Macalister Demonstration Farm

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NEWSLETTER 6

Monday, Aug 4th, 2008

Extension projects at the MDF are funded by Dairy Australia and the Gardiner Foundation with support from GippsDairy.

A total of $43,000 ($632/ha) was spent on fertiliser last season (2007-08) at the MDF, to consume 13 tonne of pasture per hectare. That is, fertiliser cost $49 per tonne of grass. $31,000 was spent on Nitrogen, $6,000 on Phosphorus and $6,000 on Potassium. The next table shows how much element was applied on average over the farm.

MDF fertiliser applied 2007-08	
Element	Application rate of element- (kg/ha)
Nitrogen	286
Phosphorus	22
Potassium	76
Sulphur	13

The next page shows MDF soil tests sampled in March 2007 and June 2008. Comments on each row explain what the results mean for the MDF and what we might do. The main issues are that we will stop applying phosphorus, (we applied only half maintenance last year), and continue applying potassium. Salinity and pH do not appear to be a problem, but Sodium levels do appear high, particularly at the east end of the farm, irrigated mostly by the bore. Too much Sodium reduces soil structure.

We have used quite a bit of Nitrogen and have spent the most on that element. As with all fertilisers, its price has risen considerably. We are aiming for 16 tonne of grass consumed per hectare this year and that's unlikely to happen without the use of Nitrogen. The table below shows possible cost of grass grown with N. With a good grass response to the N, and current milk price, there is still a margin.

Price of grass grown with Nitrogen fertiliser			
Urea price	N element price	Grass Response (kg DM/kg element)	Price of N grown grass ($/tonne)
$1,200	$2.61	10	$261
$1,200	$2.61	15	$174
$1,200	$2.61	20	$130
$800	$1.74	10	$174
$800	$1.74	15	$116
$800	$1.74	20	$87

MACALISTER DEMONSTRATION FARM SOIL TESTS

		Fixed spray, west end of farm		Recently lasered, middle of farm	Old flood, middle of farm		Lasered flood, east end		Bike shift, from bore, east end		Lasered flood, east end		Averages			
		Mar-07	Jun-08	Jun-08	Mar-07	Jun-08	Mar-07	Jun-08	Mar-07	Jun-08	Mar-07	Jun-08	Mar-07	Jun-08		
	UNITS	Pdk 7	Pdk 8	Pdk 15	Pdk 16	Pdk 16	Pdk 23	Pdk 23	Pdk 27	Pdk 27	Pdk 34	Pdk 34	AVGE	AVGE	Suggested desireable	Comments
Phosphorus (Olsen)	mg/kg	60	101	42	44	40	36	33	27	53	37	52	**41**	**54**	20 to 30	Will not use any Phosphorus this year, particularly considering its price.
Phosphorus Buffering Index		117	150	86	104	110	105	130	93	95	97	97	**103**	**111**	Range: 35 to 840	The MDF soil does not fix P very strongly.
Potassium (Colwell)	mg/kg	192	190	350	267	180	178	170	179	210	201	230	**203**	**222**	200 to 350	Need to keep applying Potassium
Sulphur (KCl40)	mg/kg	16	27	16	24	20	28	23	21	25	27	19	**23**	**22**	10 to 25	Got heaps of Suphur.
pH (1:5 water)		5.3	5.3	5.8	5.7	5.7	6.1	6.5	6.9	7.1	6.6	7.0	**6.1**	**6.2**	5.8 to 7.0	pH not bad, except fixed spray paddocks (7&8) getting a bit low.
Calculated ECe (Salinity)	dS/m	1.01	0.91	0.98	1.03	0.91	1.63	1.82	1.91	2.24	1.74	1.75	**1.46**	**1.44**	< 1.8 is very low	Salinity does not seem to be a problem, east end of farm higher.
Organic Carbon	%	4.63	3.80	2.70	4.09	3.60	4.59	3.90	4.84	5.00	3.36	3.40	**4.30**	**3.73**	1.95 to 2.9	Organic carbon could be a bit higher.
Calcium (Exch)	meq/100 g	6.62	6.00	4.50	7.67	6.00	7.09	5.00	8.19	6.00	8.81	7.50	**7.68**	**5.83**	8 to 18	Calcium is a little low
Magnesium (Exch)	meq/100 g	2.84	2.80	2.40	2.51	2.50	4.46	4.20	6.76	6.30	3.18	3.60	**3.95**	**3.63**	2 to 5	Plenty of Magnesium.
Sodium (Exch)	meq/100 g	0.40	0.15	0.27	0.34	0.28	1.56	1.70	3.29	2.30	1.35	1.40	**1.39**	**1.02**	Less than 0.6 to 1.5	Sodium is too high at the east end of farm.
Potassium (Exch)	meq/100 g	0.43	0.48	0.90	0.61	0.45	0.47	0.44	0.34	0.53	0.47	0.59	**0.46**	**0.57**	0.6 to 1.5	Potassium looks a bit low, highest in Pdk 15, stirred up by laser grading.
Aluminium (Exch)	meq/100 g	0.07	0.18	0.10	0.04	0.11	0.01		0.01		0.01		**0.03**	**0.07**	Less than 0.01 is low	Aluminium does not seem too high
Sum of cations	meq/100 g	10.36	9.61	8.17	11.17	9.34	13.59	11.30	18.59	15.10	13.82	13.10	**13.5**	**11.1**	Greater than 12	A bit low west end of farm.
Calcium % of cations	%	64%	62%	55%	69%	64%	52%	44%	44%	40%	64%	57%	**59%**	**54%**	65% to 80%	Bit low, partic on bore irrigation areas (east end).
Magnesium % of cations	%	27%	29%	29%	22%	27%	33%	37%	36%	42%	23%	27%	**28%**	**32%**	10% to 20%	Plenty of Magnesium.
Sodium % of cations	%	3.9%	1.6%	3.3%	3.0%	3.0%	11.5%	15.0%	17.7%	15.0%	9.8%	11.0%	**9.2%**	**8.2%**	0 to 1%	A problem; considering gypsum, so the Calcium pushes the Sodium out
Potassium % of cations	%	4.2%	5.0%	11.0%	5.5%	4.8%	3.5%	3.9%	1.8%	3.5%	3.4%	4.5%	**3.7%**	**5.5%**	3% to 8%	Bit low, except for stirred up Pdk 15
Aluminium % of cations	%	0.7%	1.9%	1.2%	0.4%	1.2%	0.1%		0.1%		0.1%		**0.2%**	**0.7%**	less than 1.0%	West end of farm might be a problem.
Calcium/Magnesium ratio		2.3	2.1	1.9	3.1	2.4	1.6	1.2	1.2	1.0	2.8	2.1	**2.2**	**1.8**	Greater than 2:1	This is a bit low at the east end of the farm
Magnesium/Potassium ratio		6.6	5.8	2.7	4.1	5.6	9.5	9.5	19.9	11.9	6.8	6.1	**9.4**	**6.9**	Greater than 1.5	Should not cause cow metabolic problems.
Potassium/Mg and Ca ratio		0.05	0.05	0.13	0.06	0.05	0.04	0.05	0.02	0.04	0.04	0.05	**0.04**	**0.06**	Less than .07	Should not cause cow metabolic problems.

The more mature of us in the Macalister dairying community will remember the Yellow Rag. It's back!

Yellow Rag Bit

Jason McAinch - Dairy Advisor, DPI, Maffra

Detail counts at this time of year. It seems a funny thing to say when it is a very busy calving cows and it is a struggle to just get the basics done. The detail I am referring to is recording.

- Cow calving details – for example recording retained membranes are a sign of many things, initial cow health but may also impact on in-calf rates later during joining.
- Record calf deaths – how many calves are we losing and when. Record all calves not just the females. This is important to identify if there is a problem with calving cow management, early calf management, bobby calf management or calf rearing management.

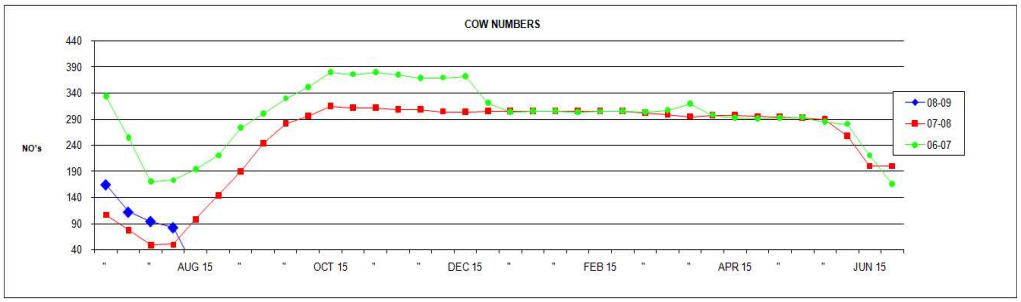
This time of year you also need to be able to relax at some time during every day – over breakfast maybe. People make errors that could cost large amounts of profit simply because of tiredness. So just like a cricketer at the non-strikers end, you need to know when to turn-off, relax and rest, then turn back on to the job/s on hand.

Coming up at MDF:

Grazing Management short course, Thursdays, starting September 4th 2008

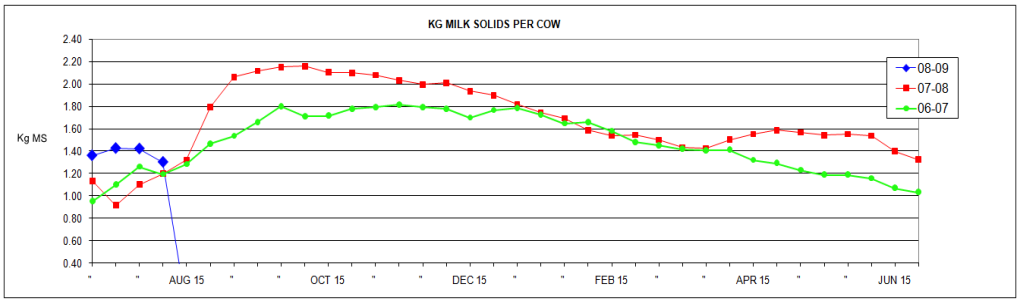
Seven Spring Sessions @MDF: various interesting topics, Wednesdays, starting September 24th.

GRAPHS



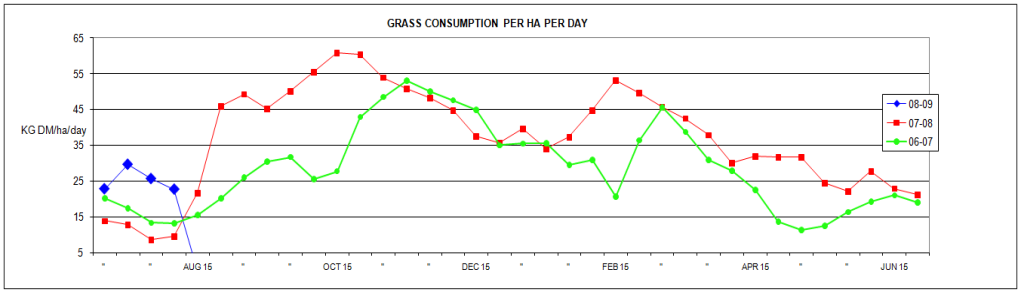
Cow numbers

We have milked more cows through winter this year compared to last year. 06-07 had autumn calving cows in July which were all sold in December.



Milk production per cow

The milk production per cow is holding above this time last year. It's from late lactation and empty cows only. The higher number of cows and higher milk production per cow has delivered 5,193kg MS for July (2,465 last July)



Pasture consumption

Grass consumption has held well through July. Soil temperature lifted from 8 to 9 last week, a good sign, but it could easily fall again.

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