Macalister Demonstration Farm

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NEWSLETTER 55

Monday August 29th 2011

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

Macalister Demonstration Farm

Annual General Meeting &

Dairy Industry Dinner

with special guest

Minister for Water, Minister for Agriculture & Food Security

Hon. Peter Walsh MLA

'Water policy in the Gippsland region and the future of the 2030 Modernisation Project'

TUESDAY 18TH OCTOBER, 2011

Duart Reception Rooms, McLean St, Maffra

Pre-dinner savouries at 6pm, MDF Annual General Meeting at 6.30 pm

followed by dinner at 7pm and the presentation of the RF (Bob) Pitman Award

The complimentary dinner (drinks at bar prices) is an MDF shareholder priority event but is now open to all MID dairy farmers for bookings on a first come first served basis.

RSVP to Neil Baker at mdf@wideband.net.au, PO Box 87, Maffra 3860 or phone 0488 175 366

NOTE: The MDF Annual Field Day will be scheduled later in the year

Yellow Rag Bit

Bree Walshe, Dairy Advisor DPI Maffra

Spring has sprung…….. what's my fodder position?

Here we are in the last week of August, with September knocking on our door. The fruit trees are blossoming, the birds are flirting and the grass is starting to grow. Approximately 40% of the years pasture is grown in September, October, November, so there are a few questions we need to consider over our morning cuppa:

- What are the growing conditions - soil moisture and soil temperature - doing on my farm?
- How much fodder do I need?
- Do I want to actively seek and grow surplus feed to my cow's requirements?
- How much do I want to spend to grow this feed (water, nitrogen, fertiliser)?
- What does the rest of the state look like in the lead up to Spring? Does it look like there will be a lot of fodder around?
- Do I want to grow and conserve the fodder myself, or do I want to let someone else grow it and purchase it on the market later?

- Now that you have considered your fodder needs and where you think this might come from – you need to reflect on last season's efforts. How well do you think you managed your fodder surplus? What can you do better this year?

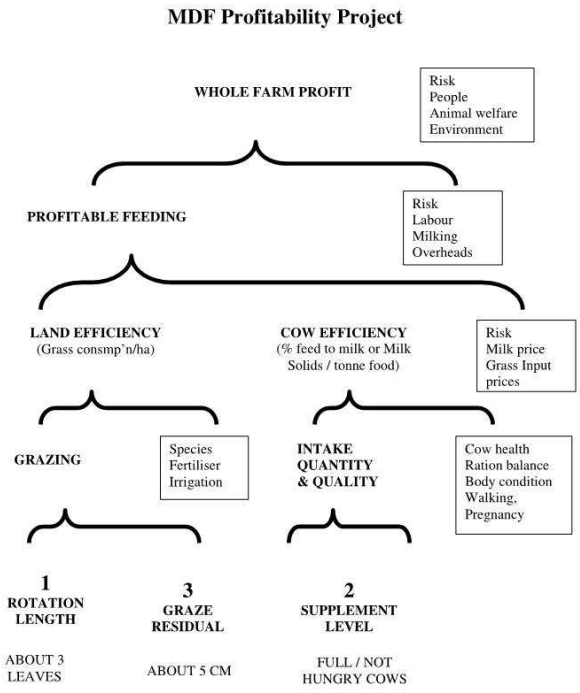
Ask yourself a few more questions focusing on quality:

- What is the quality of silage you are feeding or have just finished feeding out?
    - Does it smell nice?
    - Is there any mould?
    - Is it leafy?
    - Are the cows wasting any?
- Will I target certain paddocks for silage?
    - Areas that grow the best feed?
    - The furthest from the dairy?
    - Or those that need topping?
- Will I aim for the number of pit's I usually cut, or do I make smaller pits and more of them, to increase quality?
    - Do the sums
- Once I have reached my fodder target, what am I going to do with the (potential) surplus, how will I store it?
    - Example: wrapping bales with six layers of wrap instead of four, to enhance storage life

For further information please contact a DPI Maffra Dairy Extension Officer on 5147 0800, or your trusted agronomist or consultant.

Macalister Demonstration Farm Profitability Project

The MDF's approach to achieving profit, with its major emphasis on feeding profitability, can be described by the flow chart below.



Starting at the top, whole farm profit is the aim, while considering and looking after the issues in the shaded box to the right: risk, the effects on the people involved, animal welfare and the environment.

The next layer down feeds into profit. The main focus is on profitable feeding, while always considering the issues in the shaded box to the right: risk, how the chasing of feeding profitability might affect the level of work required, the milk harvesting, and all the other overhead costs of the farm.

Moving down again, to achieve feeding profitability two main efficiencies are needed: the land needs to produce a lot of grass and each cow needs to produce a lot of milk. These two need to be achieved while always considering the issues in the shaded box to the right: the risk of certain feed settings, the milk price, and the input prices of purchased feed and grass growing costs, such as fertiliser and water.

Good grazing management is very important to achieve land efficiency. The issues in the shaded box to the right, what level of pasture renovation, fertiliser and irrigation water have whatever they need spent on them.

Cow efficiency depends mostly on each cow's quantity and quality of food intake, and to maximise cow efficiency she needs to be kept full with high quality food. However, once again, the issues in the box to the right - the actual ration balance, cow health, and her body condition and pregnancy needs - are important too and will not be compromised, by spending whatever is required.

Good grazing is driven by two factors: how long to rest each paddock at differing times of the year to achieve optimum grass growth, quality, and utilisation by the cow or the silage mower; and, to what grass residual height the cow should graze down to, to achieve good regrowth and quality, ready for the next grazing.

The bottom three numbered items - rotation length, grazing residue and maintaining a full cow - are the Feeding Pastures for Profit control points. They all can be set at varying levels. They need to be monitored and decisions made about them continually.

Frank Tyndall 0409 940 782

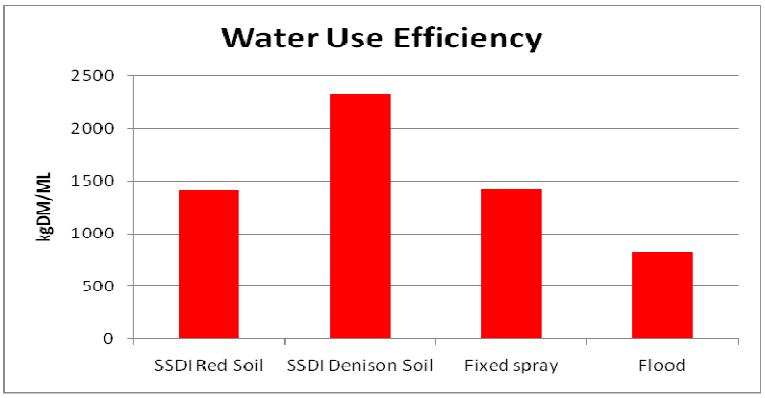
Sub-surface Drip Irrigation Project 2011 Update

The very wet summer of 2010-11 meant that no meaningful data could be collected to continue to compare the three irrigation systems or to evaluate the new section laid at a 500mm spacing. However, with more information gathetred, it was possible to calculate the irrigation application rate for the SSDI system to then compare the application rates and water use efficiency with the other systems. These calculations were made for the 2009-10 season when the irrigation requirement based on plant evapotranspiration was calculated at 3.1 ML/ha for the season. For the fixed spray paddock 8 ML/ha was applied for 7,578 kgDM/ha, flood paddock 7.3 ML/ha (5,780 kgDM/ha), for SSDI Red soil 4.6 ML/ha (6,599 kg DM/ha)and SSDI Denison soil 2.6 ML/ha was applied (7,337 kg DM/ha).

The amount of water applied by fixed spray seems well in excess of plant requirements (double checked against electricity use records) so there were probably significant losses to deep drainage

Water use efficiency was measured as the amount of dry matter grown per megalitre of water. This efficiency measure over the season is complicated by the interaction between rainfall and irrigation. To compare water use efficiency properly, a period of pasture growth between grazings that had no rainfall and therefore was subject only to an irrigation effect had to be chosen. Only one such period was identified in the three seasons of monitoring so the results presented in Fig. 1 need to be viewed with some qualification.

Fig. 1: Comparison of water use efficiency between irrigation systems (Jan 2010)



SSDI on the duplex Denison soil was clearly the most water efficient with pasture production per megalitre 58% higher than that under fixed spray, 64% higher than for red soil under SSDI and a massive 180% higher than flood irrigation on a duplex soil.

More important is weighing efficiency gains against installation and running costs. As has already been mentioned, the installation cost for SSDI is much higher than the alternatives of fixed sprays and land forming for flood irrigation. It was also assumed at the outset that running costs would be low for SSDI because of the low pressure (around 20 metres of head) needed at the emitter for optimum performance. What has since emerged is that the SSDI pump needs to deliver a pressure of 32 metres of head in order for the filtration system to work efficiently. This compares to 55 metres of head for the pressurized fixed spray system. On top of that, because of the lower flow rates, the SSDI pump runs for about twice the time that the fixed spray pump runs at each watering. Electricity consumption for each irrigation system in 2009-10 was calculated: Flood irrigation 0 kWh/ha, fixed spray irrigation 1,188 kWh/ha, SSDI Red soil 919 kWh/ha and SSDI Denison soil 442 kWh/ha.

So, where does that leave us? Is SSDI as worthwhile investment for water use efficiency, productivity and profitability? Final project recommendations will be in the next issue of the MDF Newsletter.

Neil Baker 0488 175 366

SENDER:

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