

Macalister Demonstration Farm

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NEWSLETTER 71

Monday August 6th 2012



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

Yellow Rag Bit

Maria Rose Dairy Advisor, DPI Maffra

TAKING CARE OF PUGGED PASTURES

Flood rain in June resulted in noticeable pugging problems in some MID irrigated pastures, which will be magnified by future irrigation. Key questions MID affected dairy farmers have recently asked are;

- What are key signs to look for regarding treatment and how best do I do this?
- When should I start repair and renovation procedures and to what level?
- What are my treatment options and the associated management changes required?

The following points worth considering relate to these queries:

1. Determine the current status of pugging by doing paddock inspections

Assess pasture and soil compaction within pugged areas. Observe what you see in a 1 metre square area. Look at how much bare ground to grass is present and how much grass is covered with light soil steeped in mud, or dying.

Look closely at pugged soil. If the soil holds together well, it is probably still too moist and may smear if drilled, hindering seedling and root growth. A clump of soil taken from the top 0 to 10 cm should break in your hand if it is at the correct moisture level for forming an adequate seedbed.

Categorise your affected paddocks as Light, Medium or Severe pugging. Decide what area is pugged & how deep pug marks are. A "PUGGOLOGY CHART" helps greatly - *you can get one of these from me.*

2. Consider appropriate treatment options in consultation with your trusted agronomist.

Light pugging example:

Possible Assessment: The paddock before flooding performed well and is now still quite clean (weeds wise), having suffered light, pugging damage.

Possible treatment option: Consider over-sowing* after last grazing with existing permanent species. Once struck, check for shading effects from existing pasture as an immediate light grazing may be required to provide optimum growing conditions for the new plants.

Medium pugging example:

Possible Assessment: The paddock before flooding was performing reasonably well but not that well and/or was on your potential list to renovate in the future. You have assessed this pasture at a medium pugging level as it is weedy with some bare patches. There may be other paddocks that take priority due to more pugging damage.

Possible treatment option: Consider over-sowing* after last grazing with a bi-annual species. Consider using a relevant ryegrass variety with good early vigour that will likely fill in bare patches for two growing seasons; giving you time to think more seriously about renovation options for the whole farm.

***Aim to over-sow before/around 15th August as this is when soil temperatures start to warm up; maximising over-sown pasture establishment chances.**

Severe pugging example:

Possible Assessment: The paddock at assessment time is still quite wet, pasture is pressed into mud and there are lots of bare patches indicating a severe level of pugging.

Possible treatment option: Consider summer cropping to clean up the paddock. In most cases, if the soil is severely pugged, it will be far too moist to work on soon. So it's best to plan on mid October for the sowing of relevant species.

For more information on what plant species to consider in treating pugged pastures talk to a locally based agronomist. Contact Maria Rose on 51470800 or maria.rose@dpi.vic.gov.au for more ideas or to obtain copies of two recent DPI publications (including the PUGGOLOGY CHART) that expand on the issues discussed above.

Macalister Demonstration Farm Profitability Project

The previous newsletter contained the MDF's Standard Operating Procedures for cow feeding (cow feed intake and ration balance) and pasture grazing. Below are its SOP's for growing pasture.

10.2 PASTURE PRODUCTION

- Achieve pasture consumption at least 13 t DM per hectare.
- Do not exceed pasture input spending of \$1,100 per hectare per year.

10.3 PKS FERTILISER AND LIME

- Determine **soil fertiliser program** using soil fertility testing and pasture production.
- Ensure fertiliser spreader equipment is functioning and set properly, and the travel speed and the distance between passes, all result in **fertiliser being spread uniformly over paddock at the required rate**.
- Do not spread fertiliser near troughs, tree breaks, gateways, and laneways.
- **Avoid spills** of fertiliser from spreader; do not allow cow access to spills; clean them up.
- Apply molybdenum every 5 years.
- Apply lime on paddocks with a pH (in water) of less than 5.3.
- Order fertiliser and provide clear spreading instructions to driver.
- **Open all gates** for fertiliser spreader, and shut afterwards.

10.4 NITROGEN FERTILISER

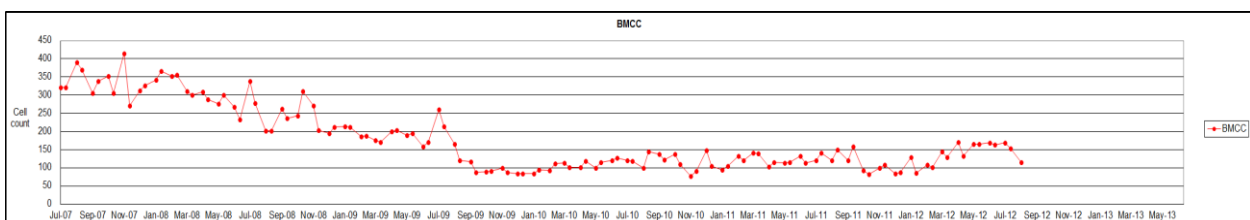
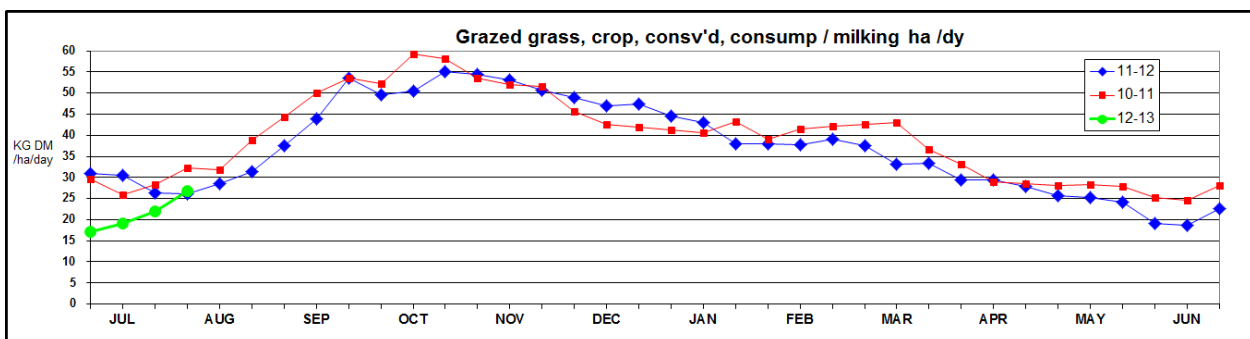
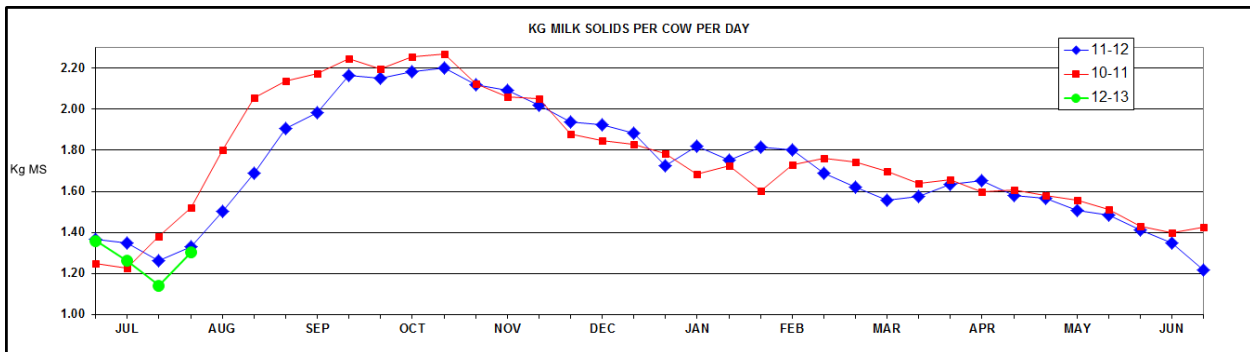
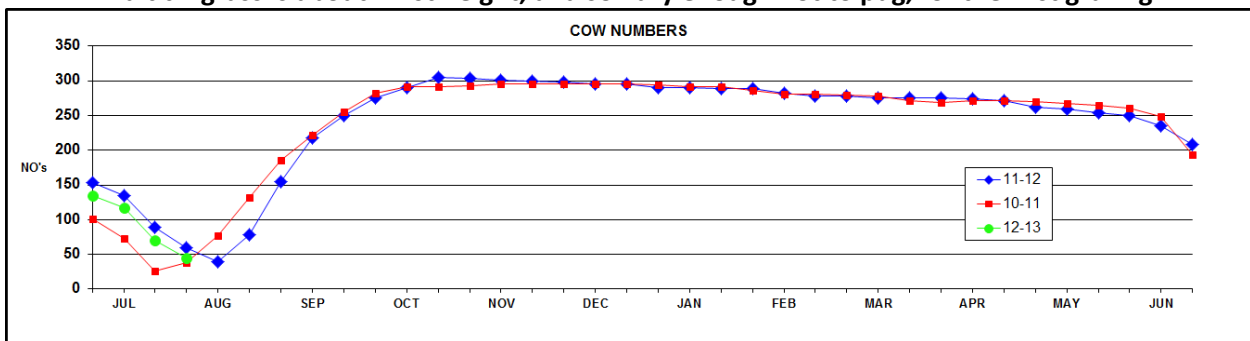
- **Decide nitrogen application** (rate and paddocks) based on future growing conditions.
- Apply nitrogen within two days after grazing, all year.
- After N application, allow pasture to **re-grow before grazing to at least 2.5 leaves**.
- Prior to grazing a paddock **check for different colour and quantity strips**, to judge effectiveness of spreading uniformity.

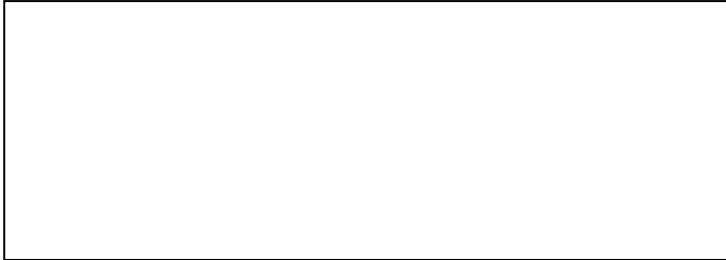
10.5 IRRIGATION AND DRAINAGE

- Regularly **assess soil moisture** over whole farm with shovel, electric fence peg, or tensiometer.
- Irrigate when soil moisture indicates, say at **40 kPa deficit**.
- Check **rain forecast** regularly, and always prior to ordering water and irrigating.
- Use high flood flow to achieve short (less than 3 hours) flow onto bay time.
- Check **outlets** often to ensure they **do not leak** after shutoff.
- Start bike-shift spray irrigation before other methods.
- Always **use re-use dam water first** to have storage capacity available.
- Ensure **channels**, drains and channel structures (crossings, checks, outlets) are **free from weeds** and obstructions.
- Channels to be sprayed with Diuron plus Weedazol by 15 July.
- All irrigation channels and drains to be free of weeds by 15 August.
- Channels to be sprayed regularly during the irrigation season with Roundup.
- **Maintain surface drains** (spinner cuts) to minimise surface water time on bays.
- Ensure surface drains are straight and 50 mm deep.
- Bike-shift sprays to be run nightly and on weekends when possible.
- With pump running in daylight do a fortnightly **close-up check** to ensure pump function, no leaks anywhere, and full water delivery from every single **spray head**.
- Clean, fix, or **replace any problem spray head** immediately.
- Once per year **set out catch cans** to check water application quantity and uniformity.
- **Read flow meters** before and after each irrigation and record water quantity used.
- Calculate and record **water use rate** (ml per hectare) for each section, each irrigation.
- Regularly check water usage against **water budget**, preparing to buy or sell water.
- Re-use **pump to be serviced** every 100 hrs of use.
- Check all filters.
- Keep pump sheds clean and tidy.
- Check the whole farm for poorly drained spots (in paddock corners, in gateways, along edges of lanes, etc.) and drain them.

10.6 PASTURE RENOVATION

- Four times per year inspect paddocks for grass, clover and weed composition to **judge if improvement is necessary**.
- **Ascertain the reasons for any poor composition**, and judge whether better soil moisture, nutrient or grazing could improve it, or if there is a need for resowing.
- Spend no more than \$7,000 per year on pasture renovation.
- **Avoid cultivation.**
- Spray a herbicide to reduce competition to new seedlings from existing grass and weeds.
- Remove any high residue by hard grazing with dry cows or heifers, or by mowing.
- Sow early to mid-March.
- Sow only ryegrass.
- Ensure the seeder is calibrated, and operated, to **deliver the right rate of seed uniformly across the whole paddock and at a consistent 1 cm depth**.
- **Inspect for sowing performance** every 30 minutes while sowing.
- After germination, if weeds dominate, spray them.
- **Wait till grass is about wrist height, and soil dry enough not to pug, for the first grazing.**





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