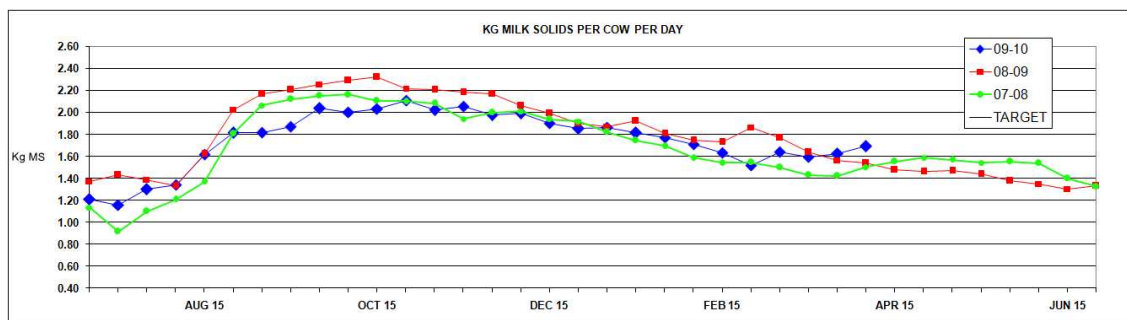
To register call Jason McAinch on 5147 0839, 0428 482 040 or [Jason.mcainch@dpi.vic.gov.au](mailto:Jason.mcainch@dpi.vic.gov.au) OR

Frank Mickan on 5624 2259, 0427 317 471 or [frank.mickan@dpi.vic.gov.au](mailto:frank.mickan@dpi.vic.gov.au)

## Macalister Demonstration Farm Profitability Project

Milk production has lifted from 1.52 to 1.69 kg MS per cow per day over the last month. The reasons are most likely:

- In late February when we included Rumensin and Tylan in the mineral pellet production crashed when the cows refused to eat it, or the grain, for a while.
- With the seasonal lift in milk price we decided to feed supplements heavily, erring on the side of feeding more grain rather than less, and giving them ad lib access to PKE in the paddock.
- The cows are not getting a great deal of grass (~8 kg), because 13 ha are being resown, but it is very good quality ryegrass. The grass diet is also very consistent, not having any fescue in the system.

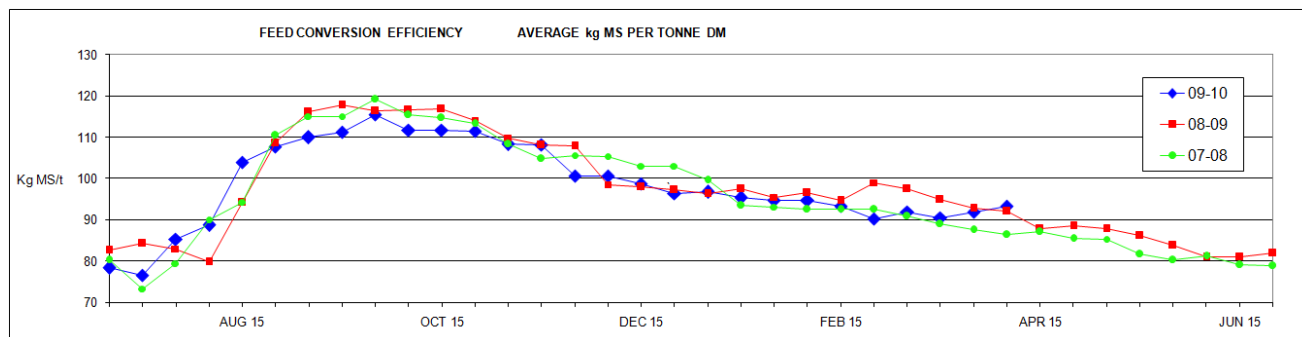


It shows that milk production per cow does not have to decline quickly, and in fact can lift, even late in lactation. With all the supplement in the diet feed price is relatively high but a very good margin is being achieved.

### FEED CONVERSION EFFICIENCY AND FEEDING PROFITABILITY.

In December last year Dairy Australia conducted a seminar on Feed Conversion Efficiency (FCE). The video of that seminar is still available to watch at the Dairy Australia website following these links: Home>Our Dairy Industry>Industry Forums>DairyLive.

The MDF has been calculating FCE for four years, measuring it as “milk solids produced per tonne of dry matter (DM) food”. This figure is the same as “grams of MS per kg of DM”. The graph below shows three years of FCE at the MDF. The FCE has increased over the recent two ten day periods, most likely because we have fed more grain, the grass is better quality, and the cows are taking in more.



Average FCE can range from 60 to 120 kg MS per tonne of feed dry matter. This means, using a milk price of \$4.50 per kg MS, a tonne of feed could return between \$240 and \$540, a wide range influencing the price of feed from which a margin could be made. So FCE is an important driver of feeding profitability.

Measuring FCE is not at all easy when cows are grazing pasture because it is not easy to know how much pasture they are eating. Measuring grass in the paddock, by plate meter or by eye, is not particularly accurate. The method the MDF uses to work out grass consumption, by back-calculating from milk production, is about as accurate. But it does make the feed conversion calculation somewhat circular. It calculates how much milk is being produced from the feed, including the grass, which has just been calculated from the milk! However the calculation still has some value; it does change over years and during the season; and it can be a framework to discuss the factors affecting FCE.

The following factors increase FCE:

- **High feed intake** is a major driver of FCE because it swamps the maintenance amount of food a cows needs every day. Intake level has a multitude of factors affecting it, including cow size, stage of lactation (12 weeks after calving cows have

high appetites), body condition at calving, milk production level (high milk drives high intake), quantity of feed on offer, ease of feed harvest, fibre and energy levels in the food, transitioning from dry cow to milking cow, etc.

- **Healthy cows.**
- High **feed quality** produces more milk per tonne.
- **A diet balanced for** energy, protein and fibre.
- A diet that remains **consistent** or is changed only gradually.
- Less feed going to increasing **body condition**.
- **Feed not wasted**, e.g. not bogged into the ground.
- Less feed going to **pregnancy**.
- **Walking distance** not too great, nor muddy, nor steep.
- Benign weather.
- Entering the herd no older than 2 years old and having many lactations.

All these factors interact with each other to some extent. For example, a balanced diet that is high quality and consistent over time will more likely ensure high intake. Many (most) factors have little to do with the cow herself, but more to do with how she is fed.

The table below represents what can be seen in the graph above. It shows the FCE at the MDF throughout the year, with comments on the different factors that may be influencing the FCE at the time.

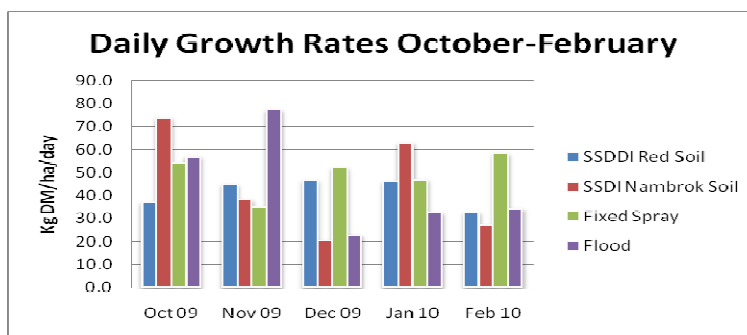
	FCE 2007/08	FCE 2008/09	FCE 2009/10	FCE	Appetite	Intake level	Pregnant	Body condition	Grass energy	Grass fibre	Weather
July	78	83	80	Lowest	Low	Low	Heavily	Gaining a lot	High	Low	Cold
Sept	116	117	112	Highest	High	High	Not	Losing a lot	High	Low	Nice
Nov	106	109	106	High	High	High	Not	Steady	Lower	Higher	Nice
Jan	95	96	96	Med	Med	Med	Small affect	Steady	Lower	High	Hot
Mar	89	95	91	Med	Med	Med	Small affect	Gaining	High	Low	Nice
May	82	86		Low	Low	Low	Increasing effect	Gaining	High	Low	Nice

Having said that feed efficiency is important and that it should be high, no performance indicator should be chased at all cost. There is no decision to improve one performance indicator that does not that does not have a counteracting affect on some other performance indicator. Chasing higher feed efficiency often causes the cost of feed to increase. It may increase so much that there is no overall gain. For example, a feed mixing wagon might improve ration balance, and therefore FCE, but its cost may increase the price of feed to the point of no gain.

### Sub-surface Drip Irrigation Update

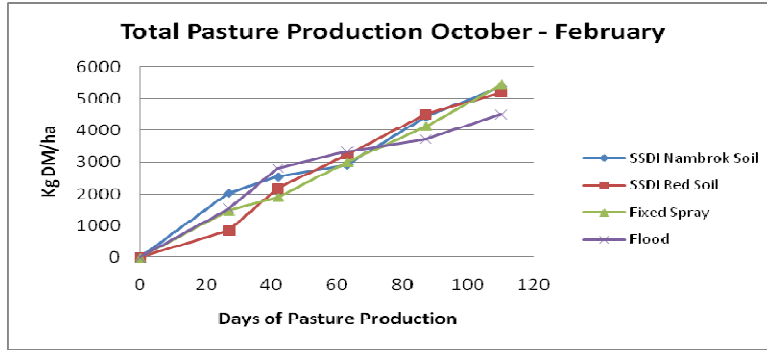
Monitoring of the sub-surface drip irrigation paddocks has continued over the season and some early comparisons can be made against the performance of both the fixed spray and flood irrigation systems. Fig. 1 below shows the daily growth rate measured in each month from Sept-Oct through to the end of February. You can see that the growth rate in both the red soil and Nambrok soil under sub-surface drip irrigation have been very inconsistent with dry periods and wet periods slowing growth as we have tried to work out the optimum irrigation scheduling. When moisture levels have been right the growth rates have been high, demonstrating the potential of the system. The growth rate in the Nambrok soil has typically been lower because it holds the moisture much better and has been a little too wet. The highest growth rate was achieved under flood irrigation at more than 75 kgDM/ha/day. The most consistent growth rate was achieved under the fixed sprays.

Fig. 1



Total pasture production over the season from September to February (Fig. 2) shows that the ups and downs under each system have largely been cancelled out with pasture growth under the sub-surface drip irrigation (both Nambrok and red soils) and fixed sprays almost the same, while pasture growth under flodd irrigation was just a little behind.

Fig. 2



We have had some issues with inconsistent delivery of water across some of the blocks that showed up as dry strips along the tape. Investigation has shown that some of the dripper tape had a manufacturing fault that didn't allow the emitter flap to open fully or, in some cases, at all. Netafim, the supplier of the dripper tape, has agreed to replace the tape in the worst of the blocks and that will commence within the next week.

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