

## Lincoln University Dairy Farm - Farm Walk notes

Tuesday 7 April 2015

**LUDF – focus for 2014/15 Season: Nil-Infrastructure, low input, low N-loss, high profit.**  
Farm system comprises 3.5 cows/ha (peak milked), 150kgN/ha, 300kgDM/cow imported supplement, plus winter most cows off farm. FWE of less than \$1.12million and Target production of 500kgMS/cow.

### Critical issues for the short term

1. **Achieve target grazing residuals and cow intakes while managing average pasture cover, shape of the wedge and maintaining pasture quality (especially in paddocks at the top of the wedge).**
2. **Use back-fences on all herds whenever paddock grazing takes more than 36 hours.**
3. **Residual management remains critical.**
4. **Make timely decisions around autumn management: culls, nitrogen use, winter feed, BCS and round length increases**

### Key Numbers - week ending Tuesday 7<sup>th</sup> April 2015

Ave Past Cover	2853 kgDM/ha	Past Growth Rate	60 kgDM/ha/day
Ave Milk Production	1.64 kgMS/cow*	No Cows In Milk	471
Round length	35.2 days	Supplement used	none
SCC	176,000	6-week InCalf	72%

(\* milk to factory from current cows milking)

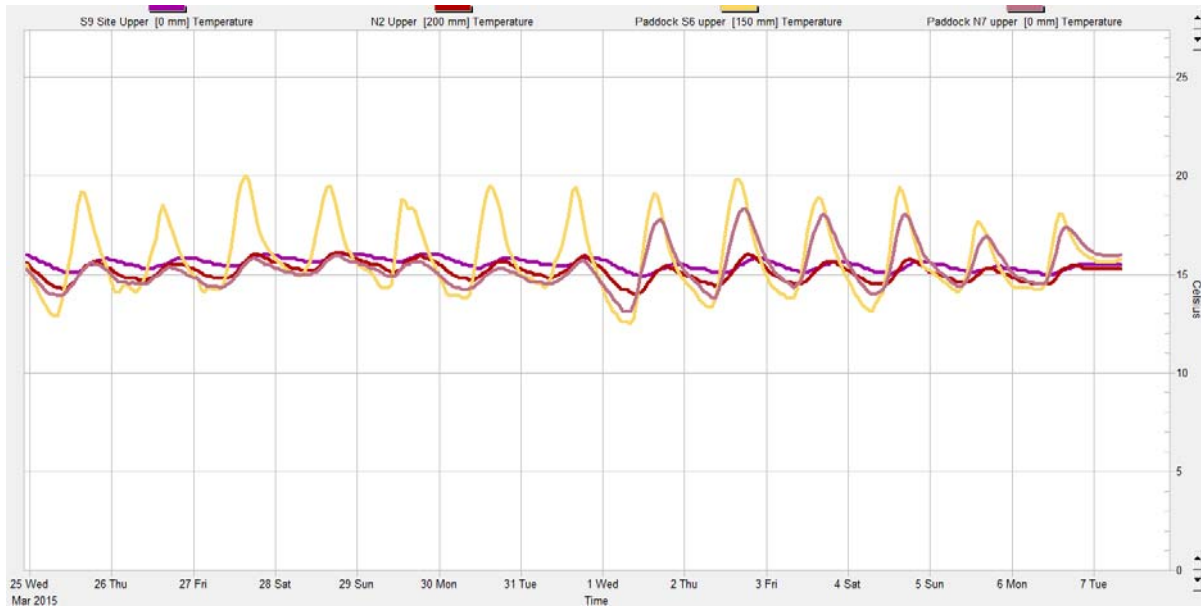
### Herd Management

5. We continue with a single 1 milking herd
6. Average Milk production for the week has increased slightly (0.1 kgMS/cow/day).
7. BCS done last week Wednesday. Average BCS came back as 4.25, staying stable from 2 week before. 418 cows (89.2%) are either 4 or 4.5 BCS, giving a very narrow range. Of the remainder, 9 were below BCS 4 and 41 are BCS 5 or greater. This is a good outcome, especially as the farm has run one herd since the beginning of March.
8. Average liveweight increased by 10 kg vs. last week, reversing last week's drop of 10kg. The weight gain is consistent across all groups.
9. There's 2 new mastitis cases and 3 new lameness cases this week

### Growing Conditions

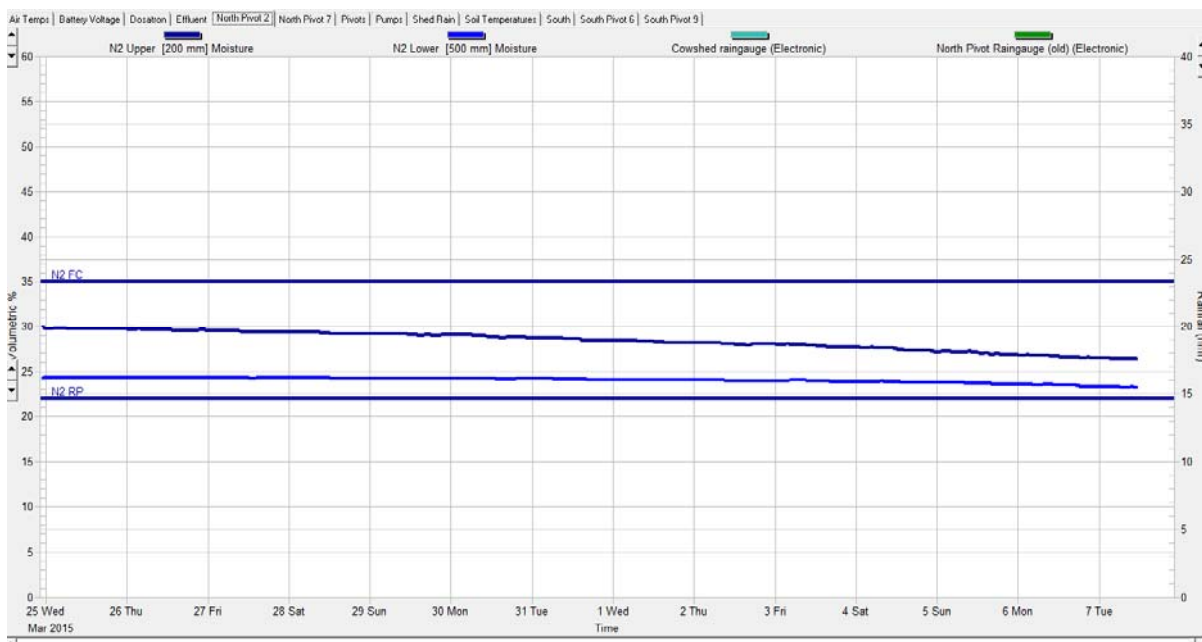
10. 9 am average soil temperature for the week was 14.8 degrees (0.1 degrees lower than last week).

**Figure 1: Soil temperature history for the last 2 weeks**



11. There has been no rainfall this week.
12. There was no irrigation done this week.
13. The north pivot soil moisture levels have decline markedly this week. Mostly in the last 3 days, temperature have risen and with the latest north-westerly wind that blew overnight evapo-transpiration (ET) would have increased. Even though there is a risk to add moisture to soil at this time of year, when temperatures are bound to drop, unless there is some rain in the next couple of days we will require irrigation again.

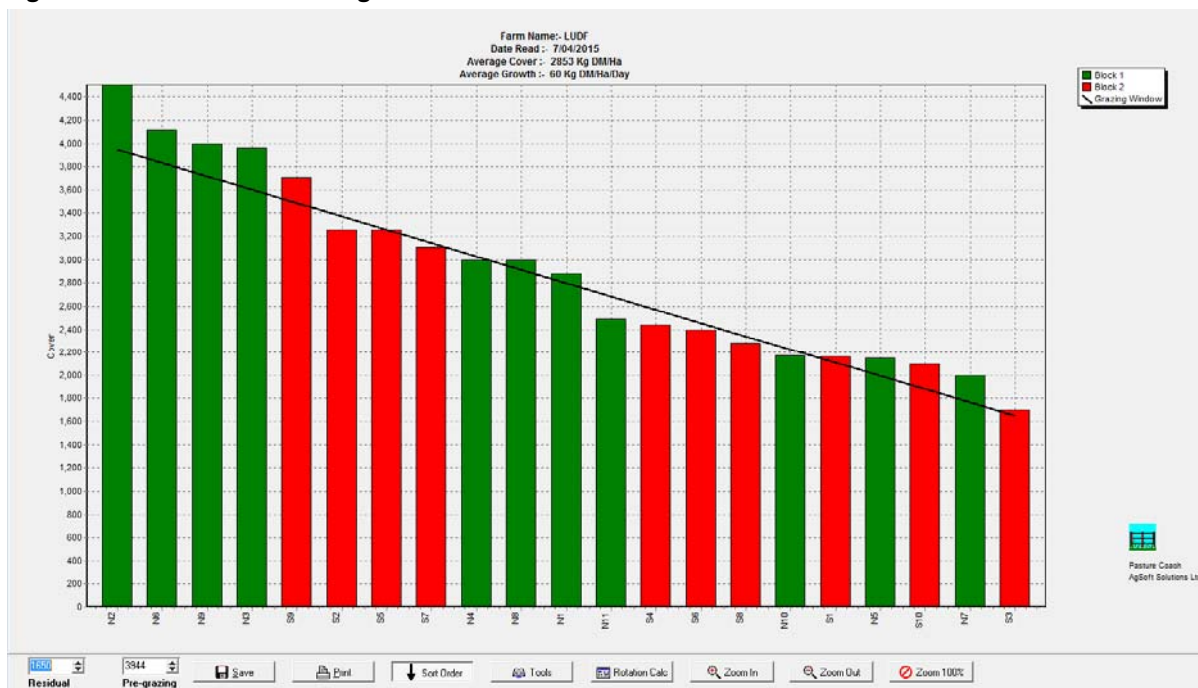
**Figure 2: Soil moisture history for the last 4 weeks (Paddock N2).**



## Pasture Management

14. Area grazed this week was 31.10 ha total, giving a 35.2 day round across 156.3 ha.
15. No silage was fed.
16. There has been no pre-graze mowing done this week.
17. Our current stocking rate is 3.01 cows/ha. Paddock N-4 that has been out for re grassing is now mostly back in the round. We have had to re spray and replant the 3.7 Ha that is outside the pivot area as this had not struck at all well and was full of weeds (mainly poa). It was replanted on 20 March. This now makes our available area 156.3 ha
18. Nitrogen fertilizer was applied on 22.3 ha (25 kgN/ha as urea, except effluent areas which received none).
19. The post-grazing residuals are now typically plating at about 1650 kgDM.
20. The target intake for the milking cows remains at 19kgDM/cow/day giving a demand of 57 kgDM/ha/day with the reduced number. This requires a pre-grazing target of 3944 kgDM/ha when the round is 40 days (471 cows, on 156.3 ha, eating 19 kgDM/day, a 40 day round and a post-grazing cover of 1650 kgDM/ha).

Figure 4: This week's feed wedge:



## Feeding Management for the coming week

21. Estimated pasture growth this week, based on the pasture cover as plated is 60kgDM/ha/day. This is approximately equal to demand and aligns with the similar APC to last week. The feed wedge above would indicate a feed surplus of 14tonnes DM for the week, if pasture covers are as plated / recorded in Pasture Coach.
22. APC has dropped slightly from 2884kgDM/ha last week to 2853kgDM. On observation:
  - a. Residuals have remained consistent and low and paddocks are tidily grazed, which would suggest that post-grazings are realistically about 1650 kg DM/ha (as reported).
  - b. Cows are spending 1.5 days to 2 days in each paddock, which is what we expected with the available feed, round length and number of cows.
  - c. Dry matter tests are coming back around 14.6%.

- d. All of the above would suggest that the pre-grazing covers plated are not actually being found by the cows. (if pasture covers were as plated the herd would have taken longer to graze each paddock and hence the rotation length would have been longer).
  - e. This would, in turn, mean that the APC reported and surplus calculated by Pasture Coach (14 tonnes DM) may actually not be that high. Even if it were that high, based on a daily current demand of just under 9 tonnes DM, this is only giving us a 'buffer' of around 1.5 day of feed for the cows. With N use and supplement restrictions, this buffer allows us to continue to bank some feed ahead of ourselves.
23. The growth rates observed and corresponding APC has assisted the farm in keeping the round length at 35 days without the need to feed silage (considering cows numbers remain at 3.01 cows/Ha).
  24. Pasture quality: on observation, most paddocks continue have good quality pasture, with little evidence of decay or dead matter at the bottom. Only the paddocks with highest covers at the top of the wedge seem to be showing initial sign of decay at the bottom. Post-grazings are consistent and urine patches don't seem all that apparent any more. This is an outcome of low and consistent residuals all through the season – and provides some confidence the herd will continue to graze these higher covers well.
  25. The 4 paddocks at the top of the wedge have plated pasture covers of 4000 – 4500kgDM/ha. Once these paddocks are grazed, the next block of paddocks are unlikely (at expected growth rates) to have the required pregraze cover to support an intake of 19kgDM/cow/day on pasture only. Considering the drop in temperature coming in the weather forecast for later in the week, there may be a need to feed silage out so the round can be held at 40 days.
  26. The farm still has 103 kgDM/cow silage available (adjusted for current cow numbers). This comprises 56kg of the imported 300kgDM/cow and 47 kgDM/cow made on farm. The current preference is to start feeding a little silage as soon as pasture supply no longer meets demand, rather than eat down the pasture cover and need to feed higher amounts of silage later.
  27. Nitrogen fertilizer: we will continue applying Nitrogen fertilizer (urea) @ a rate of 25 kgN/ha at this stage. We still have about 10 kgN/ha left in the budget, which, with the slower rounds, we'll be able to spread responses to this N fertiliser out over a longer period.
  28. We have also evaluated our winter feed situation to see if we needed to change our autumn management or increase BCS at dry-off due to low winter feed availability. In our case, the farm has secured good quality winter grazing on a grass and silage diet, allowing for 0.5 BCS gain during winter.
  29. Due to all of the above this week's decisions are:
    - a. Increase the target round length to 40 days (4.46 ha/day) over our currently available 156.3 ha.
    - b. If the temperatures drop and affects growth, there may be a need to include silage in the diet to keep the round at 40 days.
    - c. Monitor growing conditions during the week and respond accordingly.
    - d. Continue to apply N fertilizer at a rate of 25 kg/ha (except on effluent areas), though discussion will occur shortly as to how far into the autumn this continues.

### Data sheet

LUDF Weekly report	10-Mar-15	17-Mar-15	24-Mar-15	31-Mar-15	7-Apr-15
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	0/2/0	0/2/0	0/2/0	0/4/0	0/4/0
Culls (Includes culls put down & empties)	0	0	0	0	0
Culls total to date	94	94	94	94	94
Deaths (Includes cows put down)	0	0	0	0	0
Deaths total to date	6	6	6	6	6
Calved Cows available (Peak Number 560 )	473	473	471	471	471

Treatment / Sick mob total	6	5	2	0	2
Mastitis clinical treatment	3	1	0	0	2
Mastitis clinical YTD (tgt below 64 yr end)	52	53	53	53	55
Bulk milk SCC (tgt Avg below 150)	208	174	165	158	176
Lame new cases	6	3	2	6	3
Lame ytd	101	104	106	112	115
Lame days YTD (Tgt below 1000 yr end)	1068	1124	1173	1236	1317
Other/Colostrum	0	0	0	0	0
Milking twice a day into vat	460	460	462	464	460
Milking once a day into vat	8	8	7	7	9
Small herd	0	0	0	0	0
Main Herd	468	468	469	471	460
MS/cow/day (Actual kg / Cows into vat only)	1.72	1.70	1.67	1.65	1.64
MS/cow to date (total kgs / Peak Cows)	393	405	416	424	435
MS/ha/day (total kgs / ha used)	5.48	5.69	4.90	4.84	4.79
Herd Average Cond'n Score	4.16	0.00	4.26	0.00	4.25
Monitor group LW kg WOW early MA calvers	496	501	506	498	508
Soil Temp Avg Aquaflex	16.4	16.3	13.4	14.9	14.8
Growth Rate (kgDM/ha/day)	79	67	73	80	60
Plate meter height - ave half-cms	16.1	16.4	16.5	17.0	16.8
Ave Pasture Cover (x140 + 500)	2759	2791	2810	2884	2853
Surplus/[deficit] on feed wedge- tonnes	0	0	0	0	0
Pre Grazing cover (ave for week)	3769	3710	3857	3767	4152
Post Grazing cover (ave for week)	1650	1650	1700	1700	1700
Highest pregrazing cover	3864	3800	3986	3880	4392
Area grazed / day (ave for week)	5.14	4.37	4.80	4.28	4.44
Grazing Interval	30	36	33	37	35
Milkers Offered/grazed kg DM pasture	19.0	19.0	19.0	19.0	19.0
Estimated intake pasture MJME	222	222	222	222	222
Milkers offered kg DM Grass silage	0	0	0	0	0
Silage MJME/cow offered	13	13	13	13	13
Estimated intake Silage MJME				0	0
Estimated total intake MJME	222	222	222	222	222
Target MJME Offered/eaten (includes 6% waste)					0
Pasture ME (pre grazing sample)	11.7	11.6	11.9		0.0
Pasture % Protein	20.9	20.2	21.3		0.0
Pasture % DM - Concern below 16%	13.2	12.1	15.5		0.0
Pasture % NDF Concern < 33	38.9	37.4	34		0.0
Mowed pre or post grazing YTD	240.8	251.8	251.8	251.8	251.8
Total area mowed YTD	255.3	266.2	266.2	266.2	266.2
Supplements fed to date kg per cow (560 peak)	252.8	252.8	252.8	252.8	252.8
Supplements Made Kg DM / ha cumulative	139.4	139.4	139.4	139.4	139.4
Units N applied/ha and % of farm	25units/16.6 %	25units/11.7%	25units/21.5%	25units/12.1%	25units/13.9%
Kgs N to Date (whole farm)	125	128	134	137	140
Rainfall (mm)	19.4	14.4	18.2	1.4	0
Aquaflex topsoil relative to fill point target 60 - 80%	40-60	50-70	50-70	40-60	30-50

Farm walks occur every Tuesday morning. Farmers or their managers and staff are always welcome to walk with us. Please call to notify us of your intention and bring your plate meter and gumboots. Phone SIDDC – 03 423 0022.

