

Lincoln University Dairy Farm - Farm Walk notes

Tuesday 2nd September 2014

LUDF – focus for 2014/15 Season: Nil-Infrastructure, low input, low N-loss, high profit.
Farm system comprises 3.5 cows/ha, 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. **Monitor and identify calving cows, tag and collect calves promptly.**
2. **Check all cow mobs for springers, closely observe cows for any signs of mastitis and metabolic conditions.**
3. **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).**
4. **Hold to the Spring Rotation Plan to finish the first grazing round in late September.**
5. **Use back-fences on all herds whenever paddock grazing takes more than 36 hours.**
6. **Manage ground conditions to minimise damage to soil and pastures.**
7. **Ensure magnesium supplementation occurring**

Key Numbers

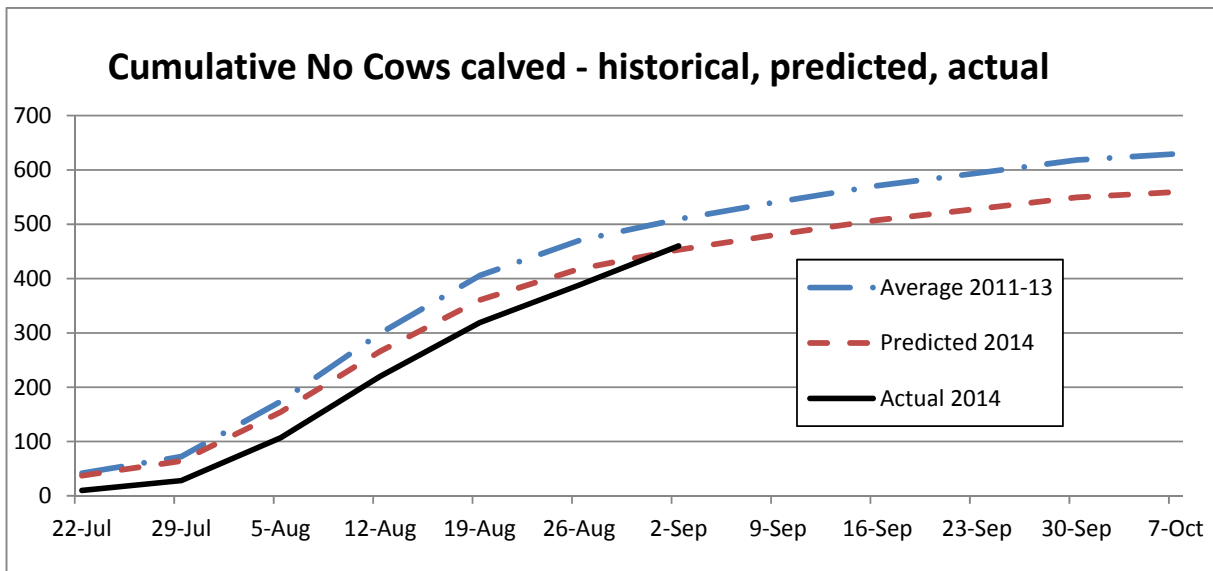
Ave Past Cover	2490kgDM/ha	Past Growth Rate	29 kgDM/ha/day
Ave Milk Production	2.18 kgMS/cow*	No Cows Calved	452

* Based on cows milked in last 6 days

Herd Management

8. The later calving mob has been moved to the East Block across the road with the dry and springing heifer's mobs.
9. Calved heifers are brought to the platform as they calve.
10. We continue managing three milking herds, the colostrums (33 cows in the first 4 days post calving) and two milking herds: one small herd with heifers + 14 cows at 4.5 BCS (108 animals) and a large herd with mixed aged cows (297 animals). There's also a small treatment herd milked once-a-day (15 cows; 4 with mastitis and 10 lame)
11. Colostrums are milked OAD for the first 4 days then moved to the milking herd. The farm began supplying on the 9th August.
12. All animals were injected with Selenium and B12 in late July as our Selenium levels were low according to the latest blood samples.
13. The herd will be BCS again tomorrow and animals will swap herds accordingly if required.
14. The whole herd has been stripped at BMSCC was increasing. We found 4 cows with mastitis that have been treated.
15. This week one cow has been treated for lameness.
16. Eligible cows will be Metri-checked this Thursday
17. Calving rate through August was slower than expected based on the proportional reduction in stocking rate (compared to last year). See the graph below:

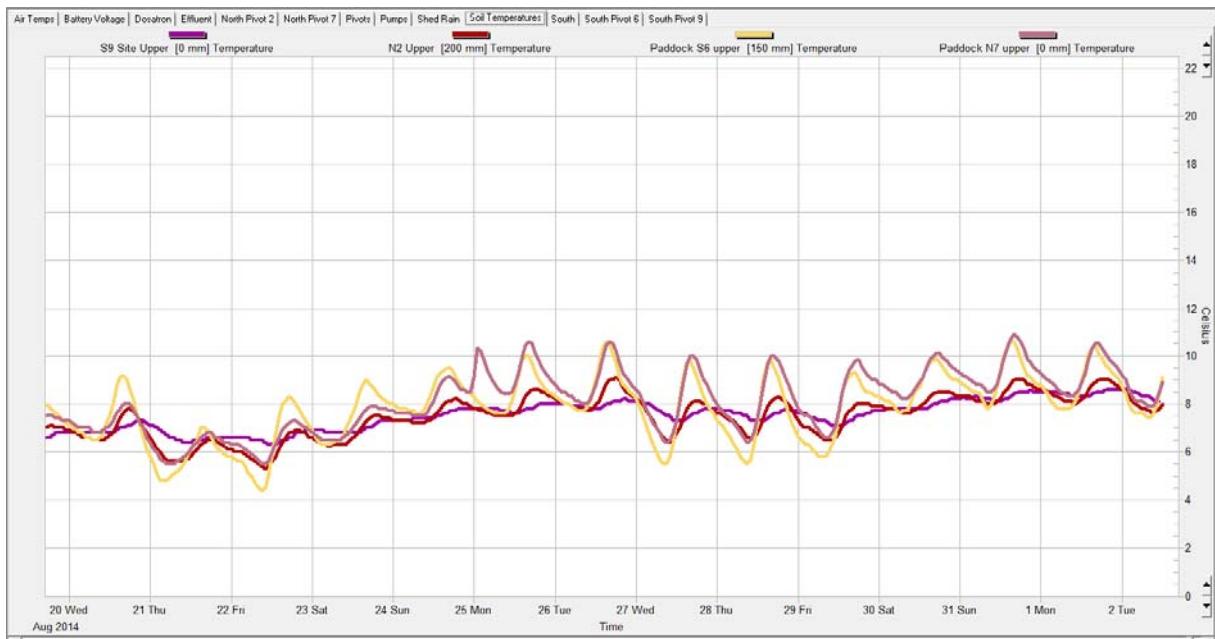
Figure 1: calving spread at LUDF comparing last season's, expected 2014 and actual calvings.



Growing Conditions and Pasture Management

18. 9 am average soil temperature was 7.5 degrees (0.6 degrees warmer than last week). The farm had 0.2 mm rain over the last week.

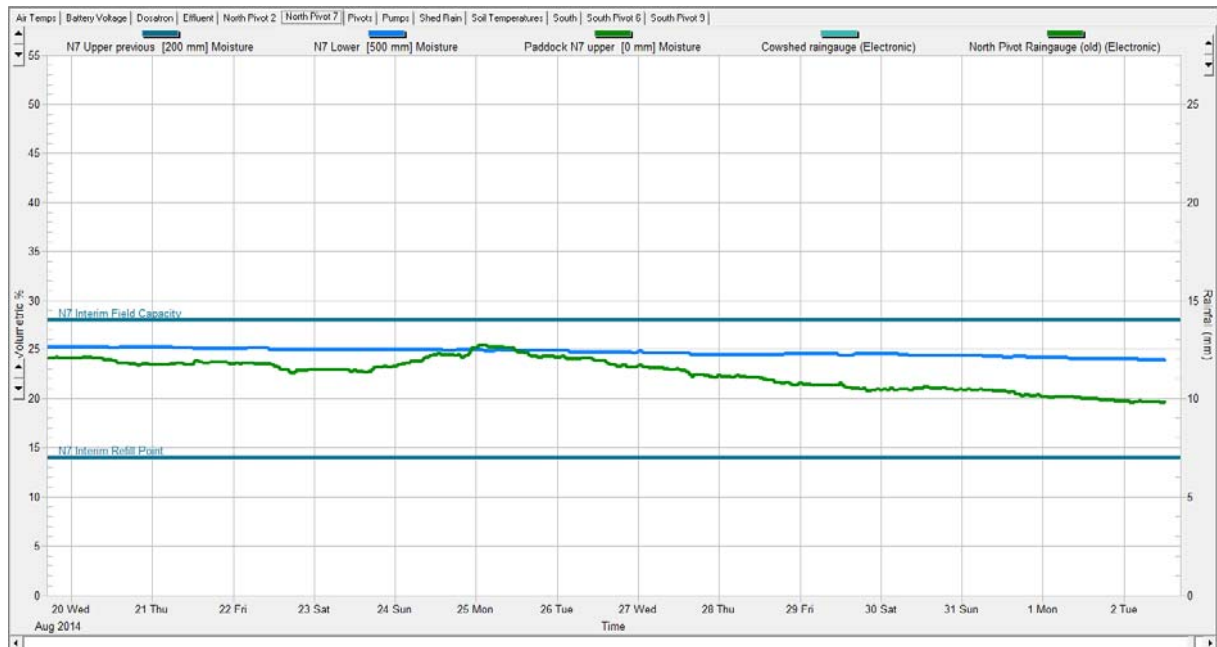
Figure 2: Soil temperature history for the last 2 weeks



19. The estimated average daily pasture growth rate for the last week has been 29 kg DM/ha/day. We have now returned to more consistent plating hence we've accepted the growth rate as correct.
20. Current average pasture cover is estimated at 2490 kgDM/ha down slightly, from last week. This is still theoretically higher than required but no pasture shows major signs of deterioration.
21. No paddocks have received any nitrogen fertilizer this week due not having enough area for it to be applied.
22. Nitrogen is being applied to paddocks as they are grazed, and gibberellic acid applications will start when sufficient area is grazed daily to ensure application can occur within 3-5 days post grazing. This is more difficult with the herd split.

23. We'll start applying the spring maintenance fertilizer now that the farm is dry. This includes Superphosphate going on at 500kg ha to non-effluent area and at 300 kg Ha on the effluent area and selenium prills are being added at half Kg Ha.
24. Soil moisture levels continue to drop. If this situation continues, we will start irrigating in the next couple of week.

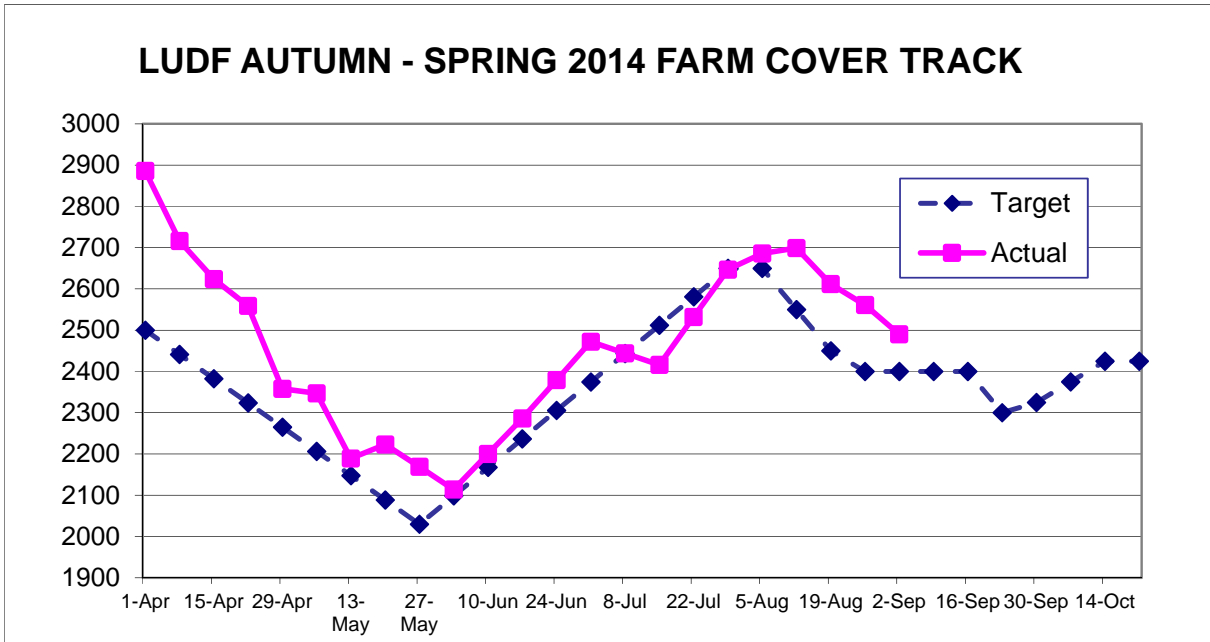
Figure 3: Soil Moisture history for the 2 weeks



Feeding Management

25. 2.5kgDM/cow/day of (baled) Lucerne silage on average has been fed all week as total pasture offered was not adequate for demand. This allows the farm to hold to the spring rotation plan, and offer sufficient feed to allow an acceptable loss of BCS and optimise milk production. The small herd have been offered 2 kgDM silage/day and the big herd 3 kg DM/day.
26. Feeding management for the next week will continue based on allocating the available area for 24 hr breaks (as per the spring rotation planner) and topping up with silage as required. The spring rotation planner allows for 65m2/cow/day.
27. Currently, higher cover paddocks are initially grazed by the small herd with the large herd allocated the rear portions of these paddocks to achieve the desired post-grazing targets over the whole area. This allows us to adequately feed young and lower BCS cows, as well as achieving post-grazing targets.
28. N6 – the new grass sprayed and drilled in April was at the three leaf stage and has been grazed. It allowed a 30 hour grazing with the large herd and post-grazing residual were plated at 1600 kgDM/ha. This has resulted in an additional 4 ha grazed above that on the spring rotation planner.
29. Below is our average pasture cover track, the budgeted track reflects our expectation of APC from the Spring Rotation Plan, based on extending the first round out till late September. Allocation will continue largely on the basis of wanting the milkers to graze all they can, while leaving low and consistent residuals and staying within the Spring Rotation Planner (on area grazed to date).

Figure 4: Average Pasture Cover

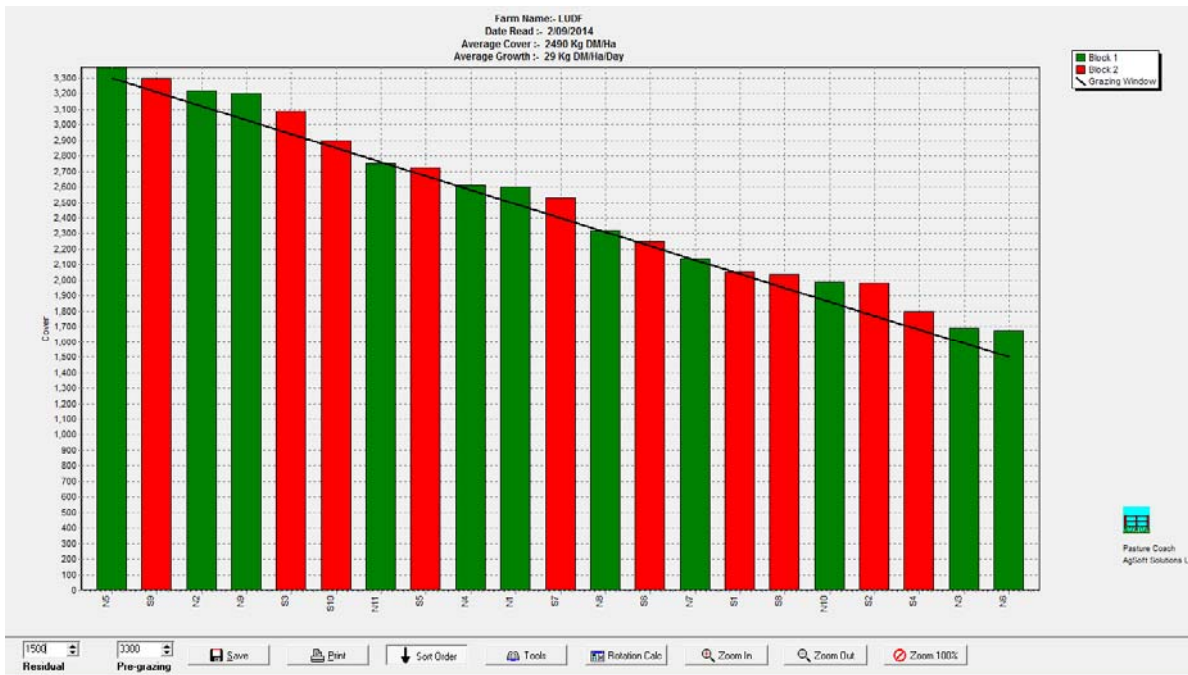


30. The Spring Rotation Plan is summarised below. The slight increase (7ha) in area grazed over planned cumulative area includes the deliberate grazing of S2 by the dry cows (early August), and the grazing of the new grass (N6) by milking cows (last week).

Week Ending	Planned area grazed per week	Planned Cumulative area grazed	Planned Cumulative Suppl. fed (kgDM/wk)	Actual area grazed per week	Actual Cumulative area grazed per week	Actual Supplts fed (kgDM/week)	Actual Cum. Suppl fed (tot kgDM)
5/08/2014	3.2	3.2	613	5	8	0	0
12/08/2014	8.6	11.8	2923	7.7	15.7	0	0
19/08/2014	14.7	26.5	10771	14.56	30.26	0	0
26/08/2014	17.6	44.1	32769	17.86	48.12	2744	2744
2/09/2014	20.8	64.9	52806	24.62	72.74	7500	10244
9/09/2014	25.4	90.3	71864		72.74		10244
16/09/2014	32.9	123.2	80999		72.74		10244
23/09/2014	41.3	164.5	85689		72.74		10244
30/09/2014					72.74		10244

31. Area grazed this week has averaged 65m²/cow/day.
32. Back calculating total intake from milk production and allowing a small loss in condition estimates a total intake of 17.7 kgDM/cow, based on silage intake (2.5 kgDM @ 10.1 MJME/kgDM) and pasture intake 15.2kgDM @ at 13 MJME/kgDM. Intakes based on pre and post-grazing residuals on the 65 m² allowed in the SRP estimate that the grass portion of the diet amounts to 11.6 kgDM/cow/day. This calculation presumes pre-grazing covers of 3390 kgDM/ha and post-grazing of 1600 kgDM/ha. The difference in pasture intake appears to come from the cows eating more than we have estimated using the plate meter, or higher efficiency with the feed they are eating, or both.
33. BCS of the whole herd will be done tomorrow. However, visual appraisals in the paddock would suggest that BCS loss is minimal. Monitoring of cow live weight suggest that cows are holding their weight, however rumen capacity is increasing.
34. Note the planned area grazed is slightly ahead (see above) but the silage fed is well below the planned supplement fed. This is a reflection of the higher than budgeted APC through August (as in the cover track above (figure 4), and higher pregraze covers for much of August.

Figure 5: The current feed wedge is below. The demand line is taken from the Spring Rotation Planner which was calculated presuming pre-grazing covers were 3300 kg DM/ha and post-grazing of 1500 kgDM/ha. We currently have a surplus of 14 tonnes.



35. The surplus above does not account for our desire to push the end of the first grazing round out till the end of September.
36. Latest feed quality results reported averages of DM of 19.2% with an ME of 13 MJME/kgDM, and visually the high covers appear to be holding quality, though there is a marked difference from the drier North end of the farm to the wetter South end of the farm. There is minor decay in the base of the clumps of some higher cover paddocks. See the SIDDC website for the pasture quality details. <http://www.siddc.org.nz/lu-dairy-farm/pasture-quality/>
37. The R2's and cows on the neighbouring grazing land are being fed a diet of grass and silage, allocation: 14kgDM/cow offered.

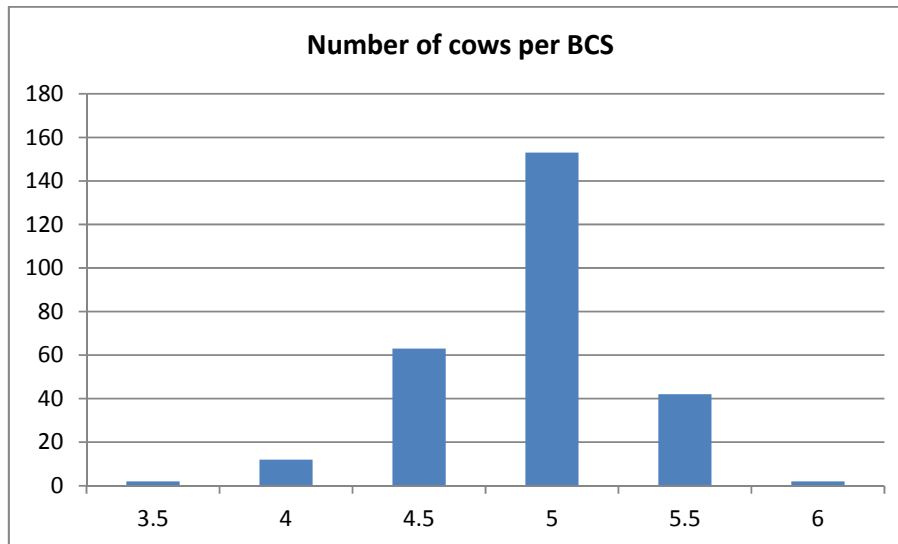
Young Stock

38. The yearlings have continued to grow well over the winter, growing 765g/day in June and 413g/day in July.
39. All calves are tubed when collected from the paddock. In wet weather calves are picked up throughout the day.
40. Bobby calves are fed colostrum until sold. Heifer calves are fed colostrum and penned into groups of 20, and normally moved out to paddocks after 10 days.
41. We now have 160 calves debudded, DNA tested and blood tests taken for BVD. These are all now out in the paddock and we have another 20 getting debudded, DNA tested and blood tests taken for BVD tomorrow and they will go outside on Thursday

Cow Condition

42. The herd was body condition scored on 20 August. The average CS was 4.9 (including the heifers) with 14 animals below BCS 4.5

Figure 6: Average BCS as at 20th August 2014



43. The herd will be BCS again tomorrow.

Data sheet

LUDF Weekly report	5-Aug-14	12-Aug-14	19-Aug-14	26-Aug-14	2-Sep-14
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	160/60/265	58/176/114/0	0/142/110/0	0/84/100	0/110/0
Culls (Includes culls put down & empties)	7	0	0	0	0
Culls total to date	7	7	7	7	7
Deaths (Includes cows put down)	1	0	2	2	0
Deaths total to date	1	1	3	5	5
Calved Cows available (Peak Number 560)	107	220	319	388	452
Treatment / Sick mob total	4	2	10	2	5
Mastitis clinical treatment	4	0	2	1	5
Mastitis clinical YTD (tgt below 64 yr end)	4	4	6	7	12
Bulk milk SCC (tgt Avg below 150)	0	452	279	198	270
Lame new cases	0	0	4	6	1
Lame ytd	0	0	4	10	10
Lame days YTD (Tgt below 1000 yr end)	0	0	0	42	105
Other/Colostrum	0	81	63	48	0
Milking twice a day into vat		137	246	340	401
Milking once a day into vat		0	0	0	0
Small herd		0	0	98	105
Main Herd		137	246	242	296
MS/cow/day (Actual kg / Cows into vat only)			2.07	2.14	2.18
MS/cow to date (total kgs / Peak Cows)			5	14	22
MS/ha/day (total kgs / ha used)			1.78	3.70	5.90
Herd Average Cond'n Score				4.90	0.00
Monitor group LW kg WOW early MA calvers					0
Soil Temp Avg Aquaflex	7.4	5.9	5.1	6.8	7.5
Growth Rate (kgDM/ha/day)	22	20	18	25	29
Plate meter height - ave half-cms	15.6	15.7		0.0	14.2
Ave Pasture Cover (x140 + 500)	2686	2699	2612	0	2490

Surplus/[deficit] on feed wedge- tonnes	2	15.8	30	10	14
Pre Grazing cover (ave for week)	3950	3900	3860	3464	3334
Post Grazing cover (ave for week)	1650	1650	1650	1700	1600
Highest pregrazing cover	3950	3900	3860	3876	3494
Area grazed / day (ave for week)	0.71	1.10	2.08	2.56	3.51
Grazing Interval	224	145	77	63	46
Milkers Offered/grazed kg DM pasture					12.0
Estimated intake pasture MJME					156
Milkers offered kg DM Grass silage					3
Silage MJME/cow offered					10
Estimated intake Silage MJME					30
Estimated total intake MJME					186
Target MJME Offered/eaten (includes 6% waste)					0
Pasture ME (pre grazing sample)	12.6		12.5	12.5	13.0
Pasture % Protein	20.5		14.1	14.9	18.8
Pasture % DM - Concern below 16%	19.5		19.8	18.9	19.2
Pasture % NDF Concern < 33	36.2		40.1	36.5	31.0
Mowed pre or post grazing YTD					0.0
Total area mowed YTD					0.0
Supplements fed to date kg per cow (630 peak)				4.9	
Supplements Made Kg DM / ha cumulative				0	0
Units N applied/ha and % of farm	0	0	25units/ 21.8%	25units/ 14.6%	0
Kgs N to Date (whole farm)	0	0		9	9
Rainfall (mm)	2.4	5.2	6	1.4	0.2
Aquaflex topsoil relative to fill point target 60 - 80%	100	90-100	80-90	70-90	50-80

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.

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