

Lincoln University Dairy Farm - Farm Walk notes

Tuesday 28 February 2017

LUDF – focus for 2016/17 Season: Nil-Infrastructure, low input, low N-loss, maximise profit.
Farm system comprises 3.5 cows/ha (peak milked), Target up to 170kgN/ha, 300kgDM/cow imported supplement, plus winter most cows off farm. FWE of less than \$1 million and Target production of over 500kgMS/cow (>100% liveweight in milk production).

Critical issues for the short term

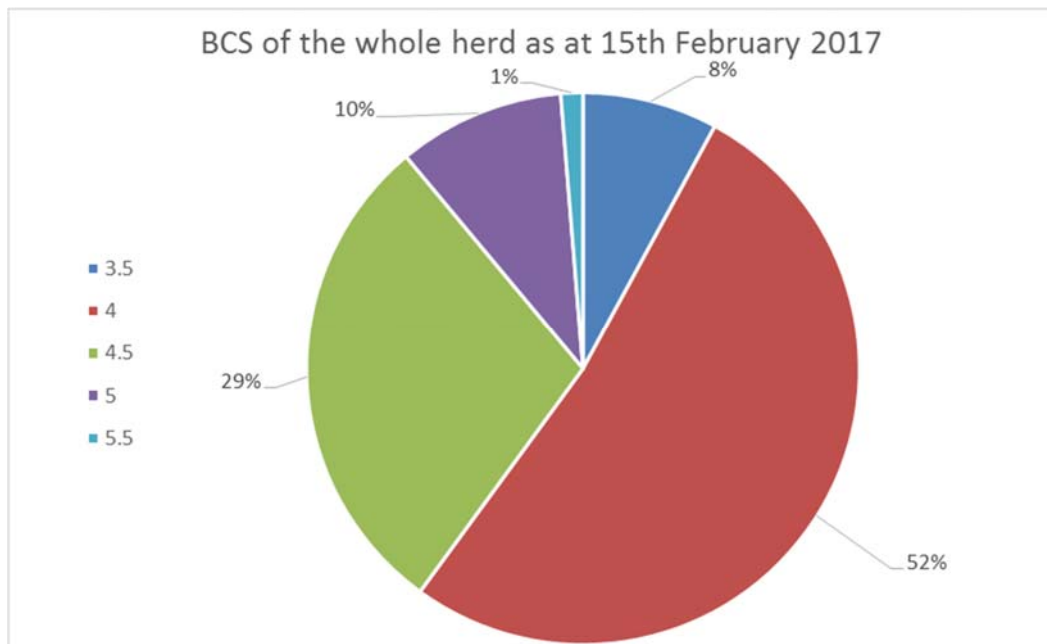
1. **Hold the rotation length to minimum 25 days and likely 28+ as we head into the autumn**
2. **Set the farm and herd up for next season with round length and BCS monitoring and management**
3. **Remain focussed on average pasture cover and pasture quality to ensure enough good quality pasture is offered daily to ensure good production and reproductive results.**
4. **Monitor cow BCS changes.**

Key Numbers - week ending Tuesday 28 February 2017

Ave Pasture Cover	2814 kgDM/ha	Pasture Growth Rate	69 kgDM/ha/day
Round length	28	Ave Supplement used	0
No Cows on farm	544	Ave Soil Temp (week)	17.3°C
Kg MS/cow (546 cows)	1.74	SCC	116,000
Milk Protein : Fat ratio	0.79	Protein: 4.24%	Fat: 5.35%

Herd Management

5. A total of 544 calved cows are on farm. There are 2 milking herds, the small herd comprises 159 early 2017 calving, low BCS cows (BCS below 4.5 as at the 13th January 2017) and the large herd is 367 mixed age cows and heifers, primarily later calvers and in BCS 4.5 or above. Slight preferential grazing continues for the small herd (ie grazing the first part of most paddocks which are then generally followed by the main herd)
6. There are 543 cows going into the vat, with 526 cows on twice a day milking, 17 once a day.
7. There were no new case of mastitis over the past week (57 clinical cases season to date vs 90 cases at the same time last season).
8. This week, there were 3 new cases of lameness (107 cases season to date vs 131 cases same time last year).
9. Trace minerals and magnesium chloride are running through the stock water to all cows on the milking platform.
10. Average herd liveweight (whole herd) for the week was 495 kgLW, a decrease of 5 kg from last week. The monitor group (281 early calving MA cows) has also decreased 5 kg to 490 kgLWT.
11. The herd was BCS on the 16th February. The average BCS of the whole herd was 4.2 (a drop of 0.1 BCS since the 13th January). 8% of the herd is below CS 4.0, 52% of cows are BC 4.0, 29% at 4.5 and 11% at 5 or above. In late October, the average was 4.5, and in mid-July, an average of 5.3. The whole herd will be body conditioned scored again in mid March 2017.



12. 2016 spring born replacement heifers have received their 7 in 1 vaccine booster and an IBR vaccine. They have been drenched and weighed on the 13th February 2017 and presented an average weight of 177 kg liveweight with 94% of them above target liveweight, 7% of them on target and 1 % below target.

Mating results to date:

13. Cows:

- a. 10 weeks mating started on 25 October and finished 4th January. 82% of the herd was submitted in the first three weeks, compared to the target of 90%.
- b. Scanning results reported in the Fertility Focus Report show a 6-week InCalf rate of 63%, down from 69% last year and reflecting the challenging mating season and IBR outbreak described earlier in the season. The overall not-InCalf rate is 15%, slightly higher than the past few years.

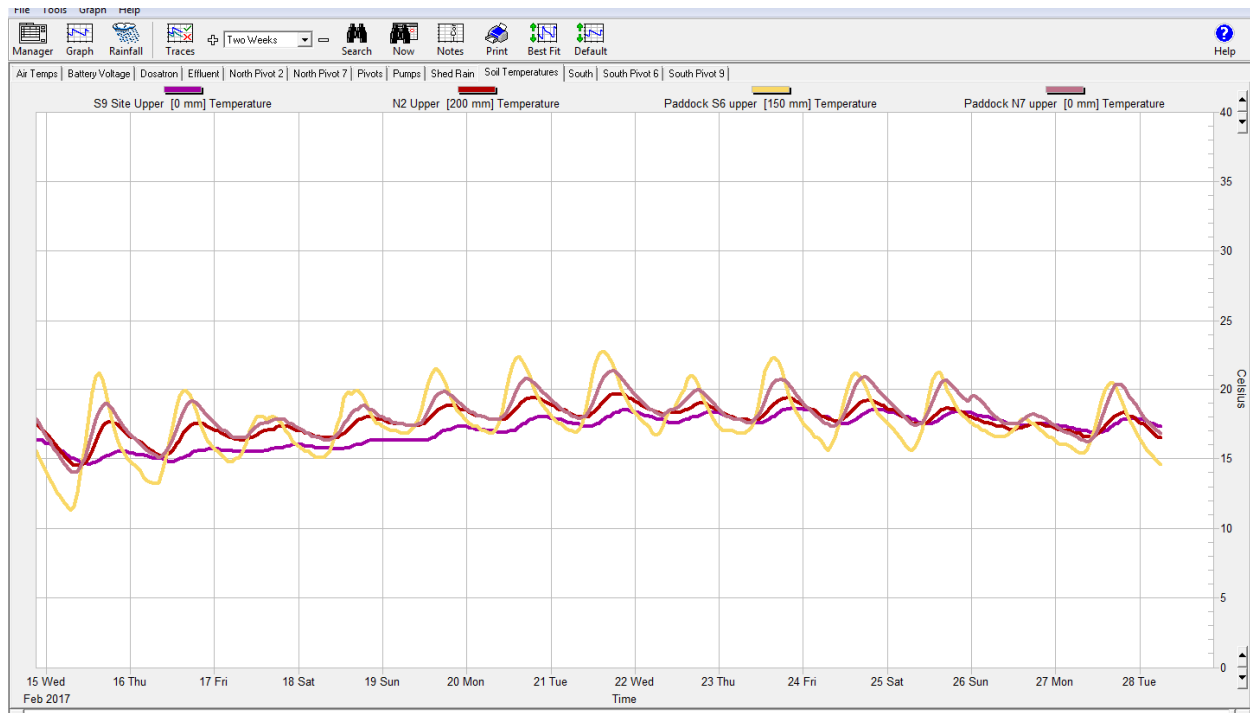
14. Replacement heifers:

- a. 9 weeks mating started for R2 2015 born heifers on 11th October 2016.
- b. Preliminary scanning results reported 98 of the 150 heifers in calf to either the AI straw or a bull mating a day later. (65%). A further scan on the 19th January gave a final result of 91% in calf.
- c. This results in 134 R2yr heifers InCalf or 24% available as replacements to enter the herd next calving. (2 have been culled since mating).

Growing Conditions

15. The average 9 am soil temperature for the past week was 17.3°C, 1.3°C higher than last week's (but lower than the 17.7°C at the same time last year).

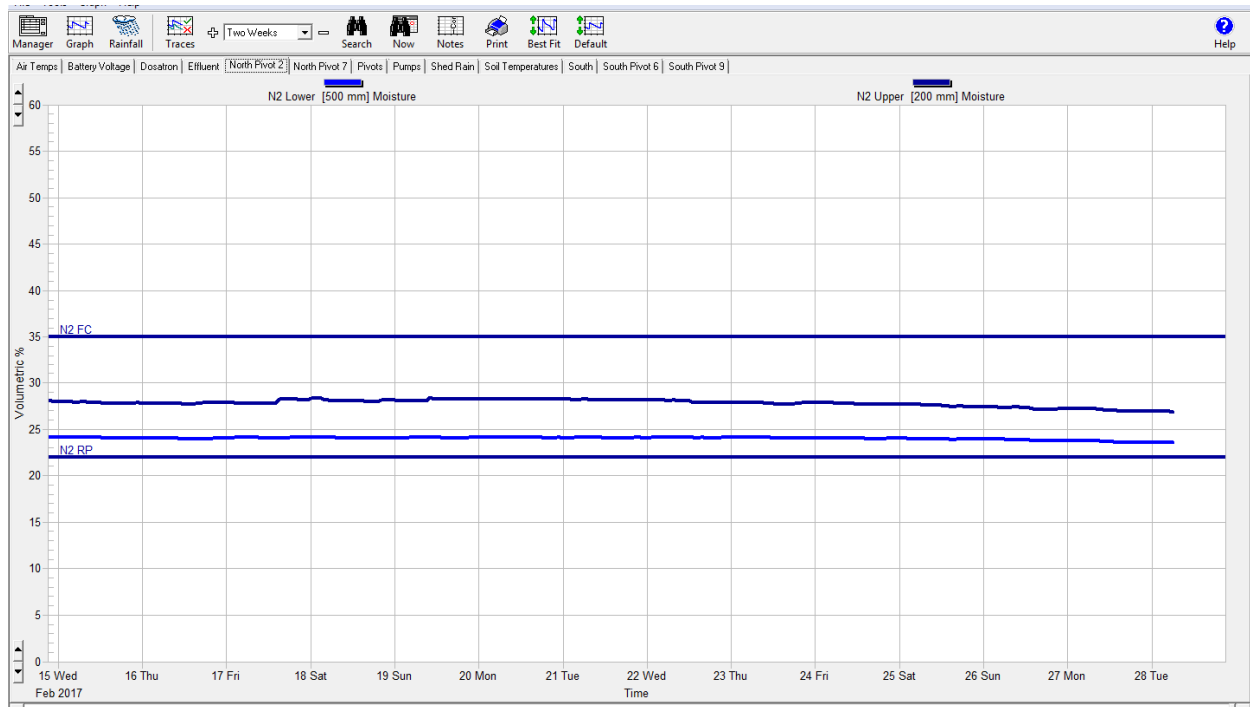
Figure 1: Soil temperature history for the last 2 weeks



16. The farm has had no rain over this past week.

17. Irrigation occurred for 1 day on the north Block (Should have been more but north pivot had a break down that was only sorted late last night) and south block 4 days for this week. Correspondingly, soil moisture on north block has dropped off this week

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

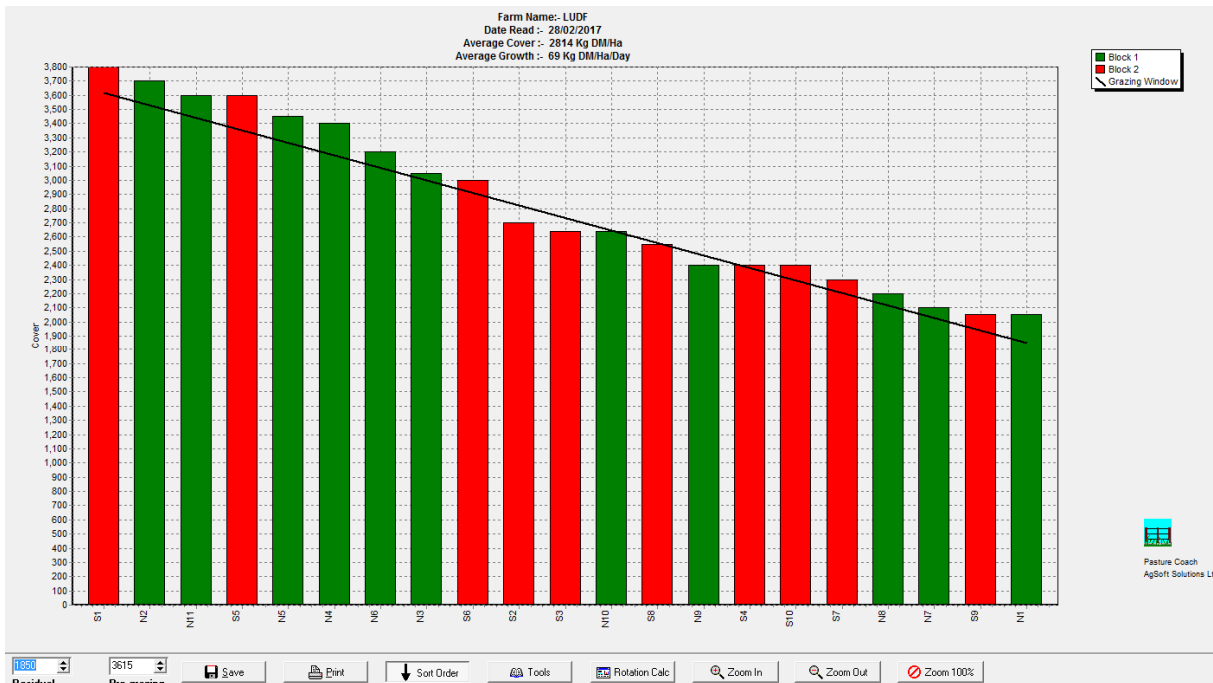


18. N Fertilizer: 29.94 ha have received nitrogen at a rate of 25 kgN/ha as urea, over the past week. Season to date, 145 kgN/ha has been applied on average across the 160 ha of the farm. This is in line with the target to apply up to 170kgN/ha and finish applying N around the end of March 2017.
19. The non-effluent block of the north block has received the 100 Kg/Ha of potassium behind the cows.

Pasture and Feed Management

20. Cows have managed a 28.2 day round this week using all grass with no silage fed
21. The focus of offering a high daily intake of high quality pasture, while achieving a low and consistent residual continues so that high quality pasture is available again at the next round.
22. The consistent warm soil temperatures remain favourable to clover growth, with good levels of clover evident in most paddocks across the whole farm.
23. No mowing has occurred this week
24. Rising Plate Meter data collected in recent months had appeared to routinely overestimate pregrazing pasture cover, and possibly post grazing covers also. This results in an overestimate of growth rate and impacts apparent average pasture cover. Throughout this time, grazing residuals have generally been 'low and consistent' with little remaining feed available – even at the higher plate meter readings.
25. To counteract this data collected in February is the result of a more considered focus on technique, using an average of 2-3 plate meters, combined with some discussion on the apparent yield in each paddock. This seems to be working well, with the data collected over the past 3 weeks better aligning with apparent cow intake.
26. Pasture quality from samples collected on 22nd February showed an average of 15% DM (a little higher than the previous week).
 - a. Energy content similar to the previous week (11.8 vs 12 MJME/kgDM)
 - b. Protein levels slightly higher than previous week (22.8 vs 21.4%)
 - c. NDF similar (40%).

Figure 3: This week's feed wedge



27. The demand line on the pasture wedge graph is calculated as follows:
 - a. 544 cows on 160 ha: 3.4 cows/ha.

- b. Planned minimum round length for the coming week is 28 days over 160 ha or 5.7 ha/day
 - c. The dry matter intake for the current level of milksolids production is around 18.5 kgDM/cow/day
 - d. Total demand: 18.5 kgDM/cow/day x 544 average cows for the week = 10,064 kgDM/day (63 kgDM/ha/day)
 - e. Demand of 10,064 kgDM/day from 5.7 ha /day requires 1,765 kgDM/ha available.
 - f. Assuming the target residual is 1850kgDM/ha, target pregraze covers are 3,615 kgDM/ha. (1,850 kgDM/ha + 1,765 kgDM/ha = 3,615 kgDM/ha pregraze cover).
 - g. Target APC would therefore be $(3615+1850)/2 = 2,732$ kgDM/ha
28. The feed wedge above is showing a surplus of about 13.9 TDM total at this stage.
29. Average pasture cover this week is the same as last week, suggesting estimated growth rates are still slightly overstated.
30. It appears that the revision of plating technique has reduced much of the previous overestimation of pasture covers and subsequently growth rates, with the data more closely aligning with what cow observation indicates.

Feeding Management for the coming week:

- 31. The aim is to hold a 28 day grazing round. To achieve this, the current feed wedge suggests no silage is required.
- 32. Grazing decisions will continue to be influenced by cow behaviour and pasture growing conditions, taking particular note of area grazed per day. Historically LUDF has experienced growth above demand in Feb-March so silage and round length will be manipulated with any surplus now pushed forward into a longer round.
- 33. The farm will continue to apply Nitrogen fertilizer following grazing, applying Urea at 25kgN/ha to the non-effluent areas of the farm.

LUDF Weekly report	31-Jan-17	7-Feb-17	14-Feb-17	21-Feb-17	28-Feb-17
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	0/0/0	2/0/0	0/0/0	0/0/0	1/0/0/0
Culls (Includes culls put down & empties)	0	0	2	2	0
Culls total to date	20	20	22	22	22
Deaths (Includes cows put down)	0	0	0	0	0
Deaths total to date	14	14	14	14	14
Calved Cows available (Peak Number 560...)	546	546	544	544	543
Treatment / Sick mob total	1	0	2	1	0
Mastitis clinical treatment	1	0	2	0	0
Mastitis clinical YTD (tgt below 64 yr end)	55	55	57	57	57
Bulk milk SCC (tgt Avg below 150)	110	98	118	112	116
Lame new cases	2	0	3	6	3
Lame ytd	95	95	98	104	107
Lame days YTD (Tgt below 1000 yr end)	2644	2763	2910	3064	3183
Other/Colostrum					0
Milking twice a day into vat	522	527	521	521	526
Milking once a day into vat	23	17	21	22	17
Small herd	163	163	161	157	159
Main Herd	359	364	360	364	367
MS/cow/day (Actual kg / Cows into vat only)	1.88	1.86	1.82	1.83	1.74
Milk Protein/Fat ratio	0.81	0.82	0.80	0.81	0.79
Milk Fat %	5.22	5.19	5.26	5.32	5.35
Milk Protein %	4.23	4.25	4.24	4.32	4.24
MS/cow to date (total kgs / Peak Cows 560)	338	351	363	376	386
MS/ha/day (total kgs / ha used)	6.36	6.31	6.18	6.18	5.90
Herd Average Cond'n Score				4.2	

Monitor group LW kg WOW 281 early calvers	489	490	484	495	490
Soil Temp Avg Aquaflex	16.0	16.3	15.0	16.0	17.3
Growth Rate (kgDM/ha/day)	71	57	70	92	69
Plate meter height - ave half-cms	16.0	15.4	15.4	16.5	
Ave Pasture Cover (x140 + 500)	2737	2656	2652	2811	2814
Surplus/[deficit] on feed wedge- tonnes	0	4	0	8	14
Pre Grazing cover (ave for week)	3619	3581	3445	3386	3514
Post Grazing cover (ave for week)	1800	1800	1800	1800	1800
Highest pregrazing cover	3762	3888	3600	3500	3700
Area grazed / day (ave for week)	6.31	6.47	6.61	5.87	5.67
Grazing Interval	25	25	24	27	28
Milkers Offered/grazed kg DM pasture	17.4	17.9	14.8	19.2	16.0
Estimated intake pasture MJME	202	208	166	230	192
Milkers offered kg DM Grass silage	0	0	0	4	
Silage MJME/cow offered	0	0	0	11	
Estimated intake Silage MJME	0	0	0	43	
Estimated total intake MJME	202	208	166	273	192
Target total MJME Offered/eaten (includes 6% waste)				0	
Pasture ME (pre grazing sample)			11.2	12	11.9
Pasture % Protein			18.6	24	22.8
Pasture % DM - Concern below 16%			14.7	13.9	15
Pasture % NDF Concern < 33			46	37.7	39.8
Mowed pre or post grazing YTD	256.9	267.7	272.3	277.2	277.2
Total area mowed YTD	290.0	300.9	305.4	310.4	310.4
Supplements fed to date kg per cow (555peak)	55.2	55.2	55.2	79.7	79.7
Supplements Made Kg DM / ha cumulative	361.47	361.47	361.47	361.47	361.47
Units N applied/ha and % of farm	25units /33.7%	25units /23.5%	25units /20.7%	25units /22.7%	25units/18.7 %
Kgs N to Date (whole farm)	125	129	135	140	145
Rainfall (mm)	0	0	0.8	1.8	0
Aquaflex topsoil relative to fill point target 60 - 80%	50-70	50-70	50-70	50-70	50-70

Next farm walk: Tuesday 7th March 2017 at 9am. 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.

Lincoln University Dairy Farm - Farm Walk notes

Tuesday 21 February 2017

LUDF – focus for 2016/17 Season: Nil-Infrastructure, low input, low N-loss, maximise profit.
Farm system comprises 3.5 cows/ha (peak milked), Target up to 170kgN/ha, 300kgDM/cow imported supplement, plus winter most cows off farm. FWE of less than \$1 million and Target production of over 500kgMS/cow (>100% liveweight in milk production).

Critical issues for the short term

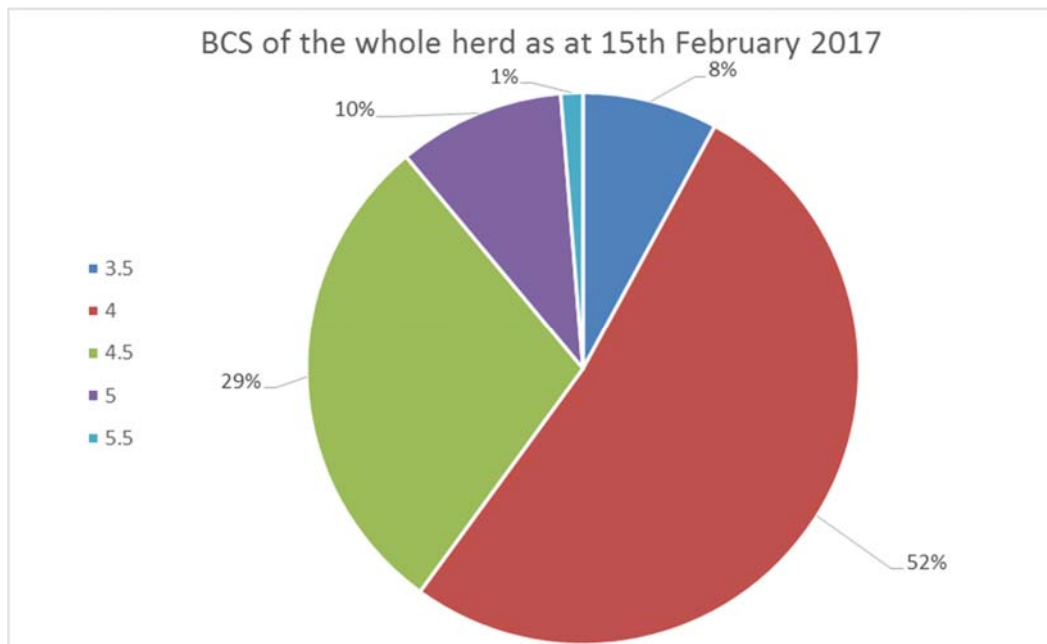
1. **Hold the rotation length to minimum 25 days to enable higher pasture growth**
2. **Set the farm and herd up for next season with round length and BCS monitoring and management**
3. **Remain focussed on average pasture cover and pasture quality to ensure enough good quality pasture is offered daily to ensure good production and reproductive results.**
4. **Monitor cow BCS changes through lactation.**

Key Numbers - week ending Tuesday 21 February 2017

Ave Pasture Cover	2811 kgDM/ha	Pasture Growth Rate	92 kgDM/ha/day (as per Pasture Coach)
Round length	27.2 days (160 ha)	Ave Supplement used	3.6kgDM silage/cow/day
No Cows on farm	544	Ave Soil Temp (week)	16°C
Kg MS/cow (546 cows)	1.83	SCC	112,000
Milk Protein : Fat ratio	0.81	Protein: 4.32%	Fat: 5.32%

Herd Management

5. A total of 544 calved cows are on farm. There are 2 milking herds, the small herd comprises 167 early 2017 calving, low BCS cows (BCS below 4.5 as at the 13th January 2017) and the large herd is 364 mixed age cows and heifers, primarily later calvers and in BCS 4.5 or above. Slight preferential grazing continues for the small herd (ie grazing the first part of most paddocks which are then generally followed by the main herd)
6. There are 543 cows going into the vat, with 521 cows on twice a day milking, 22 once a day.
7. There were no new case of mastitis over the past week (57 clinical cases season to date vs 90 cases at the same time last season).
8. This week, there were 6 new cases of lameness (104 cases season to date vs 122 cases same time last year).
9. Trace minerals and magnesium chloride are running through the stock water to all cows on the milking platform.
10. Average herd liveweight (whole herd) for the week was 500 kgLW, an increase of 12 kg from last week. The monitor group (281 early calving MA cows) has increased to 495 kgLW (11 kgLWT/cow vs last week).
11. The herd was BCS on the 16th February. The average BCS of the whole herd was 4.2 (a drop of 0.1 BCS since the 13th January). 8% of the herd is below CS 4.0, 52% of cows are BC 4.0, 29% at 4.5 and 11% at 5 or above. In late October, the average was 4.5, and in mid-July, an average of 5.3. The whole herd will be body conditioned scored again in mid March 2017.



12. 2016 spring born replacement heifers have received their 7 in 1 vaccine booster and an IBR vaccine. They have been drenched and weighed on the 13th February 2017 and presented an average weight of 177 kg liveweight with 94% of them above target liveweight, 7% of them on target and 1 % below target.

Mating results to date:

13. Cows:

- a. 10 weeks mating started on 25 October and finished 4th January. 82% of the herd was submitted in the first three weeks, compared to the target of 90%.
- b. Scanning results reported in the Fertility Focus Report show a 6-week InCalf rate of 63%, down from 69% last year and reflecting the challenging mating season and IBR outbreak described earlier in the season. The overall not-InCalf rate is 15%, slightly higher than the past few years.

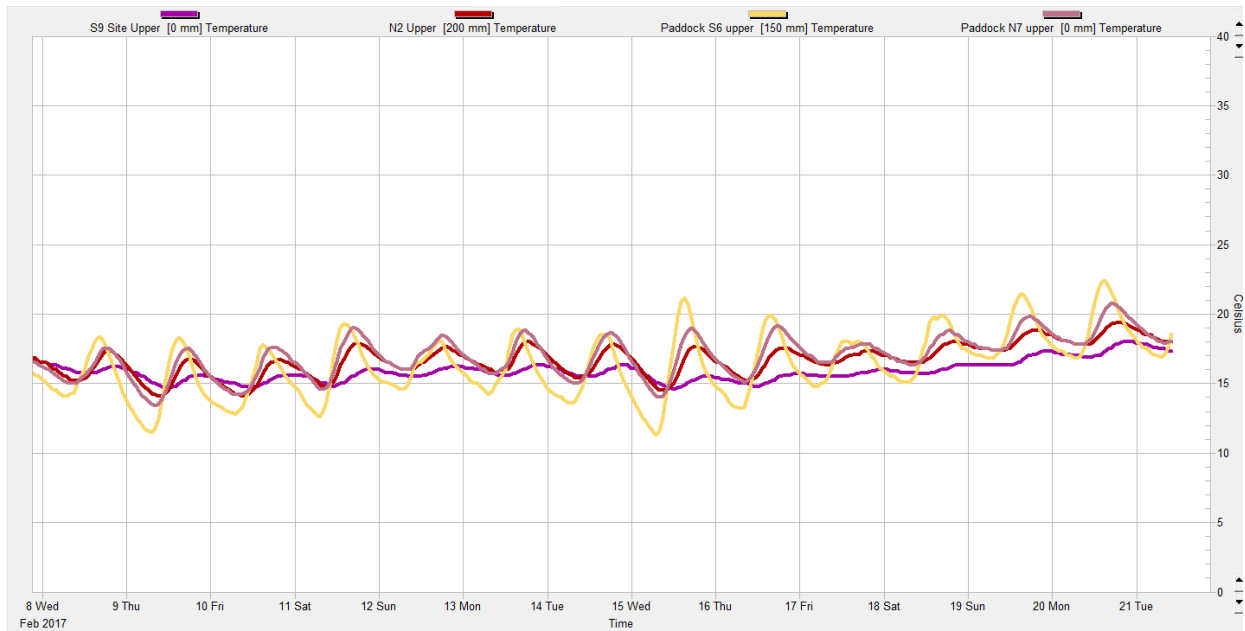
14. Replacement heifers:

- a. 9 weeks mating started for R2 2015 born heifers on 11th October 2016.
- b. Preliminary scanning results reported 98 of the 150 heifers in calf to either the AI straw or a bull mating a day later. (65%). A further scan on the 19th January gave a final result of 91% in calf.
- c. This results in 134 R2yr heifers InCalf or 24% available as replacements to enter the herd next calving. (2 have been culled since mating).

Growing Conditions

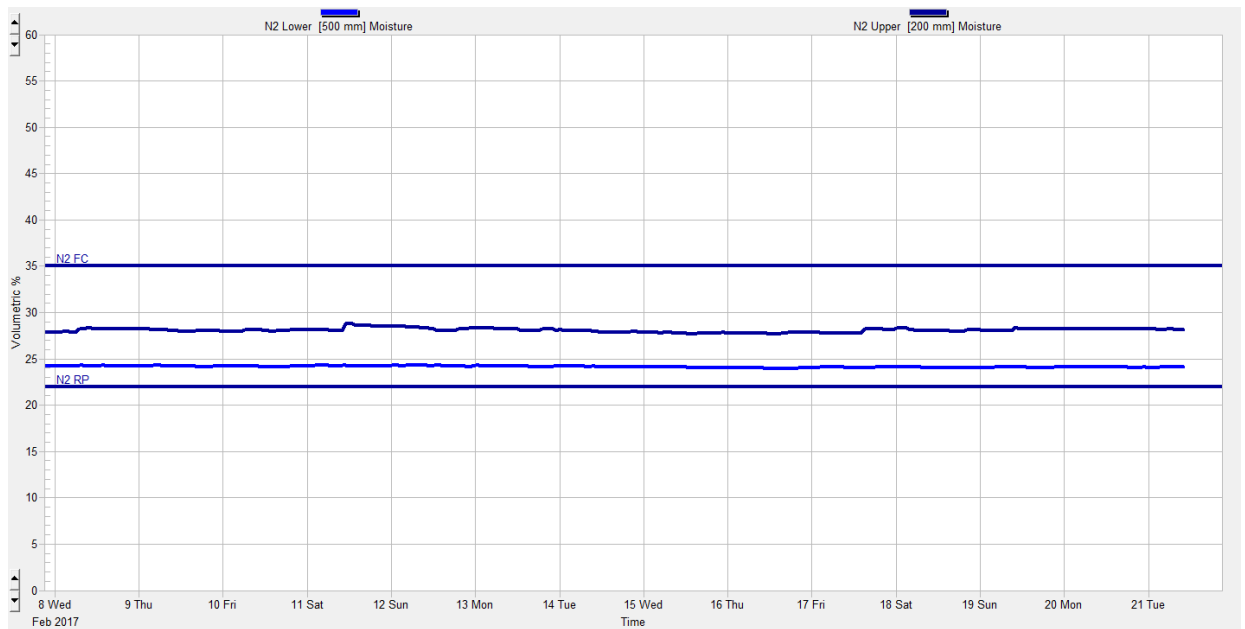
15. The average 9 am soil temperature for the past week was 16°C, 1.0°C higher than last week's (but still significantly lower than the 17.8°C at the same time last year).

Figure 1: Soil temperature history for the last 2 weeks



- 16. The farm has only received 1.8 ml of rain over this past week. Our average evapotranspiration (ET) rate this week was 27 mm (3.8 mm/day). 4 days of overcast weather even with the increases in temperature have allowed ET to remain stable.
- 17. Irrigation occurred for 4 days on the north and south blocks for this week and soil moisture seems to be holding well.

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

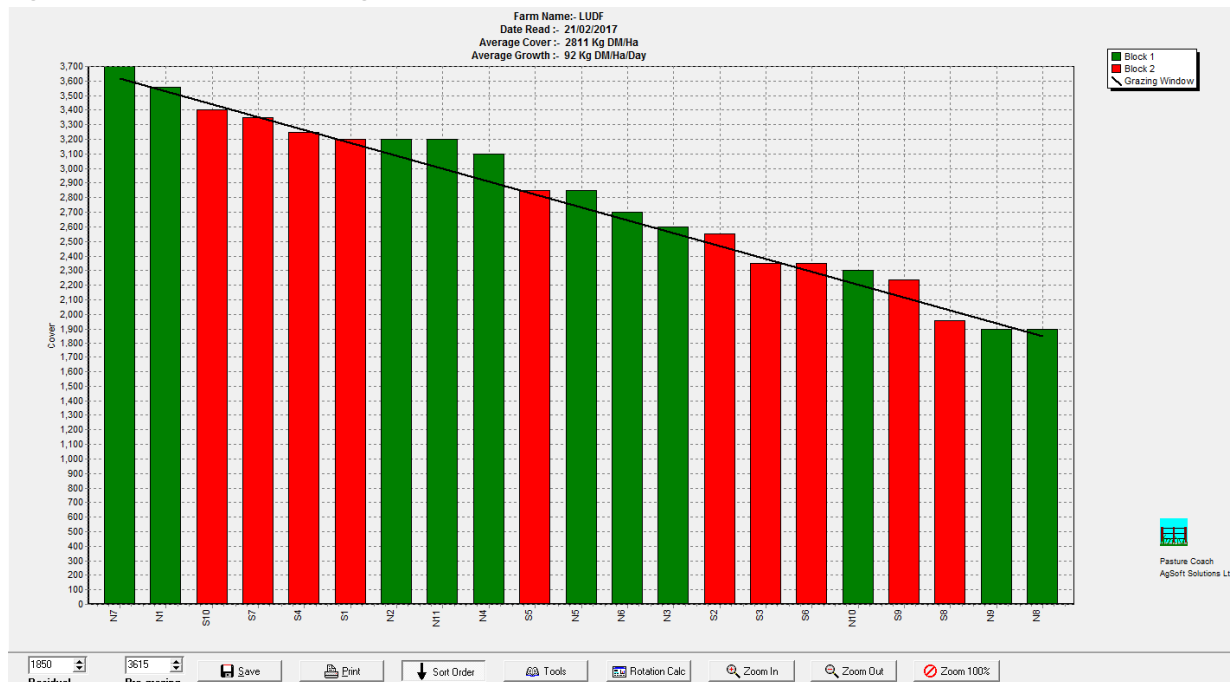


- 18. N Fertilizer: 36.34 ha have received nitrogen at a rate of 25 kgN/ha as urea, over the past week. Season to date, 140 kgN/ha has been applied on average across the 160 ha of the farm. This is in line with the target to apply up to 170kgN/ha and finish applying N around the end of March 2017.
- 19. The non-effluent block of the north block has received the 100 Kg/Ha of potassium behind the cows.

Pasture and Feed Management

20. The planned extension of the round to 28 days supported by the introduction of silage through the week has worked well.
21. A round of 27.2 days was achieved with the addition of 3.6 kgDM silage/cow/day for the week (13.7 TDM total silage used for the week).
22. The focus of offering a high daily intake of high quality pasture, while achieving a low and consistent residual continues so that high quality pasture is available again at the next round.
23. A small amount of seedhead remains visible in some paddocks (at high covers and in urine patches). However its presence was less obvious this week.
24. The consistent warm soil temperatures remain favourable to clover growth, with good levels of clover evident in most paddocks across the whole farm.
25. 4.9 ha have been post-graze mown during this last week's grazing to control weeds.
26. Rising Plate Meter data collected in recent months had appeared to routinely overestimate pregrazing pasture cover, and possibly post grazing covers also. This results in an overestimate of growth rate and impacts apparent average pasture cover. Throughout this time, grazing residuals have generally been 'low and consistent' with little remaining feed available – even at the higher plate meter readings.
27. To counteract this data collected in February is the result of a more considered focus on technique, using an average of 2-3 plate meters, combined with some discussion on the apparent yield in each paddock. This seems to be working well, with the data collected over the past 3 weeks better aligning with apparent cow intake.
28. Pasture quality from samples collected on 7st February showed an average of 13.9% DM (lower than the previous week).
 - a. Energy content higher than the previous week (12 vs 11.2 MJME/kgDM)
 - b. Protein levels much higher than previous week (24% vs 18.6%)
 - c. NDF lower than previous week (37.7% vs 46%).

Figure 3: This week's feed wedge



29. The demand line on the pasture wedge graph is calculated as follows:
 - a. 544 cows on 160 ha: 3.4 cows/ha.

- b. Planned minimum round length for the coming week is 28 days over 160 ha or 5.7 ha/day
 - c. The dry matter intake for the current level of milksolids production is around 18.5 kgDM/cow/day
 - d. Total demand: 18.5 kgDM/cow/day x 544 average cows for the week = 10,064 kgDM/day (62 kgDM/ha/day)
 - e. Demand of 10,064 kgDM/day from 5.7 ha /day requires 1,765 kgDM/ha available.
 - f. Assuming the target residual is 1850kgDM/ha, target pregraze covers are 3,615 kgDM/ha. (1,850 kgDM/ha + 1,765 kgDM/ha = 3,615 kgDM/ha pregraze cover).
 - g. Target APC would therefore be $(3615+1850)/2 = 2,732$ kgDM/ha
30. The feed wedge above is showing a surplus of about 8 TDM total at this stage.
31. Average pasture cover this week has increased by 159 kgDM/ha for the week
32. Demand continues to sit at 63 kgDM/ha/day and growth rate as reported by Pasture coach was around 92 kgDM/ha/day. The difference is consistent with the increase in cover observed for the week.
- Increase in cover = 2811-2652 = 159 kgDM/ha/week.
159kgDM/ha/week = 22 kgDM/ha/day.
Demand of 63 + increase in cover of 22 = 85, similar to the 92kgDM/ha calculated growth rate.
33. It could be argued that the silage required to achieve the current cover and the extension of the round through the week could have been a bit less than what was used (13.7 TDM used vs an 8 tDM surplus at the moment). However, given the time of the year and the potential quick changes of pasture growth that can happen through autumn, carrying less than 1 days' worth of feed ahead of us in the wedge is not a bad place to be.
34. It appears that the revision of plating technique has reduced much of the previous overestimation of pasture covers and subsequently growth rates, with the data more closely aligning with what cow observation indicates.

Feeding Management for the coming week:

35. In terms of pasture management, we remain focussed on feeding cows as much high quality pasture as they can effectively eat, every day - while holding cow condition, milk production and achieving low and consistent grazing residuals.
36. In preparation for next season, focus turns to target dry off covers as well as BCS in the herd. There will be only about 3 more grazing rounds between now and end-May.
37. The aim is to hold a 28 day grazing round. To achieve this, the current feed wedge would suggest that no silage is required. However, the decision around bringing the silage in will be considered on a paddock per paddock basis.
38. Grazing decisions will continue to be influenced by cow behaviour and pasture growing conditions, taking particular note of area grazed per day. Historically LUDF has experienced growth above demand in Feb-March so silage and round length will be manipulated with any surplus now pushed forward into a longer round.
39. The farm will continue to apply Nitrogen fertilizer following grazing, applying Urea at 25kgN/ha to the non-effluent areas of the farm.

LUDF Weekly report	24-Jan-17	31-Jan-17	7-Feb-17	14-Feb-17	21-Feb-17
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	0/0/0	0/0/0	2/0/0	0/0/0	0/0/0
Culls (Includes culls put down & empties)	0	0	0	2	2
Culls total to date	20	20	20	22	22
Deaths (Includes cows put down)	0	0	0	0	0
Deaths total to date	14	14	14	14	14
Calved Cows available (Peak Number 560...)	546	546	546	544	544
Treatment / Sick mob total	0	1	0	2	1
Mastitis clinical treatment	0	1	0	2	0

Mastitis clinical YTD (tgt below 64 yr end)	54	55	55	57	57
Bulk milk SCC (tgt Avg below 150)	110	110	98	118	112
Lame new cases	6	2	0	3	6
Lame ytd	93	95	95	98	104
Lame days YTD (Tgt below 1000 yr end)	2483	2644	2763	2910	3064
Other/Colostrum					
Milking twice a day into vat	524	522	527	521	521
Milking once a day into vat	22	23	17	21	22
Small herd	163	163	163	161	157
Main Herd	368	359	364	360	364
MS/cow/day (Actual kg / Cows into vat only)	1.92	1.88	1.86	1.82	1.83
Milk Protein/Fat ratio	0.82	0.81	0.82	0.80	0.81
Milk Fat %	5.10	5.22	5.19	5.26	5.32
Milk Protein %	4.18	4.23	4.25	4.24	4.32
MS/cow to date (total kgs / Peak Cows 560)	325	338	351	363	376
MS/ha/day (total kgs / ha used)	6.50	6.36	6.31	6.18	6.18
Herd Average Cond'n Score					4.2
Monitor group LW kg WOW 281 early calvers	489	489	490	484	495
Soil Temp Avg Aquaflex	15.4	16.0	16.3	15.0	16.0
Growth Rate (kgDM/ha/day)	93	71	57	70	92
Plate meter height - ave half-cms	17.8	16.0	15.4	15.4	16.5
Ave Pasture Cover (x140 + 500)	2987	2737	2656	2652	2811
Surplus/[deficit] on feed wedge- tonnes	0	0	4	0	8
Pre Grazing cover (ave for week)	3606	3619	3581	3445	3386
Post Grazing cover (ave for week)	1800	1800	1800	1800	1800
Highest pregrazing cover	3722	3762	3888	3600	3500
Area grazed / day (ave for week)	6.45	6.31	6.47	6.61	5.87
Grazing Interval	25	25	25	24	27
Milkers Offered/grazed kg DM pasture	20.5	17.4	17.9	14.8	19.2
Estimated intake pasture MJME	240	202	208	166	230
Milkers offered kg DM Grass silage	0	0	0	0	4
Silage MJME/cow offered	0	0	0	0	11
Estimated intake Silage MJME	0	0	0	0	43
Estimated total intake MJME	240	202	208	166	273
Target total MJME Offered/eaten (includes 6% waste)					0
Pasture ME (pre grazing sample)	11.5			11.2	12
Pasture % Protein	18.2			18.6	24
Pasture % DM - Concern below 16%	12.3			14.7	13.9
Pasture % NDF Concern < 33	40.1			46	37.7
Mowed pre or post grazing YTD	255.9	256.9	267.7	272.3	277.2
Total area mowed YTD	280.4	290.0	300.9	305.4	310.4
Supplements fed to date kg per cow (555peak)	55.2	55.2	55.2	55.2	79.7
Supplements Made Kg DM / ha cumulative	272.1	361.47	361.47	361.47	361.47
Units N applied/ha and % of farm	25units /19.6%	25units /33.7%	25units /23.5%	25units /20.7%	25units /22.7%
Kgs N to Date (whole farm)	117	125	129	135	140
Rainfall (mm)	23	0	0	0.8	1.8
Aquaflex topsoil relative to fill point target 60 - 80%	80	50-70	50-70	50-70	50-70

Next farm walk: Tuesday 28th February 2017 at 9am. 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.

To view the weekly updates from the DairyNZ grazing / mowing trial at the Lincoln University Research dairy farm:

http://www.dairynz.co.nz/about-us/research/key-projects/pre-grazing-and-mowing-trial/?_cldee=cm9uLnBibGxvd0BzaWRkYy5vcmcubno%3d&recipientid=contact-548dfc0e4e29e2119d66005056ba000b-549bf4cfc165401b871710bc4f8eff8b&esid=be6dfe97-f3a5-e611-bd66-005056ba000b&urlid=0

Lincoln University Dairy Farm - Farm Walk notes

Tuesday 14 February 2017

LUDF – focus for 2016/17 Season: Nil-Infrastructure, low input, low N-loss, maximise profit.
Farm system comprises 3.5 cows/ha (peak milked), Target up to 170kgN/ha, 300kgDM/cow imported supplement, plus winter most cows off farm. FWE of less than \$1 million and Target production of over 500kgMS/cow (>100% liveweight in milk production).

Critical issues for the short term

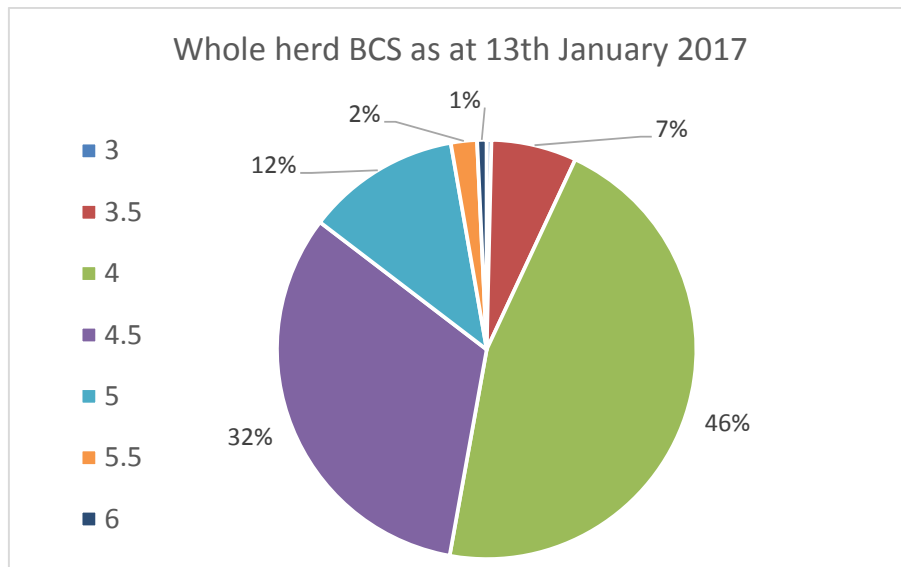
1. **Hold the rotation length to minimum 25 days to enable higher pasture growth**
2. **Set the farm and herd up for next season with round length and BCS monitoring and management**
3. **Remain focussed on average pasture cover and pasture quality to ensure enough good quality pasture is offered daily to ensure good production and reproductive results.**
4. **Monitor cow BCS changes through lactation.**

Key Numbers - week ending Tuesday 14 February 2017

Ave Pasture Cover	2652 kgDM/ha	Pasture Growth Rate	70 kgDM/ha/day (as per Pasture Coach)
Round length	24.2 days (160 ha)	Ave Supplement used	none
No Cows on farm	544	Ave Soil Temp (week)	15°C
Kg MS/cow (546 cows)	1.82	SCC	118,000
Milk Protein : Fat ratio	0.8	Protein: 4.24%	Fat: 5.26%

Herd Management

5. A total of 544 calved cows are on farm. There are 2 milking herds, the small herd comprises 161 early calving, low BCS cows (BCS below 4.5) and the large herd is 360 mixed age cows and heifers, primarily later calvers and in BCS 4.5 or above. Slight preferential grazing continues for the small herd (ie grazing the first part of most paddocks and generally followed by the main herd)
6. There are 542 cows going into the vat, with 521 cows on twice a day milking, 21 once a day.
7. There were 2 new case of mastitis over the past week (57 clinical cases season to date vs 89 cases at the same time last season).
8. This week, there were 3 new cases of lameness (98 cases season to date vs 118 cases same time last year).
9. Trace minerals and magnesium chloride are running through the stock water to all cows on the milking platform.
10. Average herd liveweight (whole herd) for the week was 488 kgLW, a decrease from 496kg average last week. The monitor group (281 early calving MA cows) has decreased from 490 kg to 484 kg liveweight/cow over the week.
11. The herd was BCS on the 13th January. The average BCS of the whole herd was 4.3 (no change from 13th December 2016). 7% of the herd is below CS 4.0, 46% of cows are BC 4.0, 33% at 4.5 and 15% at 5 or above. In late October, the average was 4.5, and in mid-July, an average of 5.3. The whole herd will be body conditioned scored again in February 2017.



12. 2016 spring born replacement heifers have received their 7 in 1 vaccine booster and an IBR vaccine. They have been drenched and weighed on the 16th January 2017 and presented an average weight of 155 kgLWT with 90% of them above target liveweight, 9% of them on target and 1 % below target.

Mating results to date:

13. Cows:

- a. 10 weeks mating started on 25 October and finished 4th January. 82% of the herd was submitted in the first three weeks, compared to the target of 90%.
- b. Scanning results reported in the Fertility Focus Report show a 6-week InCalf rate of 63%, down from 69% last year and reflecting the challenging mating season and IBR outbreak described earlier in the season. The overall not-InCalf rate is 15%, slightly higher than the past few years.

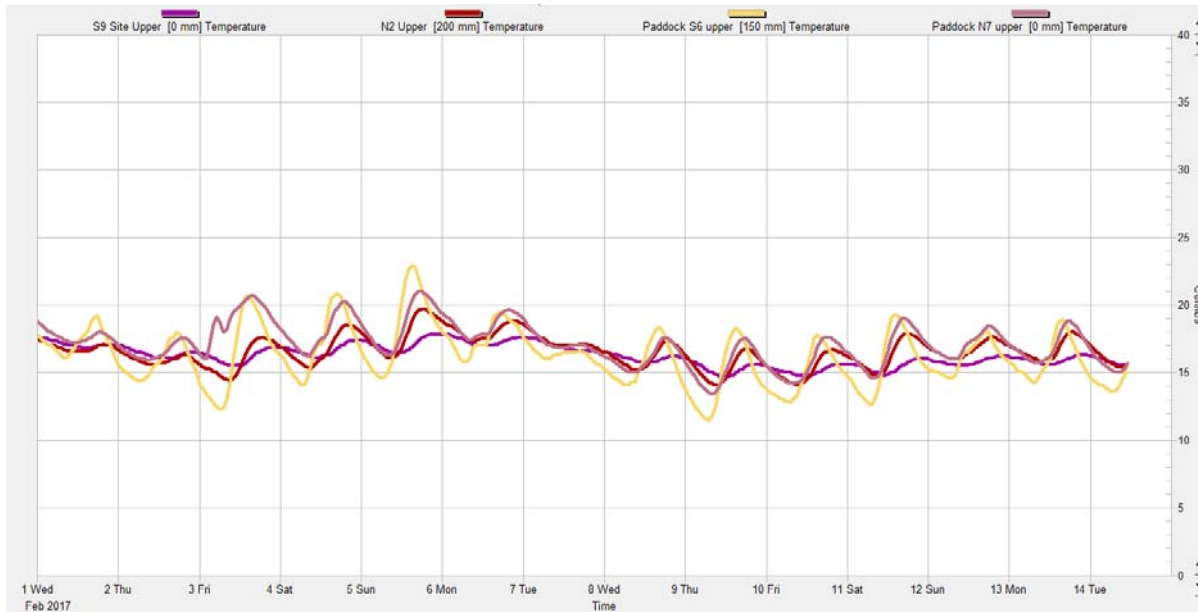
14. Replacement heifers:

- a. 9 weeks mating started for R2 2015 born heifers on 11th October 2016.
- b. Preliminary scanning results reported 98 of the 150 heifers in calf to either the AI straw or a bull mating a day later. (65%). A further scan on the 19th January gave a final result of 91% in calf.
- c. This results in 134 R2yr heifers InCalf or 24% available as replacements to enter the herd next calving. (2 have been culled since mating).

Growing Conditions

15. The average 9 am soil temperature for the past week was 15°C, 1.1°C lower than last week's (and significantly lower than the 18.1°C same as last year).

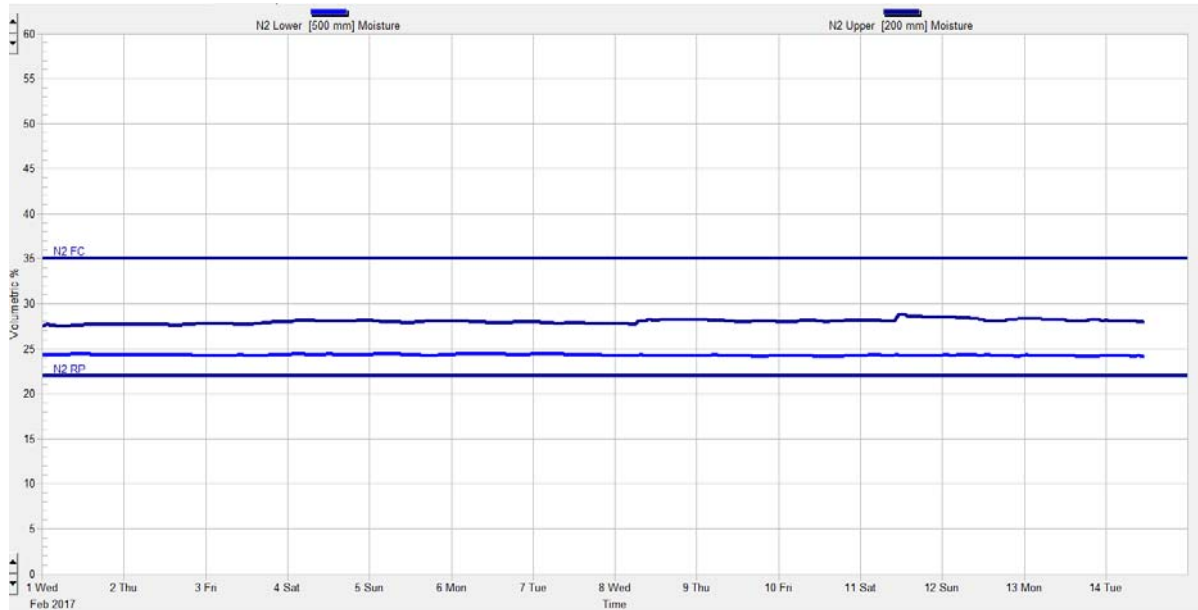
Figure 1: Soil temperature history for the last 2 weeks



16. The farm has received virtually no rain this past week (0.8 ml). Our average evapotranspiration (ET) rate this week was 27.7 mm (3.9 mm/day). Slightly cooler temperatures and shorter days are reducing ET.

17. Irrigation occurred for 5 days on the north block and 4 days on the south block, for this week and soil moisture seems to be holding well.

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



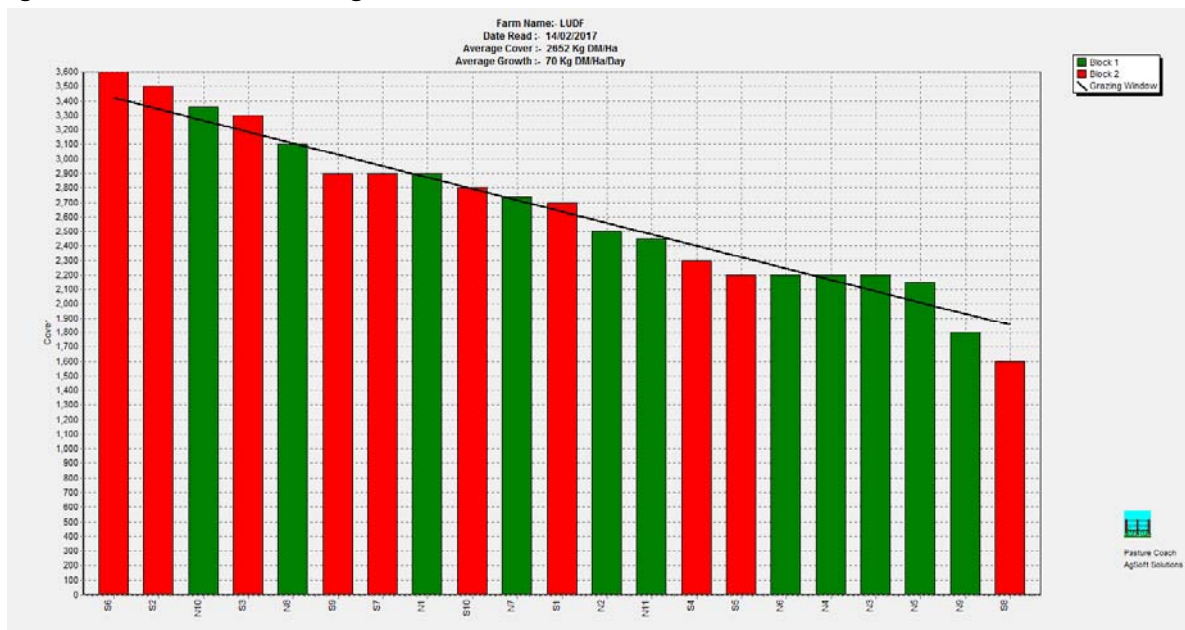
18. N Fertilizer: 33.13 ha have received nitrogen at a rate of 25 kgN/ha as urea, over the past week. Season to date, 135 kgN/ha has been applied on average across the 160 ha of the farm. This is in line with the target to apply up to 170kgN/ha and finish applying N around the end of March.

19. The non-effluent block of the north block is currently receiving 100 Kg Ha of potassium behind the cows. 8.36 ha of it has been covered this past week.

Pasture and Feed Management

20. The planned 25 day grazing round for the past week was almost achieved (24.2 day round).
21. The focus of offering a high daily intake of high quality pasture, while achieving a low and consistent residual continues so that high quality pasture is available again at the next round.
22. A small amount of seedhead remains visible in some paddocks (at high covers and in urine patches). However its presence was less obvious this week.
23. Clovers have remained a strong presence in paddocks across the whole farm. The consistent warm soil temperatures are favourable to clover growth.
24. 4.58 ha have been post-graze mown during this last week's grazing to control weeds.
25. Rising Plate Meter data collected in recent months has appeared to routinely overestimate pregrazing pasture cover, and possibly post grazing covers also. This results in an overestimate of growth rate and impacts apparent average pasture cover. Throughout this time, grazing residuals have generally been 'low and consistent' with little remaining feed available – even at the higher plate meter readings.
26. Seeking to address this, the plate meter data collected and reported last week and again today is the result of a more considered focus on technique and an average of 2-3 plate meters, combined with some discussion on the apparent yield in each paddock. The data collected today can therefore be reasonably compared to last week's data (but not previous week's data). It should provide a better reflection of likely growth rates, APC and therefore available feed on farm.
27. Pasture quality from samples collected on 1st February showed an average of 14.7% DM, a decrease from 16% DM, a week earlier.
 - a. Energy content lower than last week (11.2 vs 11.7MJME/kgDM)
 - b. Protein levels lower than last week (18.6% vs 22%)
 - c. NDF higher (46 vs 41%).

Figure 3: This week's feed wedge



28. The demand line on the pasture wedge graph is calculated as follows:
 - a. 544 cows on 160 ha: 3.4 cows/ha.
 - b. Planned minimum round length for the coming week is 25 days over 160 ha or 6.4 ha/day
 - c. The dry matter intake for the current level of milksolids production is around 18.5 kgDM/cow/day
 - d. Total demand: 18.5 kgDM/cow/day x 544 average cows for the week = 10,064 kgDM/day (63 kgDM/ha/day)

- e. Demand of 10,064 kgDM/day from 6.4 ha /day requires 1,572 kgDM/ha available.
 - f. Assuming the target residual is 1850kgDM/ha, target pregraze covers are 3422 kgDM/ha. (1,850 kgDM/ha + 1,572 kgDM/ha = 3,422 kgDM/ha pregraze cover).
 - g. Target APC would therefore be $(3422+1850)/2 = 2,636$ kgDM/ha
 - h. The Pasture Coach feed wedge above shows feed supply is matching feed demand.
29. Average pasture cover this week has remain virtually the same as last week's, suggesting actual growth was approximately equal to demand, or about 63 kgDM/ha/day.
30. It could be argued that the difference in growth rates between the 'demand calculated growth rate' and the growth rate calculated from increases in pasture cover per paddock is in the margin of error of measurement and calculation. A difference of 7kgDM/ha/day over 160 ha and 7 days is 7800 kgDM, or less than one days feed.
31. It appears that the revision of plating technique has reduced much of the previous overestimation of pasture covers and subsequently growth rates, with the data more closely aligning with what cow observation indicates. However, the decrease in milk production and liveweight this week, suggests (in addition to the 24 rather than 25 day round) that available pasture is still lower than measured and reported in the feed wedge.

Feeding Management for the coming week:

32. In terms of pasture management, we remain focussed on feeding cows as much high quality pasture as they can effectively eat, every day - while holding cow condition, milk production and achieving low and consistent grazing residuals.
33. In preparation for next season, focus turns to target dry off covers as well as BCS in the herd. There will be only about 3 more grazing rounds between now and end-May.
34. The decision has therefore been made to begin lengthening the round with a target of 28 days this week. To achieve this, some of the larger paddocks coming up for grazing will be split into 2 and small amounts of silage will be fed as required to achieve this round length and target residuals.
35. Grazing decisions will continue to be influenced by cow behaviour and pasture growing conditions, taking particular note of area grazed per day. Historically LUDF has experienced growth above demand in Feb-March so silage and round length will be manipulated with any surplus now pushed forward into a longer round.
36. The farm will continue to apply Nitrogen fertilizer following grazing, applying Urea at 25kgN/ha to the non-effluent areas of the farm.

LUDF Weekly report	17-Jan-17	24-Jan-17	31-Jan-17	7-Feb-17	14-Feb-17
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	0/0/0	0/0/0	0/0/0	2/0/0	0/0/0
Culls (Includes culls put down & empties)	0	0	0	0	2
Culls total to date	20	20	20	20	22
Deaths (Includes cows put down)	0	0	0	0	0
Deaths total to date	14	14	14	14	14
Calved Cows available (Peak Number 560...)	546	546	546	546	544
Treatment / Sick mob total	4	0	1	0	2
Mastitis clinical treatment	3	0	1	0	2
Mastitis clinical YTD (tgt below 64 yr end)	54	54	55	55	57
Bulk milk SCC (tgt Avg below 150)	109	110	110	98	118
Lame new cases	10	6	2	0	3
Lame ytd	87	93	95	95	98
Lame days YTD (Tgt below 1000 yr end)	2329	2483	2644	2763	2910
Other/Colostrum	0	0	0	0	0
Milking twice a day into vat	512	524	522	527	521
Milking once a day into vat	30	22	23	17	21

Small herd	153	163	163	163	161
Main Herd	359	368	359	364	360
MS/cow/day (Actual kg / Cows into vat only)	1.96	1.92	1.88	1.86	1.82
Milk Protein/Fat ratio	0.83	0.82	0.81	0.82	0.80
Milk Fat %	5.06	5.10	5.22	5.19	5.26
Milk Protein %	4.18	4.18	4.23	4.25	4.24
MS/cow to date (total kgs / Peak Cows 560	312	325	338	351	363
MS/ha/day (total kgs / ha used	6.63	6.50	6.36	6.31	6.18
Herd Average Cond'n Score	4.3				
Monitor group LW kg WOW 281 early calvers	484	489	489	490	484
Soil Temp Avg Aquaflex	16.5	15.4	16.0	16.3	15.0
Growth Rate (kgDM/ha/day)	110	93	71	57	70
Plate meter height - ave half-cms	18.3	17.8	16.0	15.4	15.4
Ave Pasture Cover (x140 + 500)	3065	2987	2737	2656	2652
Surplus/[deficit] on feed wedge- tonnes	70	0	0	4	0
Pre Grazing cover (ave for week)	3632	3606	3619	3581	3445
Post Grazing cover (ave for week)	1750	1800	1800	1800	1800
Highest pregrazing cover	3694	3722	3762	3888	3600
Area grazed / day (ave for week)	6.19	6.45	6.31	6.47	6.61
Grazing Interval	26	25	25	25	24
Milkers Offered/grazed kg DM pasture	17.9	20.5	17.4	17.9	14.8
Estimated intake pasture MJME	208	240	202	208	166
Milkers offered kg DM Grass silage	0	0	0	0	0
Silage MJME/cow offered	0	0	0	0	0
Estimated intake Silage MJME	0	0	0	0	0
Estimated total intake MJME	208	240	202	208	166
Target total MJME Offered/eaten (includes 6% waste)					
Pasture ME (pre grazing sample)	11.6	11.5			11.2
Pasture % Protein	18	18.2			18.6
Pasture % DM - Concern below 16%	12.9	12.3			14.7
Pasture % NDF Concern < 33	41.3	40.1			46
Mowed pre or post grazing YTD	248.6	255.9	256.9	267.7	272.3
Total area mowed YTD	265.9	280.4	290.0	300.9	305.4
Supplements fed to date kg per cow (555peak)	55.2	55.2	55.2	55.2	55.2
Supplements Made Kg DM / ha cumulative	174.6	272.1	361.47	361.47	361.47
Units N applied/ha and % of farm	25units /20.2%	25units /19.6%	25units /33.7%	25units /23.5%	25units /20.7%
Kgs N to Date (whole farm)	112	117	125	129	135
Rainfall (mm)	0	23	0	0	0.8
Aquaflex topsoil relative to fill point target 60 - 80%	60-70	80	50-70	50-70	50-70

Next farm walk: Tuesday 21st February 2017 at 9am. 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.

To view the weekly updates from the DairyNZ grazing / mowing trial at the Lincoln University Research dairy farm:

http://www.dairynz.co.nz/about-us/research/key-projects/pre-grazing-and-mowing-trial/?_cldee=cm9uLnBlbGxvd0BzaWRkYy5vcmcubno%3d&recipientid=contact-548dfc0e4e29e2119d66005056ba000b-549bf4cfc165401b871710bc4f8eff8b&esid=be6dfe97-f3a5-e611-bd66-005056ba000b&urlid=0

Lincoln University Dairy Farm - Farm Walk notes

Tuesday 7 February 2017

LUDF – focus for 2016/17 Season: Nil-Infrastructure, low input, low N-loss, maximise profit.
Farm system comprises 3.5 cows/ha (peak milked), Target up to 170kgN/ha, 300kgDM/cow imported supplement, plus winter most cows off farm. FWE of less than \$1 million and Target production of over 500kgMS/cow (>100% liveweight in milk production).

Critical issues for the short term

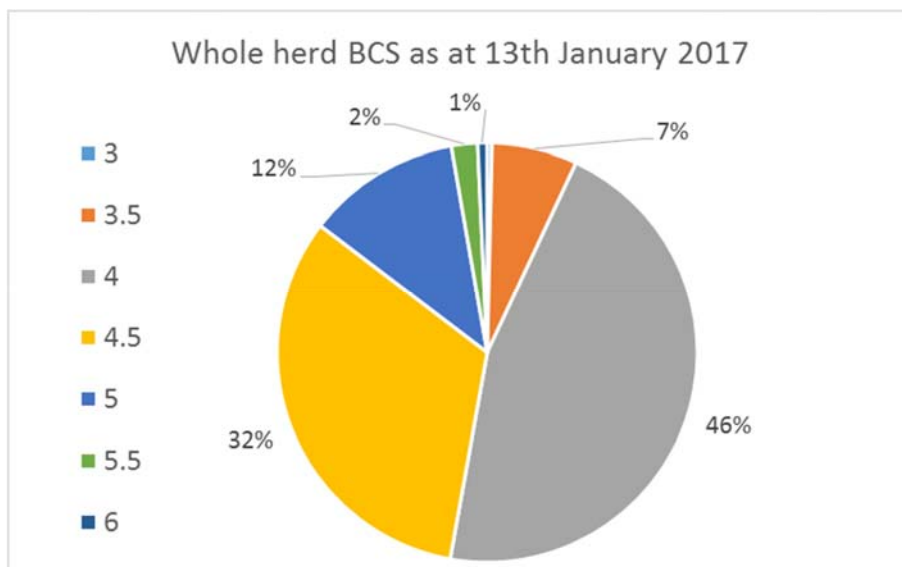
1. **Hold the rotation length to minimum 25 days to enable higher pasture growth**
2. **Start setting the farm and herd up for next season with round length and BCS monitoring and management**
3. **Remain focussed on average pasture cover and pasture quality to ensure enough good quality pasture is offered daily to ensure good production and reproductive results.**
4. **Monitor cow BCS changes through lactation.**

Key Numbers - week ending Tuesday 7 February 2017

Ave Pasture Cover	2656 kgDM/ha	Pasture Growth Rate	Approx. equal to demand - see below.
Round length	24.7 days (160 ha)	Ave Supplement used	none
No Cows on farm	546	Ave Soil Temp (week)	16.3°C
Kg MS/cow (546 cows)	1.86	SCC	98,000
Milk Protein : Fat ratio	0.82	Protein: 4.25%	Fat: 5.19%

Herd Management

5. A total of 546 calved cows are on farm. There are 2 milking herds, the small herd comprises 163 early calving, low BCS cows (BCS below 4.5) and the large herd is 359 mixed age cows and heifers, primarily later calvers and in BCS 4.5 or above. Slight preferential grazing continues for the small herd (ie grazing the first part of most paddocks and generally followed by the main herd)
6. There are 544 cows going into the vat, with 527 cows on twice a day milking, 17 once a day.
7. There was one new case of mastitis over the past week (55 clinical cases season to date vs 89 cases at the same time last season) but no new cases of lameness (95 cases season to date vs 114 cases same time last year).
8. Trace minerals and magnesium chloride are running through the stock water to all cows on the milking platform.
9. Average herd liveweight (whole herd) for the week was 496 kgLWT. The monitor group (281 early calving MA cows) has increased on average 6kg over the past 5 weeks and are now 490 kg liveweight/cow.
10. The herd was BCS on the 13th January. The average BCS of the whole herd was 4.3 (no change from 13th December 2016). 7% of the herd were below CS 4.0, 46% of cows were BC 4.0, 33% at 4.5 and 15% at 5 or above. In late October, the average was 4.5, and in mid-July, an average of 5.3. The whole herd will be body conditioned scored again during February 2017.



11. 2016 spring born replacement heifers have received their 7 in 1 vaccine booster and an IBR vaccine. They have been drenched and weighed on the 16th January 2017 and presented an average weight of 155 kgLWT with 90% of them above target liveweight, 9% of them on target and 1 % below target.

Mating results to date:

12. Cows:

- a. Mating started on 25 October with 82% submitted in the first three weeks, compared to the target of 90%.
- b. Mating finished on Wednesday 4th January (10 weeks mating).
- c. The Fertility Focus Report shows the 6-week InCalf rate is 65%, down from 69% last year and reflecting the challenging mating season and IBR outbreak described earlier in the season. A further scan will be conducted in February to determine the overall not-InCalf rate.

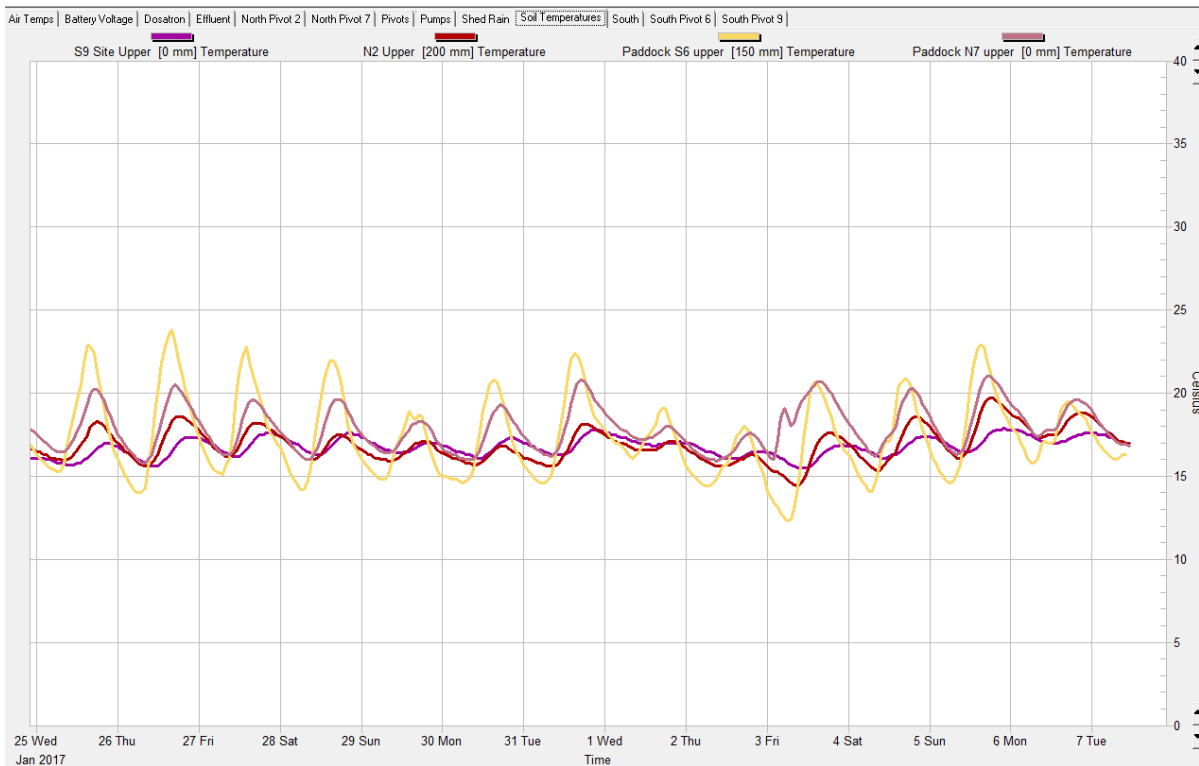
13. Replacement heifers:

- a. 9 weeks mating started for R2 2015 born heifers on 11th October 2016.
- b. Scanning on 19th January determined 91% In-Calf, while the preliminary scanning results showed 65% in calf from the first cycle of mating (either the AI straw or a bull mating a day later).

Growing Conditions

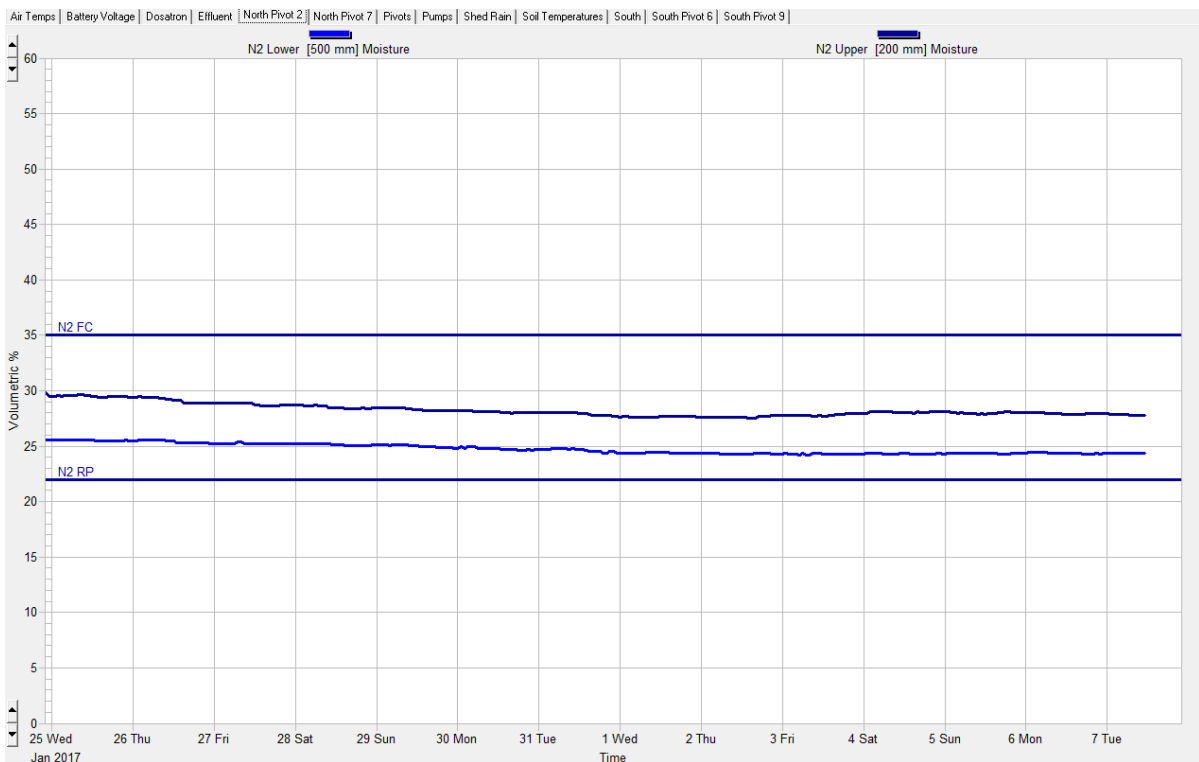
14. The average 9 am soil temperature for the past week was 16.3°C, 0.9°C higher than last week's (but lower than 17.4°C recorded at the same time last year).

Figure 1: Soil temperature history for the last 2 weeks



- 15. The farm has received no rain this past week. Our average evapotranspiration (ET) rate this week was 37.2 mm (5.3 mm/day).
- 16. Irrigation occurred for 6 days on the north block and 5 days on the south block.

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

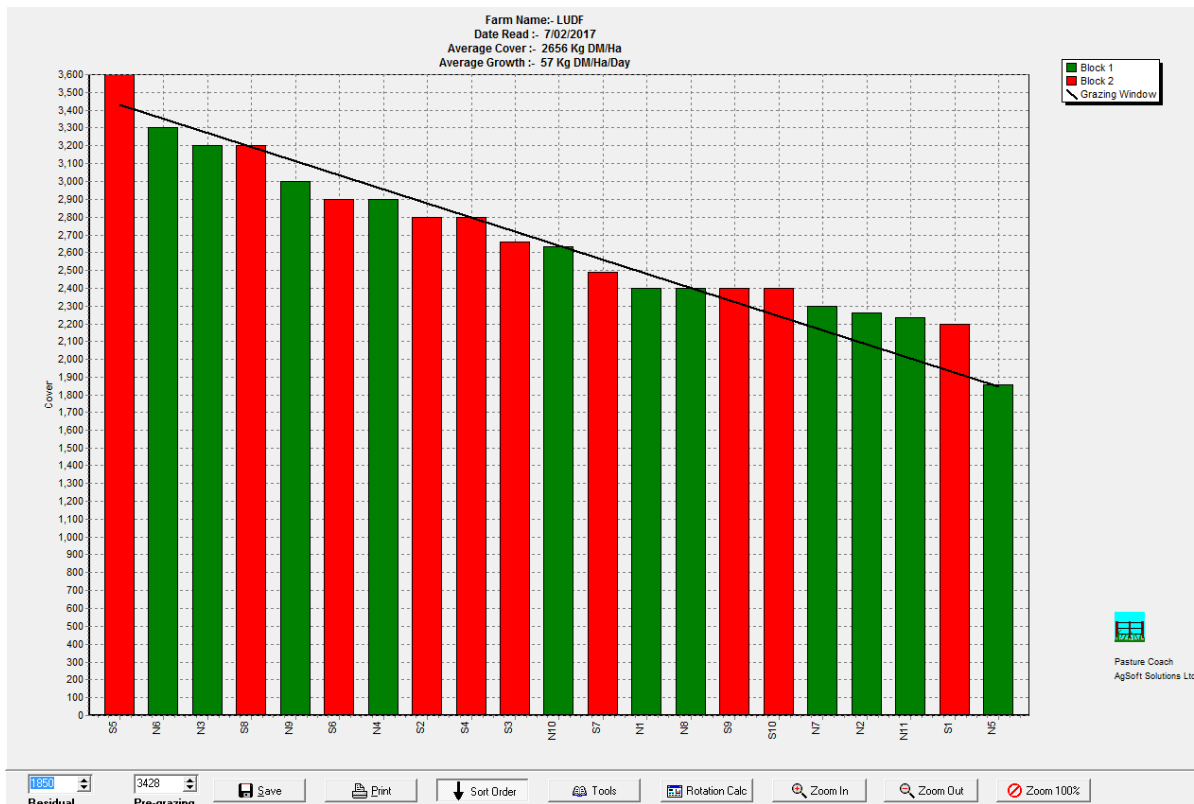


17. N Fertilizer: 37.7 ha have received nitrogen at a rate of 25 kgN/ha as urea, over the past week. Season to date, 129 kgN/ha has been applied on average across the 160 ha of the farm. This is in line with the target to apply up to 170kgN/ha and finish applying N around the end of March.
18. The non-effluent block of the north block is currently receiving 100 Kg/Ha of potassium fertiliser behind the cows, as soil test trends over time have shown decreasing soil potassium. 11.69 ha of it has been covered this past week.

Pasture and Feed Management

19. The planned 25 day grazing round for the past week was largely achieved (24.7 day round actual).
20. The farm continues to focus on offering a high daily intake of high quality pasture, while achieving a low and consistent residual so that high quality pasture is available again at the next round.
21. Some seedhead remains visible in paddocks with high covers and some urine patches. However its presence was less obvious this week.
22. Clovers have remained a strong presence in paddocks across the whole farm. The consistent warm soil temperatures are favourable to clover growth.
23. Rising Plate Meter data collected in recent months has appeared to routinely overestimate pregrazing pasture cover, and possibly post grazing covers also. This results in an overestimate of growth rate and impacts apparent average pasture cover. Throughout this time, grazing residuals have generally been 'low and consistent' with little remaining feed available – even at the higher plate meter readings.
24. Seeking to address this, the plate meter data collected and reported today is the result of a more considered focus on technique and an average of 2-3 plate meters, combined with some discussion on the apparent yield in each paddock. The data collected today cannot therefore be reasonably compared to last week's data, but next week and subsequently should provide a better reflection of likely growth rates, APC and therefore available feed on farm.
25. Pasture quality from samples collected on 1st February showed an average of 14.7% DM, a decrease from last week.
 - a. Energy content was lower at 11.2 MJME/kgDM.
 - b. Protein levels was also down at 18.6%
 - c. NDF was up to 46%.

Figure 3: This week's feed wedge (but note comments above re growth rate and APC)



26. The demand line on the pasture wedge graph is calculated as follows:

- 546 cows on 160 ha: 3.4 cows/ha.
- Planned minimum round length for the coming week is 25 days over 160 ha or 6.4 ha/day
- The dry matter intake for the current level of milksolids production is around 18.5 kgDM/cow/day
- Total demand: 18.5 kgDM/cow/day x 546 average cows for the week = 10,101 kgDM/day (63 kgDM/ha/day)
- Demand of 10,101 kgDM/day from 6.4 ha /day requires 1,578kgDM/ha available.
- Assuming the target residual is 1850kgDM/ha, target pregraze covers are 3428kgDM/ha. (1,850 kgDM/ha + 1,578 kgDM/ha = 3,428 kgDM/ha pregraze cover).
- Target APC would therefore be $(3428+1850)/2 = 2,639$ kgDM/ha
- The Pasture Coach feed wedge above shows a surplus of 4 tonnes DM total. This is roughly 0.5 days feed intake.

27. Average pasture cover reported on the feed wedge above (2656 kgDM/ha) is approximately equal to the target APC. Considering the 24-25 day round achieved during the week, average pasture cover shown above, and apparent match of the supply and demand on the above feed wedge suggests growth is potentially meeting demand on farm at present.

28. NOTE: The growth rate reported on the feed wedge above is not relevant as it is derived from the difference between last weeks data and this weeks data which cannot account for the underlying difference in plate meter data collected this week. Next weeks growth rates however should reflect the change from this weeks data.

29. Similarly, average pasture cover shown above cannot reasonably be compared to last weeks as the base rising plate meter data is not comparable

Feeding Management for the coming week:

30. In terms of pasture management, we remain focussed on feeding cows as much high quality pasture as they can effectively eat, every day - while holding / lifting cow condition, and achieving low and consistent grazing residuals.
31. We are starting to prepare the farm and herd for next season, looking at target dry off covers as well as BCS in the herd. There will be only 3-4 more rounds between now and end-May so the time to plan and start the autumn plan is now.
32. With the above in mind, the target for the coming week remains a 25 day rotation, though it could be a little longer given the high pre-graze covers the cows will be going into. Pasture quality will sustain a slightly longer round.
33. Grazing decisions will continue to be influenced by cow behaviour and pasture growing conditions, taking particular note of area grazed per day.
34. The farm will continue to apply Nitrogen fertilizer following grazing, applying Urea at 25kgN/ha to the non-effluent areas of the farm.

LUDF Weekly report	10-Jan-17	17-Jan-17	24-Jan-17	31-Jan-17	7-Feb-17
Farm grazing ha (available to milkers)	160	160	160	160	160
Dry Cows on farm / East blk /Jackies/other	0/0/0	0/0/0	0/0/0	0/0/0	2/0/0
Culls (Includes culls put down & empties)	0	0	0	0	0
Culls total to date	20	20	20	20	20
Deaths (Includes cows put down)	0	0	0	0	0
Deaths total to date	14	14	14	14	14
Calved Cows available (Peak Number 560...)	546	546	546	546	546
Treatment / Sick mob total	4	4	0	1	0
Mastitis clinical treatment	2	3	0	1	0
Mastitis clinical YTD (tgt below 64 yr end)	51	54	54	55	55
Bulk milk SCC (tgt Avg below 150)	142	109	110	110	98
Lame new cases	0	10	6	2	0
Lame ytd	77	87	93	95	95
Lame days YTD (Tgt below 1000 yr end)	2119	2329	2483	2644	2763
Other/Colostrum	0	0	0	0	0
Milking twice a day into vat	521	512	524	522	527
Milking once a day into vat	21	30	22	23	17
Small herd	156	153	163	163	163
Main Herd	365	359	368	359	364
MS/cow/day (Actual kg / Cows into vat only)	1.94	1.96	1.92	1.88	1.86
Milk Protein/Fat ratio	0.81	0.83	0.82	0.81	0.82
Milk Fat %	5.13	5.06	5.10	5.22	5.19
Milk Protein %	4.15	4.18	4.18	4.23	4.25
MS/cow to date (total kgs / Peak Cows 560)	299	312	325	338	351
MS/ha/day (total kgs / ha used	6.57	6.63	6.50	6.36	6.31
Herd Average Cond'n Score		4.3		0.00	0.00
Monitor group LW kg WOW 281 early calvers	484	484	489	489	490
Soil Temp Avg Aquaflex	14.9	16.5	15.4	16.0	16.3
Growth Rate (kgDM/ha/day)	97	110	93	71	57
Plate meter height - ave half-cms	17.4	18.3	17.8	16.0	15.4
Ave Pasture Cover (x140 + 500)	2934	3065	2987	2737	2656
Surplus/[deficit] on feed wedge- tonnes	50	70	0	0	4
Pre Grazing cover (ave for week)	3576	3632	3606	3619	3581
Post Grazing cover (ave for week)	1750	1750	1800	1800	1800
Highest pregrazing cover	3610	3694	3722	3762	3888
Area grazed / day (ave for week)	6.18	6.19	6.45	6.31	6.47
Grazing Interval	26	26	25	25	25

Milkers Offered/grazed kg DM pasture	17.3	17.9	20.5	17.4	17.9
Estimated intake pasture MJME	206	208	240	202	208
Milkers offered kg DM Grass silage	0	0	0	0	0
Silage MJME/cow offered	0	0	0	0	0
Estimated intake Silage MJME	0	0	0	0	0
Estimated total intake MJME	206	208	240	202	208
Target total MJME Offered/eaten (includes 6% waste)					
Pasture ME (pre grazing sample)	11.6	11.6	11.5	11.7	11.2
Pasture % Protein	17.9	18	18.2	22	18.6
Pasture % DM - Concern below 16%	13.7	12.9	12.3	16	14.7
Pasture % NDF Concern < 33	43	41.3	40.1	40.9	46.2
Mowed pre or post grazing YTD	242.9	248.6	255.9	256.9	267.7
Total area mowed YTD	260.2	265.9	280.4	290.0	300.9
Supplements fed to date kg per cow (555peak)	55.2	55.2	55.2	55.2	55.2
Supplements Made Kg DM / ha cumulative	174.6	174.6	272.1	361.47	361.47
Units N applied/ha and % of farm	25units/21%	25units /20.2%	25units /19.6%	25units/33.7 %	25units/23.5 %
Kgs N to Date (whole farm)	107	112	117	125	129
Rainfall (mm)	19	0	23	0	0
Aquaflex topsoil relative to fill point target 60 - 80%	70-80	60-70	80	50-70	50-70

Next farm walk: Tuesday 14th February 2017 at 9am. 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.

To view the weekly updates from the DairyNZ grazing / mowing trial at the Lincoln University Research dairy farm:

<http://www.dairynz.co.nz/about-us/research/key-projects/pre-grazing-and-mowing-trial/?cldee=cm9uLnBlbGxvd0BzaWRkYy5vcmcubno%3d&recipientid=contact-548dfc0e4e29e2119d66005056ba000b-549bf4cfc165401b871710bc4f8eff8b&esid=be6dfe97-f3a5-e611-bd66-005056ba000b&urlid=0>

Next LUDF Focus Day – 23 February