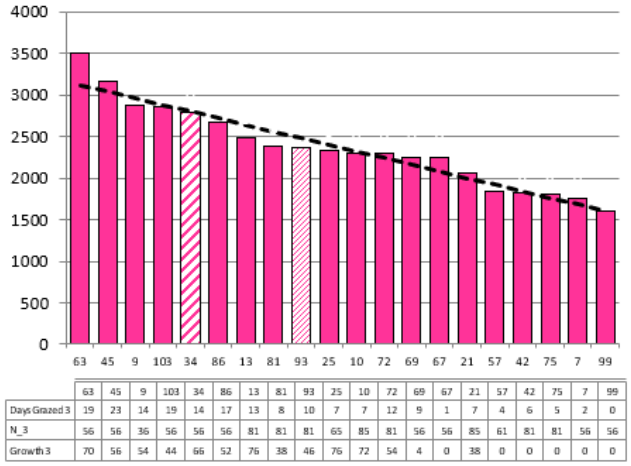
2021/22 Season
Hub Weekly Farm Update
Date: 11/11/2021

Date 10-11-21

Herd size (cows)	194	Average Cover	2358
Target residual (kg DM/ha)	1600	Average Growth	53
Target pasture intake (kg DM/cow)	18	Farmlet area	56.5
Target Area offered (ha/day)	2.30	Target rotation length	25
Last week actual rotation (d)	25	Target demand	62
Last week supp (kg DM/cow)	0.2	YTD supp (kg DM/cow)	280
Last week N (kg N/ha)	14	Fert N YTD	60
Milk yield (L/cow)	22.9	Effluent N YTD	2
Fat%	N	Last wk MS	W
Prot%	E	YTD MS/cow	E
SCC	X	YTD MS/ha	E
Average BCS	T	% less than BCS 4	K

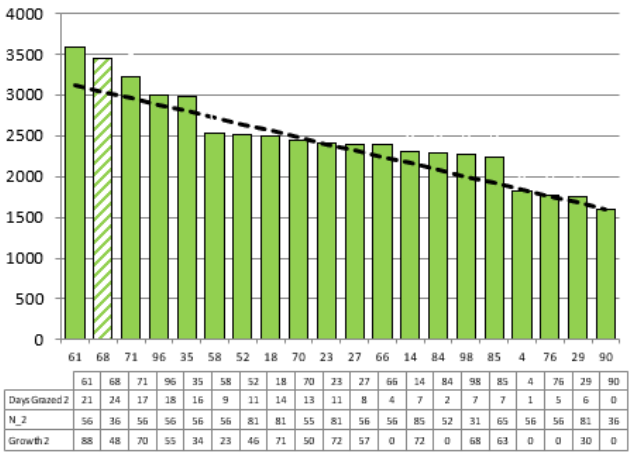
Herd size (cows)	194	Average Cover	2475
Target residual (kg DM/ha)	1600	Average Growth	57
Target pasture intake (kg DM/cow)	18	Farmlet area	57.7
Target Area offered (ha/day)	2.3	Target rotation length	25
Last week actual rotation (d)	28	Target demand	61
Last week supp (kg DM/cow)	0.0	YTD supp (kg DM/cow)	233
Last week N (kg N/ha)	8	Fert N YTD	54
Milk yield (L/cow)	20.9	Effluent N YTD	2
Fat%	N	Last wk MS	W
Prot%	E	YTD MS/cow	E
SCC	X	YTD MS/ha	E
Average BCS	T	% less than BCS 4	K

Standard Kale



	63	45	9	103	34	86	13	81	93	25	10	72	69	67	21	57	42	75	7	99
Days Grazed 3	19	23	14	19	14	17	13	8	10	7	7	12	9	1	7	4	6	5	2	0
N_3	56	56	36	56	56	56	81	81	81	65	85	81	56	56	85	61	81	81	56	56
Growth 3	70	56	54	44	66	52	76	38	46	76	72	54	4	0	38	0	0	0	0	0

Standard Fodder Beet



	61	68	71	96	35	58	52	18	70	23	27	66	14	84	98	85	4	76	29	90
Days Grazed 2	21	24	17	18	16	9	11	14	13	11	8	4	7	2	7	7	1	5	6	0
N_2	56	36	56	56	56	56	81	81	55	81	56	56	85	52	31	65	56	56	81	36
Growth 2	88	48	70	55	34	23	46	71	50	72	57	0	72	0	68	63	0	0	30	0

Farmlet notes: Visual APC 2273, GR 60; growth slowed this week but with N in the system & rain on horizon the pasture situation is comfortable; Pdks down the wedge earmarked for conservation but can be pulled back in if required; continuing with N post grazing; no inshed feed; 1 death; 57% of the herd submitted for AI; vet checks on non cyclers today

Farmlet notes: Visual APC 2414, GR 64; struggling with pdks at top of wedge so one identified for conservation & another in the middle that can be pulled back if required; 25 d rotation has been going OK; continuing with N post grazing; pasture only diet; 55% submitted for AI; vet check today for intervention if required; x 1 lame this week

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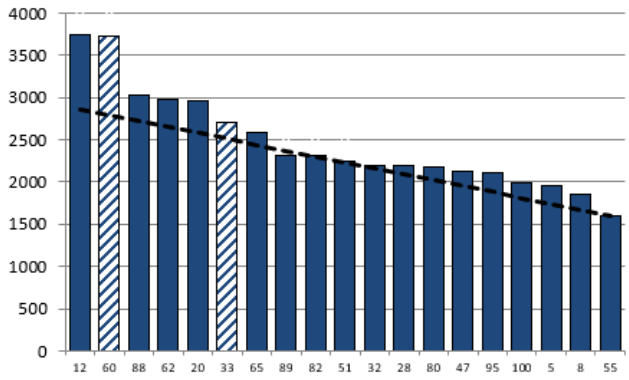
Herd size (cows)	161	Average Cover	2463
Target residual (kg DM/ha)	1600	Average Growth	58
Target pasture intake (kg DM/cow)	18	Farmlet area	55.2
Target Area offered (ha/day)	2.3	Target rotation length	24
Last week rotation avg	20	Target demand	52
Last week supp (kg DM/cow)	0.1	YTD supp (kg DM/cow)	194
Last week N (kg N/ha)	0	Fert N YTD	17
Milk yield	22.0	Effluent N YTD	2
Fat%	N	Last wk MS	W
Prot%	E	YTD MS/cow	E
SCC	X	YTD MS/ha	E
Average BCS	T	% less than BCS 4	K

Low Impact Kale

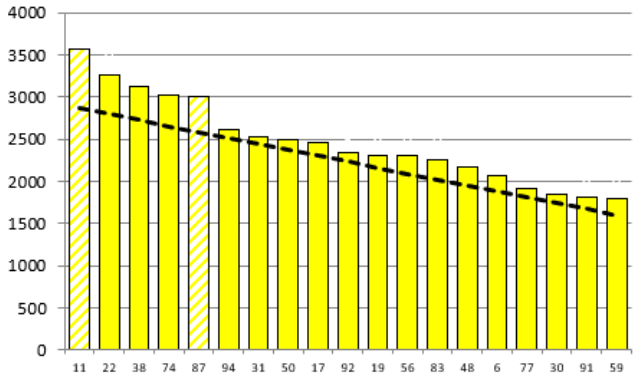


	12	60	88	62	20	33	65	89	82	51	32	28	80	47	95	100	5	8	55
Days Grazed 1	17	22	19	15	16	13	11	7	1	5	7	7	2	3	7	9	6	4	0
N_1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Growth 1	78	80	44	58	56	68	28	73	0	64	56	56	0	0	58	30	0	0	0

Farmlet notes: Visual APC 2356, GR 69; growth still above demand & need to address pdks at top of wedge; x2 earmarked for conservation as already above pre-graze target; mindful that no N in system & baleage regrowth pdks will be in next wks grazing plan but can't afford to keep missing residuals; 64% submitted to AI & next lot of non cyclers checked today.

Herd size (cows)	162	Average Cover	2469
Target residual (kg DM/ha)	1600	Average Growth	58
Target pasture intake (kg DM/cow)	18	Farmlet area	55.1
Target Area offered (ha/day)	2.3	Target rotation length	24
Last week rotation avg	25	Target demand	53
Last week supp (kg DM/cow)	0.0	YTD supp (kg DM/cow)	202
Last week N (kg N/ha)	0	Fert N YTD	17
Milk yield	21.6	Effluent N YTD	3
Fat%	N	Last wk MS	W
Prot%	E	YTD MS/cow	E
SCC	X	YTD MS/ha	E
Average BCS	T	% less than BCS 4	K

Low Impact Fodder Beet



	11	22	38	74	87	94	31	50	17	92	19	56	83	48	6	77	30	91	59
Days Grazed 4	19	18	15	17	21	14	9	10	12	7	7	8	7	1	6	2	0	5	4
N_4	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Growth 4	80	62	62	90	38	32	36	16	38	76	72	71	64	0	74	0	0	0	0

Farmlet notes: Visual APC 2350, GR 59; growth still above demand & need to address pdks at top of wedge; x2 earmarked for conservation as already above pre-graze target; mindful of no N in system & baleage regrowth pdks are coming through but can't afford to keep missing residuals; 61% submitted to AI & next lot of non cyclers checked today.

Table 1: Key Herd Numbers 11/11/2021 – number of cows in each mob

DATE: 11th Nov 2021	Std Kale	LI Kale	Std FB	LI FB	Total
Cows on Farm	196	161	195	161	713
Milkers TAD	166	140	160	146	612
Milkers OAD	26	19	31	13	89
Sick OAD	4	2	4	2	12
Culls/deaths	5	5	14	5	29

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General Farm Information

Table 2: Key Weather and Feeding Numbers 11th November 2021

Soil Temp (°C) (weekly average)	17.1 °C			
Rainfall (mm)	7.6 mm			
Allocations kg DM/cow/day	**Std. Kale**	**LI Kale**	**Std FB**	**LI FB**
Milkers	18 kg DM 18 kg pasture	18 kg DM 18 kg pasture	18 kg DM 18 kg pasture	18kg DM 18 kg pasture

Key Decisions: this week

- With the warm dry weather over the last week, a sprinkle of rain would not go a miss. Growth rates have slowed over the past week to an average of 63kgDM/ha/day. This equals demand for the Std farmlets and is 10 kg DM/d above demand for the LI farmlets hence the differences emerging in the feed wedges.
- We are seeing seedhead presenting itself a lot faster than normal because of this warm weather so need to be proactively managing pre-graze targets and residuals, especially with the range in pasture cultivars across the farm.

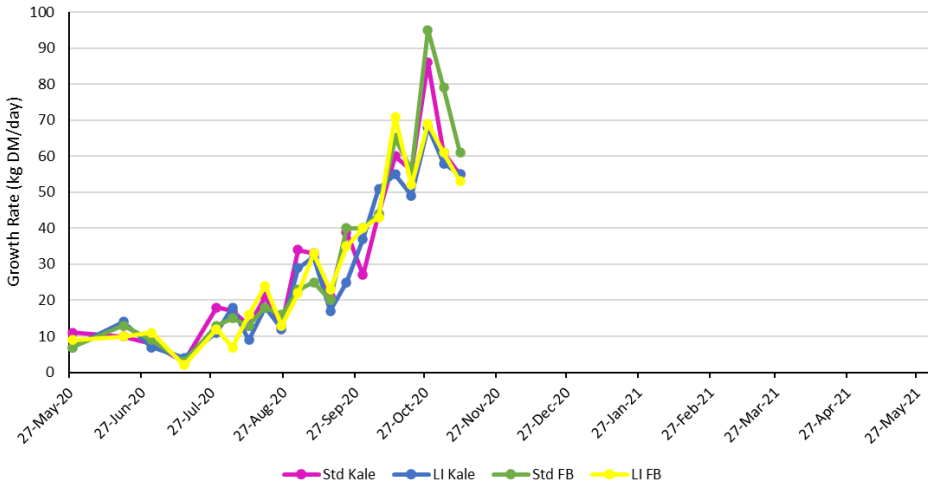

Figure 1: Growth rates for each of the farmlets

- We at the point in the season, where for the low impact farmlets the spring N is running out impacting regrowth. With several paddocks at the top of the feed wedge above the pre-graze target and potentially loosing quality these are not ideal for grazing. However, looking out 7-10 days, there is the risk that demand will be higher than supply as the 1st cut silage paddocks make their way back into the round. Due to no N being applied in these farmlets since September, the paddocks that have been taken out for silage are slower to hit pre-graze targets than those in the standard systems.

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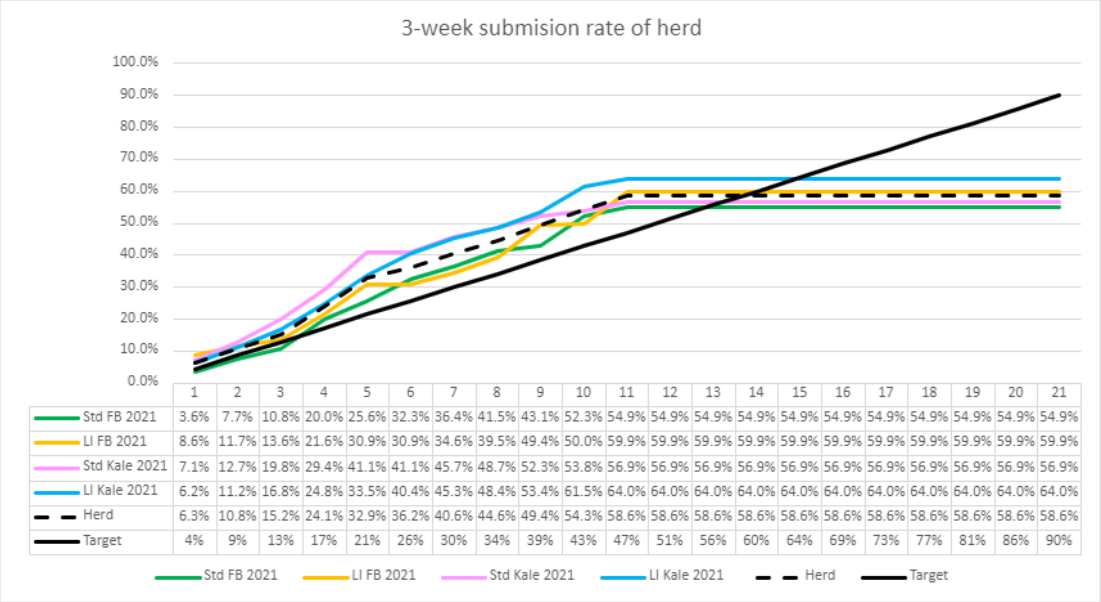
- As a way of managing the quality, we have earmarked 2 paddocks ineach LI farmlet for baleage. It is possible that if growth slows further this coming week there is a risk we may need to feed supplement in 7-10 days time - In shed feed for the LI Kale and in paddock FB for the LI FB farmlet, to maintain intake and keep production constant. However, after lots of discussion and debate we agreed that getting cows grazing the right pre-graze mass was a priority and we are prepared to feed supplement despite having paddocks out for conservation.
- For both standard farmlets, there are 1-2 paddocks that have been pencilled in to be stepped over for baleage but may be brought back into the round if growth slows.
- Criteria for taking paddocks out of the round for conservation include:
    - Pre-graze mass – above 3400 for the Std farmlets and 3100 for the LI farmlets, although several paddocks taken out this week have had covers more than this.
    - Previous grazing history i.e. residuals left too high so need resetting
    - Pasture species and composition – related to seedhead development and quality.
- Unfortunately the weather forecast is not looking great for the next week so we don't want too many paddocks out of rotation waiting to be conserved.
- We are now 12 days in to mating and all four herds are still tracking higher for submission rates than what was targeted to achieve 90% 3-week submission rate, with 59% of the entire herd (all 4 farmlets combined) been put up for AI in the last 11 days. The team have only identified 2 cows that had not yet been flagged by the collars as on heat and of the 59% of the herd being put up only 7 of these were cows that had already been put up.
- There are 66 cows that have been flagged for vet checking today. 56 of these will potentially be getting CIDR's put in due to having no recorded heat despite being more than 42 days post calving. The remaining 10 are due for metri-checking and cured if required.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Std FB 2021	3.6%	7.7%	10.8%	20.0%	25.6%	32.3%	36.4%	41.5%	43.1%	52.3%	54.9%	54.9%	54.9%	54.9%	54.9%	54.9%	54.9%	54.9%	54.9%	54.9%	54.9%
LI FB 2021	8.6%	11.7%	13.6%	21.6%	30.9%	30.9%	34.6%	39.5%	49.4%	50.0%	59.9%	59.9%	59.9%	59.9%	59.9%	59.9%	59.9%	59.9%	59.9%	59.9%	59.9%
Std Kale 2021	7.1%	12.7%	19.8%	29.4%	41.1%	41.1%	45.7%	48.7%	52.3%	53.8%	56.9%	56.9%	56.9%	56.9%	56.9%	56.9%	56.9%	56.9%	56.9%	56.9%	56.9%
LI Kale 2021	6.2%	11.2%	16.8%	24.8%	33.5%	40.4%	45.3%	48.4%	53.4%	61.5%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%	64.0%
Herd	6.3%	10.8%	15.2%	24.1%	32.9%	36.2%	40.6%	44.6%	49.4%	54.3%	58.6%	58.6%	58.6%	58.6%	58.6%	58.6%	58.6%	58.6%	58.6%	58.6%	58.6%
Target	4%	9%	13%	17%	21%	26%	30%	34%	39%	43%	47%	51%	56%	60%	64%	69%	73%	77%	81%	86%	90%

Figure 2: 3-week submission rate tracking for the herds

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General Notes:

- There has been an increase in the number of cows being milked OAD over the past week, with an additional 33 cows being identified through BCS and visual observations.
- This week has been another busy one with contractors on farm.
    - Spray contractors have sprayed 8 paddocks for scotch thistles and the team will continue to use prills to control other thistles as they pop up.
    - The last effluent hydrants have been installed on Thursday and now the effluent line has been completed, with 115ha now being the total area for effluent application.
    - The new drainage mentioned last week has now been completed. In addition 3 soak holes have been dug in various paddocks with wet low lying areas using a 900mm wide auger piece, down to a depth of 7-8metres. These will be filled with gravel and hopefully solve the ponding issues in these paddocks. If this method is successful in aiding the drainage of paddocks then there are additional areas where it will be used. The team on farm noted that this approach creates much less damage and disturbance than normal drainage does.
    - Next winters fodder beet has been sown with minimal (strip till and direct drill) paddocks completed on Friday and the precision direct drilled paddocks sown on Monday. We look to forward to seeing which paddocks/ method will be first to emerge.

Figure 3: minimum till fodder beet crop being planted

- 6 out of the 8 paddocks coming out of crop and going into permanent pastures have now been sown. Of the 2 remaining, one still needs to be levelled and the other which has only recently had its remaining FB lifted, still needs to be ripped, harrowed etc before it will be sown.
- All baleage that is made is being identified and marked according to farmlet and quality and then allocated for different parts of the season accordingly. For example tidy up paddocks or toppings will be used on crop over winter, good quality will be earmarked for milker baleage next spring and the remainder for autumn feeding.

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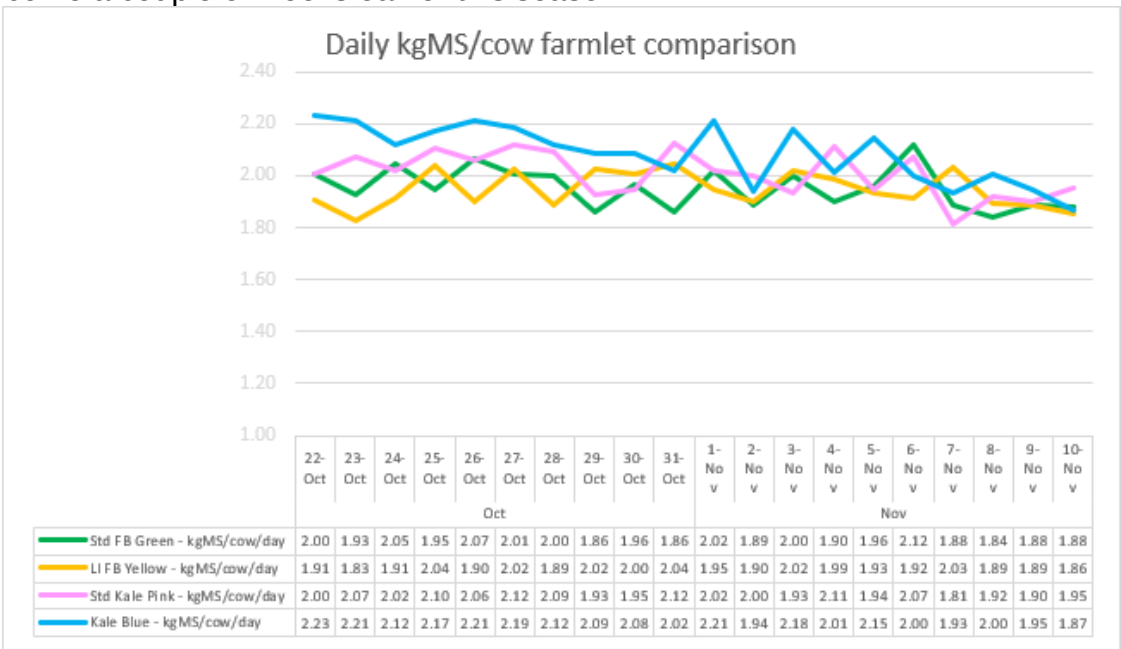
- This week, DNS samples were collected from all the calves, they received their first drench of “Arrest C” and have been vaccinated with Covexin and also for Lepto. There are still 84 calves yet to be weaned, however after weighing on Monday, they are growing on average 0.89kgs/calf/day so it wont take them long to hit target.

Figure 4: Calves enjoying the sunshine

- Maintenance fertilizer is continuing to go on with only 6 paddocks left waiting for this application. For the N fertilizer applications for the Standard farmlets, 55kgs of N Protect (coated urea is being applied.
- Milk production for all herds, but especially the kale herds, has eased over the last week putting us behind on a daily basis compared with last season for the first time. It looks like the drop related to seedhead emergence and pasture quality decline has come a couple of weeks earlier this season.



	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	1-Nov	2-Nov	3-Nov	4-Nov	5-Nov	6-Nov	7-Nov	8-Nov	9-Nov	10-Nov
	Oct										Nov									
Std FB Green - kgMS/cow/day	2.00	1.93	2.05	1.95	2.07	2.01	2.00	1.86	1.96	1.86	2.02	1.89	2.00	1.90	1.96	2.12	1.88	1.84	1.88	1.88
LI FB Yellow - kgMS/cow/day	1.91	1.83	1.91	2.04	1.90	2.02	1.89	2.02	2.00	2.04	1.95	1.90	2.02	1.99	1.93	1.92	2.03	1.89	1.89	1.86
Std Kale Pink - kgMS/cow/day	2.00	2.07	2.02	2.10	2.06	2.12	2.09	1.93	1.95	2.12	2.02	2.00	1.93	2.11	1.94	2.07	1.81	1.92	1.90	1.95
Kale Blue - kgMS/cow/day	2.23	2.21	2.12	2.17	2.21	2.19	2.12	2.09	2.08	2.02	2.21	1.94	2.18	2.01	2.15	2.00	1.93	2.00	1.95	1.87

Figure 5: Average daily kgMS/cow for each farmlet

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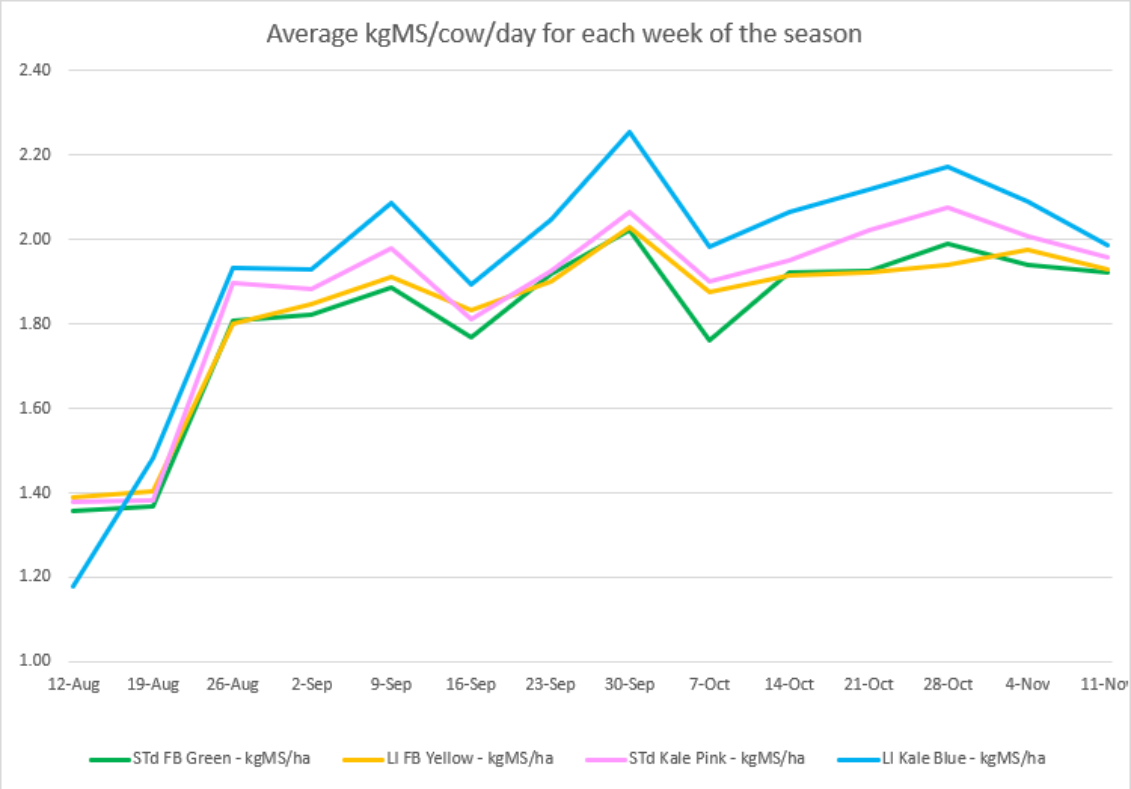

Figure 6: Average kgMS/cow/day for each week of the season

- Soil temperature this season is tracking 2-3 °C higher than last season and although we had a wetter August/September the cumulative rainfall for this season has just dropped behind last season

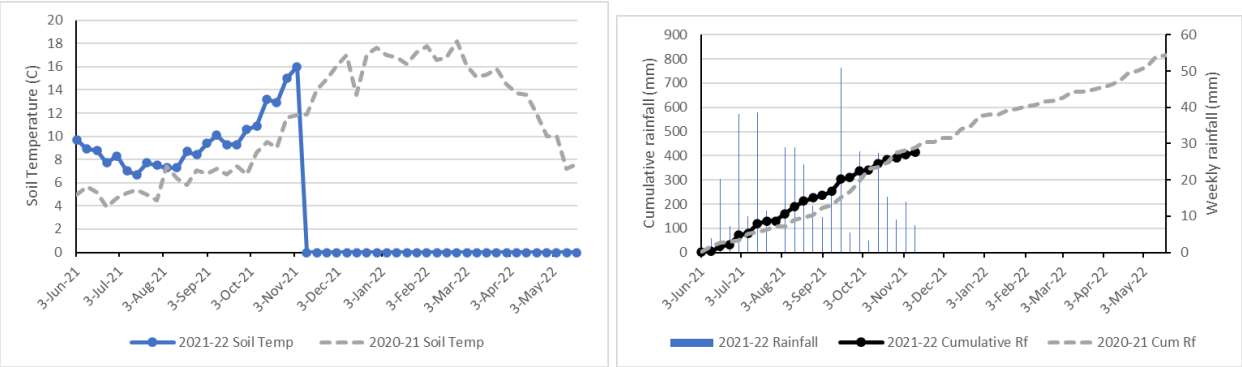

Figure 7: Average weekly soil temperature and rainfall for the 2019-20 and 2020-21 seasons

Animal Health

- As a mitigation for grass staggers, dusting of paddocks once daily onto fresh breaks has recommenced. Limeflour is being dusted at 100g/cow and MgO at 80g/cow.
- There were 8 new lameness cases this week, with x4 in the Std Kale herd, x2 in the LI FB herd and x1 in each of the other 2 herds. 2 were identified with Footrot, both of which were heifers, which is unusual with the warm dry weather over the last few weeks. The copper sulphate mats will be put into the entrance to the shed as a proactive measure to harden up the feet.

- No cows were treated for mastitis this week and SCC is sitting under 100 for both Fodder beet and Kale herds.

SDH Research & Demonstration

- Looking back at the animal health data through spring there were some differences between the herds
  - Std FB herd had the most animal health incidences recorded with 11% of the herd treated through calving
  - Cows wintered on fodder beet had more treatments for metabolic disease with approx. 5.5% receiving treatment compared with only 3% of the kale herds

Table 3: 2021 calving season animal health summary

	Assisted calving	Endometritis	Down cow	Preventative milk fever	Other
Std_Kale (Pink)	3.0	0.5	2.5	0.5	2.0
LI_Kale (Blue)	0.6	1.8	1.2	1.8	1.8
Std_FB (Green)	2.0	0.5	3.0	2.5	3.0
LI_FB (Yellow)	1.8	0.0	4.8	0.6	0.0

- Season to date we have treated 7-9% of each herd for lameness and 5.5 to 9.7% for mastitis. Interestingly the Std FB herd have had the highest incidence of both these animal health issues. Kale cows had a higher incidence of lameness while on crop.

Table 3: 2021 season to date mastitis and lameness prevalence

	Lameness (%)	Mastitis (%)
Std_Kale (Pink)	7.4	8.7
LI_Kale (Blue)	7.1	7.9
Std_FB (Green)	8.9	9.7
LI_FB (Yellow)	7.1	5.5

General Farm Systems information

The project farm systems comparison has been designed to better understand crop-based wintering in relation to consequences for environmental impact and profit

- *The four herds are split evenly on age, BW / PW, calving date and breed to ensure the herds are as even as possible.*
- *Each herd allocated a farmlet corresponding to their herd tag colour Green, Blue, Yellow and Pink.*
- *Farmlets have paddocks allocated so each herd has equal walking distance from the shed and the same proportion of each soil type and equal proportions of pastures in the FVI trial (forage value trial – refer web site section on research).*

Research Proposals

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The SDH welcome research proposals for any sampling or research on the SDH, these are assessed by the Research Advisory Committee (RAC). Just send your request or ask for information via louise.cook@southerndairyhub.co.nz

For more information check out the DairyNZ link:
https://www.dairynz.co.nz/about-us/research/research-farms/southern-dairy-hub