

# Macalister Demonstration Farm

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## NEWSLETTER 70

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### TRIALS CURRENTLY UNDERWAY AT MACALISTER DEMONSTRATION FARM

**Project Name:** Determining the pasture production response to eco-n

**Project Objectives:** The key objective is to measure the pasture production response to eco-n (DCD nitrification inhibitor) in the pasture based irrigated dairy system.

Eco-n is a nitrification inhibitor which, in New Zealand, has been proven to reduce nitrate leaching, reduce nitrous oxide emissions and increase pasture production, as documented in 20+ peer reviewed, published papers. As a result of this research, and the increasing environmental and economic pressures on dairy farmers in NZ, the adoption of eco-n is continuing to increase. In NZ, dairy farmers who use eco-n have the potential to maintain their production while reducing their environmental footprint, or depending on the system, increase production without increasing their environmental footprint.

Project outputs include:

Pasture measurements from control and eco-n treatment plots within the grazed pasture dairy system, with the results showing trends comparing pasture growth from control vs eco-n treatment plots.

The Macalister Demonstration Farm data will also be combined with other local Gippsland measurement data, and then data from South West Victoria to establish monthly and annual pasture responses to eco-n

**Results:** The trial plots have been established and managed within the normal farm operations. A field day will be held at the conclusion of the trial to showcase the trial and discuss any trends that may be emerging.

**Contact:** If you are interested in obtaining further information about this project contact Sandie Brown on 0488 175 366 or by email at [mdf@wideband.net.au](mailto:mdf@wideband.net.au)

# Macalister Demonstration Farm Profitability Project

People management at the MDF is at a heightened level at the moment, having just put on two new managers, John Gatundu, from Kenya, and Anastasia Kadyrashova, from Siberia.

And a major people issue is Standard Operating Procedures (SOPs). SOPs provide the foundation for:

- The job description.
- The advertisement.
- Individual performance.
- Feedback and performance appraisal.
- Training.

You can access a great set of SOPs at the Dairy Australia People in Dairy web site. Plenty of SOPs are written for machinery and equipment use but not many for managing such things as feeding. Standard operating procedures for one farm rarely suit another. Below is a selection of the MDF feeding SOP's. They are a work in progress, as SOPs should always be.

## 9 FEEDING

### 9.1 Cow feed intake and ration balance

- **Calculate** energy, protein and fibre **requirements of cows**.
- Ensure the **feed ration is balanced** to provide the energy, protein and fibre requirements of the cows.
- Feed minerals and additives.
- Ensure consistent pasture quality and quantity on offer each day.
- The **vat** volume should **not fluctuate more than 5%** each day.
- Decide **which supplementary feed to buy and use** based on herd ration requirements, feed price, quality and availability, and the ability to feed it with little waste.
- Do **not chop and change supplementary feeds** on a daily basis; a feed type change should remain in place for at least four weeks.
- **Change ration very slowly**, no more than 0.3 kg DM change of any feed per day.
- To ensure cows eat of lot of quality feed, endeavour to offer a lot of quality pasture, and then provide high quality purchased supplements.
- To ensure high intake at any time, **feed cows well continually**, because the current ability to eat depends on milk production level, which is the result of previous feeding.
- Judge whether to feed more or less supplement by **observing**
  - the pasture residue,
  - whether cows are full, and
  - the milk response **in the vat**.
- Milk composition should be at least **4.2% fat and 3.3% protein**.
- Check rumination, urine scalding, manure consistency and smell.
- Aim for a milk production decline of no more than 4% each month.
- Body condition **score at calving to be 5.5**, at mid lactation 4.7, and at drying off 5.0.
- Body condition score should not change more than 0.2 kg LWT per day.

### 9.2 Concentrates

- **Assess** the quality, density, and screenings, of **every truck load** of concentrates.
- Check **weigh grain from feed system** weekly, and adjust if necessary.
- Collect, in a plastic bag, and weigh concentrate from one feed dropper.
- Calculate concentrate per cow, allowing for feed drop positions and cows on platform.
- Ensure grain concentrate crushed properly.
- Monitor quantity and quality of **concentrate in storage**.
- Observe silo window and **order more** concentrate if needed.
- **Avoid waste of feed** via birds, vermin, wind, rain, water, falling on floor or ground.

## 10. GRAZING PASTURE & CROPS

- Choose which **paddock is next best to graze**, based on leaf stage, grass quantity, rust, vulnerability to pugging, and shade on a hot day.
- **Avoid pugging** of pasture at all costs.
- Always check paddock with **heel test** to assess if too soft to carry cows.
- Achieve an actual grazing rest time for each paddock that produces **3 leaves re-grown, without the grass falling over**.
- Once a paddock is started, **graze it day and night until finished**. Do not have specific “day and night” paddocks.
- Always **judge each paddock, and all parts of it, just prior to grazing for its grass quantity and quality**, and determine all **reasons why it has or has not performed well**.
- Use the Rotation Right tool **to calculate the number of feeds** to get from each paddock.
- If a paddock has performed better or worse than normal, **override the Rotation Right tool’s** number of grazings, **to ensure milking feed is not wasted** or conversely **the cows get a consistent daily amount of grass**.
- If this paddock’s worse or better performance is likely to continue, **adjust paddock’s available feed** rating in the Rotation Right tool.
- Always judge each paddock just prior to grazing for leaf stage, and use that information to **adjust the grazing allocation**.
- Set up a temporary electric fence to **allocate proportion of paddock required**.
- Set temporary fences to **allow unlimited access to water**.
- Set temporary fences to **avoid back-grazing**.
- **Check each paddock residue** after grazing, and use that information to judge whether silage should be conserved or conversely more supplement fed.
- For good **utilisation of the paddock** at that grazing, and for good **future paddock performance**, the **residue should be 6 cm** over most of the paddock.
- For **good cow performance**, **do not force the cows to eat any poor quality grass that they have to be hungry to eat**.
- If after grazing, **more than 30%** of the paddock is poor quality grass above 6 cm, **mow it to 6 cm**.
- In the first few days, when grazing a **new crop**, **check the cows hourly**.
- Do not allow animals into windbreaks.

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