

## Lincoln University Dairy Farm - Farm Walk notes

Tuesday 5 October 2015

**LUDF – focus for 2015/16 Season: Nil-Infrastructure, low input, low N-loss, maximise 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 \$1.08 million and target production of 500kgMS/cow.

### Critical issues for the short term

1. Monitor average pasture cover on the milking platform
2. Monitor grass quality coming through the following rounds to ensure good quality and quantity intakes over mating.
3. Calving, cow health (mastitis) and calf management
4. Use back fences with all herds to minimise pasture damage and aid regrowth
5. Supplement cows with Magnesium

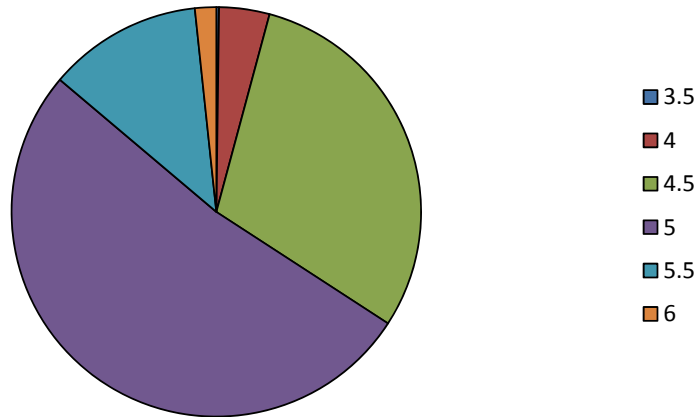
### Key Numbers - week ending Monday 5<sup>th</sup> October 2015 (this is a 6-day week set of results)

Ave Past Cover	2601kgDM/ha	Past Growth Rate	70 kgDM/ha/day
Round length	29 days	Ave Supplement used	0 kgDM/cow/day
No Cows on farm	560 (539 milking into the vat)	Ave Soil Temp (week)	10.4 degrees
Ave Milk Production	2.45 kgMS/cow	SCC	158,000

### Herd Management

1. There are currently 550 calved cows (539 milkers, 7 colostrum cows and 4 red mob cows) on farm. The last remaining 10 cows to calve are now on the platform.
2. This week we had 3 new cases of mastitis and one lame.
3. The herd was split on 23 August into a small herd of heifers and low BCS cows (126 cows) with the rest as the main herd. The small herd is being preferentially fed, generally getting the first part of each paddock and not being pushed as much to achieve target grazing residuals. This is to minimise BCS loss.
4. Cows in milk were BCS on 15<sup>th</sup> September 2015. The average BCS for the herd is 4.9. See graph below for the split:

## BCS of the whole herd as at 15/09/15

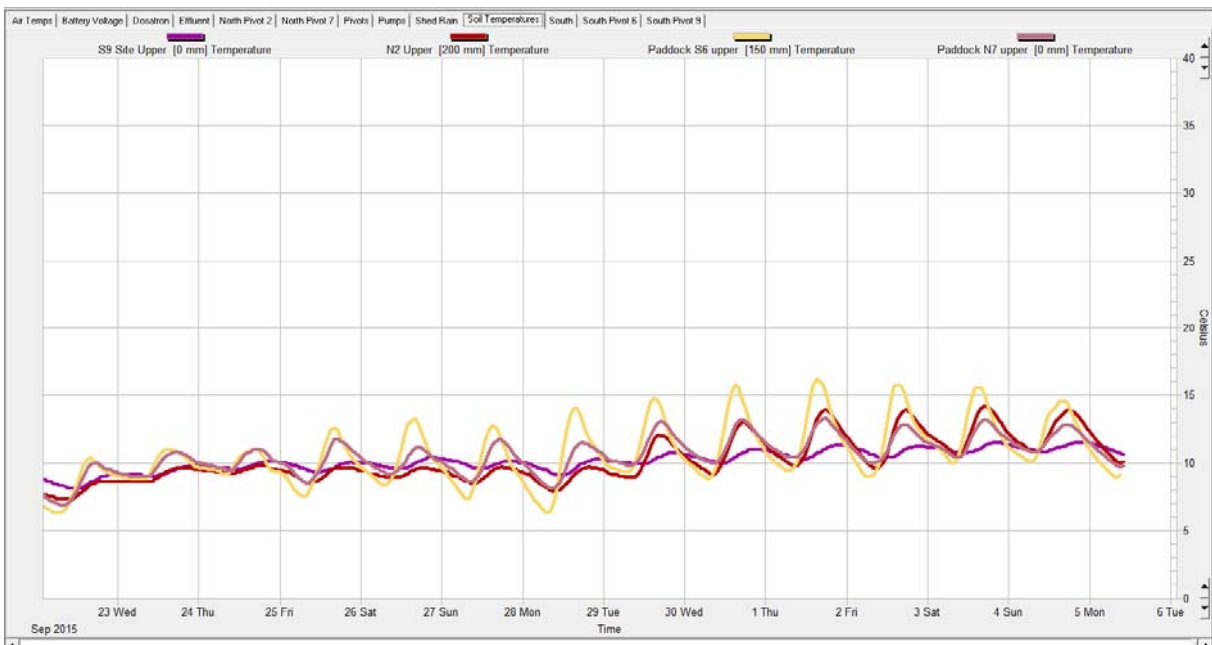


5. Magnesium is being supplemented to the calved and non-calved animals on the milking platform as Mag Oxide and Mag Chloride in the stock water.
6. All heifer replacement calves are now outside (grazing on the East Block)
7. Preparation for mating:
  - a. On 10<sup>th</sup> September, all cows calved at least 10 days were Metrichecked. 24 cows were treated (5% of cows presented to metricheck).
  - b. Blood samples were taken from a sample of calved cows to check mineral levels, all results came back as adequate no extra minerals required.
  - c. Bulls were visually checked including measuring scrotum size and will receive Copper, Selenium. Blood test were done to check their BVD status - all results came back as BVD negative.
  - d. There's a lot of heat activity in the big herd at the moment. The herd was tail painted on Monday 21<sup>st</sup> September (5 weeks before PSM).
  - e. To date, 235 cows have been identified as having a heat - 42% of 560 cows
  - f. The herd has been BVD vaccinated.
  - g. On Thursday 17<sup>th</sup> September, R2yr heifers received Selenium injection and Copper bullet plus BVD vaccination and pour on drench.

### Growing Conditions

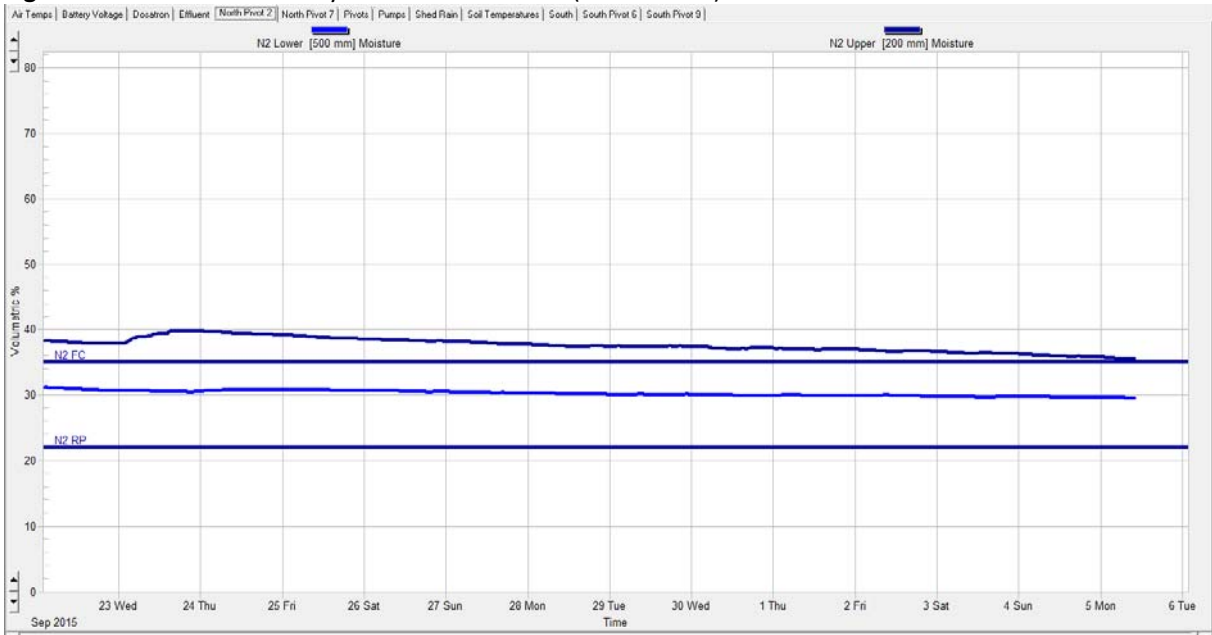
8. The average 9 am soil temperature for the week was 10.4 degrees (1.6 degrees higher than last week). Note the farm is now experiencing warmer days but has had some cooler nights (no frost) and a couple of very windy days.

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



9. There has been no rain this week and the last couple of windy days have contributed to the continuous drop of moisture levels in the soil.
10. The irrigation systems are all in place and ready to start working when required.

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



### Nitrogen and Gibberellic Acid

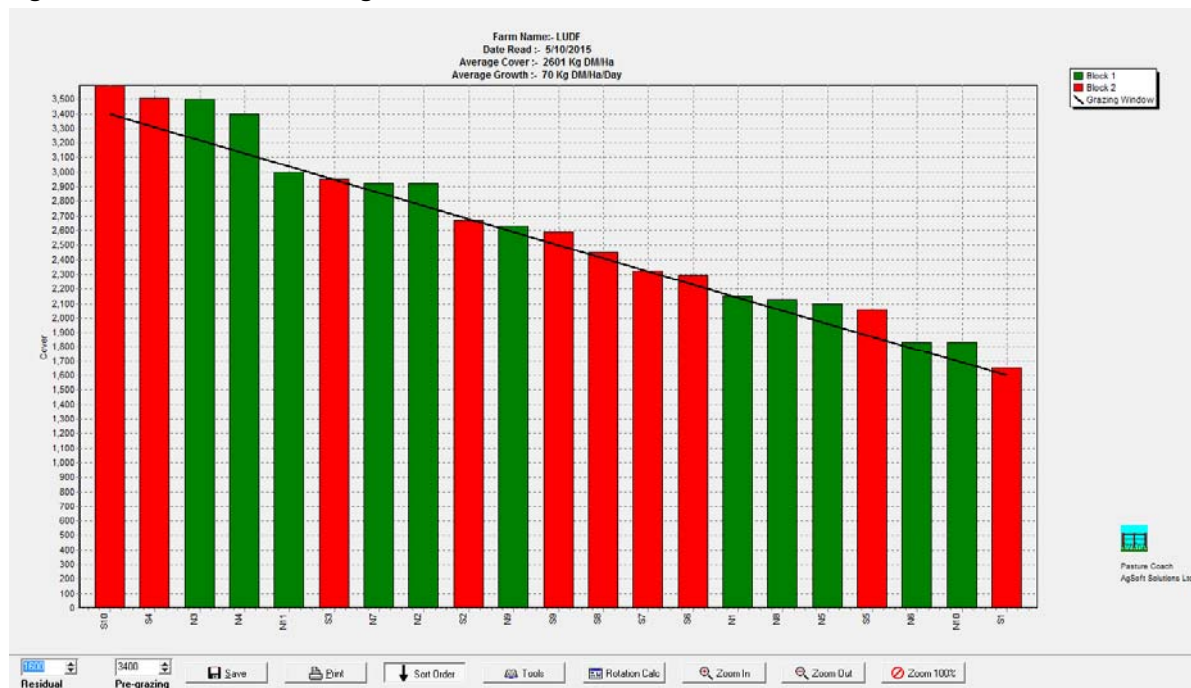
11. 39.2 ha have received AMMO 31 at a rate of 81 kg/ha this week (25 kgN/ha). This is the beginning of a second round of N for the farm this year. We continue to use AMMO to provide additional Sulphur, given the farm is unlikely to apply much superphosphate this season. Normally LUDF reverts to urea for the second round of N and begins applying maintenance superphosphate, but due to the forecast payout will only target Phosphate to paddocks with low Olsen P values.
12. No Gibberellic Acid has been applied this week and we will not be applying any more this spring.

## Pasture and Feed Management

13. The milkers and dry cows have been fed only grass.
14. The winter active hybrid tetraploid (Shogun) paddocks are continuing to perform strongly under the current conditions.
15. Average demand for the past week - from pasture - across the milking platform is estimated to be approximately 65-70 kgDM/ha/day, based on an average of 550 calved cows on the platform over the last week, offered 19-20 kgDM of pasture/cow/day and no silage.
16. APC has increased by 86 kgDM/ha (from 2515 kgDM/ha last week to 2601 kgDM/ha this week), which is more than the difference between demand and estimated growth rate.
17. Total feed demand will increase a little more as the remaining 10 cows calve and their intakes increase from a dry cow to in milk cows.
18. Post grazing residuals in the paddocks have on average been even and consistent. Where cows have on occasion struggled to clean up some parts of some paddocks, these areas may be targeted for pre-graze mowing in the second grazing round.
19. Our demand line in the feed wedge is calculated using a target rotation length of 25 days, intake of 20kgDM/cow/day, 560 cows (for the week ahead) and residual of 1600kgDM/ha. Target pregrazing cover is therefore:
 
$$(\text{Stocking rate} \times \text{Intake from pasture} \times \text{Rotation}) + \text{Optimum residual} = \text{Pre-grazing Cover.}$$

$$(560 \text{ cows} / 160 \text{ ha} \times 20 \text{ kgDM/cow/day} \times 25 \text{ days}) + 1600 = 3400\text{kgDM/ha.}$$
20. The Intake is determined by milk production, the recorded slight decrease in liveweight, maintenance requirements and distance walked. (See DairyNZ facts and figures for these details). At LUDF this calculates to approx. 260MJME. Recent feed testing suggests pasture is 12.5MJME, therefore 260MJME requires 20.8 kgDM/cow/day.

**Figure 3: This week's feed wedge:**



21. The feed wedge estimates a surplus of 15 tDM/ha at present. The surplus has increased from last week's 8 tDM/ha. We can see a small surplus starting to build and we will monitor this closely to ensure pastures do not lose quality over the next round or the grazing rotation extends beyond our target.
22. The cover on the top paddock on the high end of the wedge is around the 3550 kgDM/ha. This is higher than the target pregraze cover in the wedge – the herd will confirm whether they find as much cover as the rising plate estimate.

## Feeding Management for the coming week

23. Given all of the above, the key decisions for the week ahead:

- a. All cows will now be fed on the platform, including the 10 cows still to calve.
- b. We will continue on a 25 day round which is 6.4 ha per day
- c. We will continue to monitor cow behaviour, post-grazing covers and weather conditions, and adjust the feeding regime as required.
- d. Pasture walks are continuing on a weekly basis for the rest of the season.

LUDF Weekly report	8-Sep-15	15-Sep-15	22-Sep-15	29-Sep-15	6-Oct-15
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	0/95/0/0	0/69	0/46/0/0	0/24/0/0	0/0/0/0
Culls (Includes culls put down & empties)	0	1	1	1	0
Culls total to date	6	7	8	9	9
Deaths (Includes cows put down)	0	0	0	0	1
Deaths total to date	5	5	5	5	6
Calved Cows available (Peak Number 560)	472	498	521	540	550
Treatment / Sick mob total	3	7	4	5	4
Mastitis clinical treatment	3	5	4	4	3
Mastitis clinical YTD (tgt below 64 yr end)	37	42	46	50	53
Bulk milk SCC (tgt Avg below 150)	177	162	189	191	158
Lame new cases	3	3	2	2	0
Lame ytd	8	11	11	15	15
Lame days YTD (Tgt below 1000 yr end)	12	30	30	30	30
Other/Colostrum	0	0	0	0	0
Milking twice a day into vat	440	470	494	523	539
Milking once a day into vat	6	6	0	0	0
Small herd	120	126	128	141	141
Main Herd	320	344	366	382	398
MS/cow/day (Actual kg / Cows into vat only)	2.29	2.35	2.40	2.47	2.45
MS/cow to date (total kgs / Peak Cows	34	48	62	78	94
MS/ha/day (total kgs / ha used)	6.02	6.78	7.25	7.88	8.07
Herd Average Cond'n Score	0.00	0.00	4.90	0.00	0.00
Monitor group LW kg WOW early MA calvers	479	480	477	474	0
Soil Temp Avg Aquaflex	6.8	6.8	8.6	8.8	10.4
Growth Rate (kgDM/ha/day)	36	39	70	77	70
Plate meter height - ave half-cms	13.1	12.4	13.7	14.4	15.1
Ave Pasture Cover (x140 + 500)	2331	2233	2413	2515	2610
Surplus/[deficit] on feed wedge- tonnes	0	0	0	0	0
Pre Grazing cover (ave for week)	3290	3306	3287	3020	3300
Post Grazing cover (ave for week)	1600	1600	1650	1650	1650
Highest pregrazing cover	3450	3379	3433	3500	3590
Area grazed / day (ave for week)	3.49	4.19	3.50	5.52	5.61
Grazing Interval	46	38	46	29	29
Milkers Offered/grazed kg DM pasture	15.0	0.0	0.0	0.0	0.0
Estimated intake pasture MJME	188	0	0	0	0
Milkers offered kg DM Grass silage	2.9	0	0	0	0
Silage MJME/cow offered	11	0	0	0	0
Estimated intake Silage MJME	32	0	0	0	0
Estimated total intake MJME	220	0	0	0	0
Target MJME Offered/eaten (includes 6% waste)	246	0	0	0	0
Pasture ME (pre grazing sample)	12.5	13.1	12.6	12.7	0.0
Pasture % Protein	19.4	17.9	19.8	17.0	0.0
Pasture % DM - Concern below 16%	17.1	19.3	19.5	16.0	0.0
Pasture % NDF Concern < 33	36.9	33.5	36.8	35.9	0.0

Mowed pre or post grazing YTD	0.0	0.0	0.0	0.0	0.0
Total area mowed YTD	0.0	0.0	0.0	0.0	0.0
Supplements fed to date kg per cow (560 peak)	37.7	56.6	75.4	93.3	93.3
Supplements Made Kg DM / ha cumulative	0	0	0	0	0
Units N applied/ha and % of farm	25units/ 19.2%	0	25units/ 30.6%	25units/ 30.6%	25units/24.5%
Kgs N to Date (whole farm)	19	19	25	32	39
Rainfall (mm)	2.8	15	29	8.6	0
Aquaflex topsoil rel. to fill point target 60 - 80%	70-90	80-90	90-100	90-100	70-100

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.

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Peter Hancox, Farm Manager, Natalia Benquet, Charlotte Westwood.