



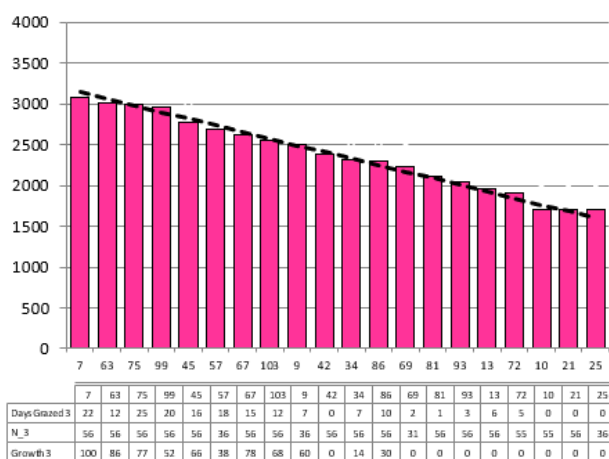
2021/22 Season Hub Weekly Farm Update Date: 04/11/2021

Date 03-11-21

Herd size (cows)	194	Average Cover	2378
Target residual (kg DM/ha)	1600	Average Growth	61
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)	23	Target demand	63
Last week supp (kg DM/cow)	0.1	YTD supp (kg DM/cow)	278
Last week N (kg N/ha)	0	Fert N YTD	47
Milk yield (L/cow)	22.6	Effluent N YTD	2
Fat%	4.6	Last wk MS	2.0
Prot%	3.8	YTD MS/cow	167
SCC	64	YTD MS/ha	513
Average BCS	4.5	% less than BCS 4	10%

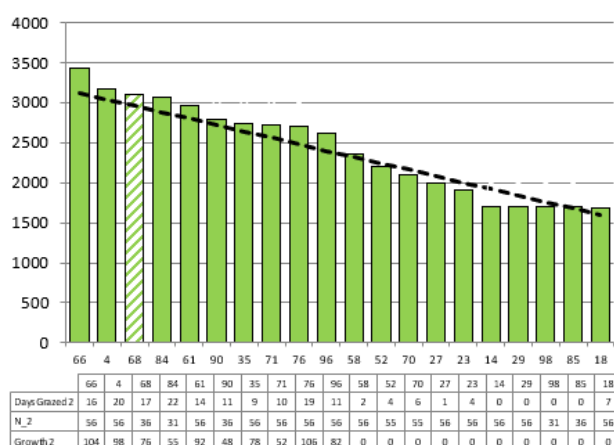
Herd size (cows)	194	Average Cover	2416
Target residual (kg DM/ha)	1600	Average Growth	79
Target pasture intake (kg DM/cow)	18	Farmlet area	57.7
Target Area offered (ha/day)	2.3	Target rotation length	25
Last week actual rotation (d)	27	Target demand	61
Last week supp (kg DM/cow)	0.1	YTD supp (kg DM/cow)	233
Last week N (kg N/ha)	0	Fert N YTD	46
Milk yield (L/cow)	21.6	Effluent N YTD	2
Fat%	4.7	Last wk MS	1.9
Prot%	3.8	YTD MS/cow	155
SCC	152	YTD MS/ha	463
Average BCS	4.5	% less than BCS 4	6%

Standard Kale



Farmlet notes: Visual APC 2461, GR 62; growth still exceeding demand; x3 pdks mown for baleage this week; no inshed feeding; N continuing after grazing & conservation; all springer pdks now out of rotation in prep for next winters crops; mating going well with 42 % of the herd having been submitted; first CIDR's removed & cows mated this Thu/Fri

Standard Fodder Beet



Farmlet notes: Visual APC 2720, GR 84; growth still exceeding demand; x3 pdks mown for baleage this week; N continuing after grazing & conservation; all springer pdks now out of rotation in prep for next winters crops; mating is the slowest in this herd with on 26 % of the herd having been submitted; first CIDR's removed & cows mated this Thu/Fri

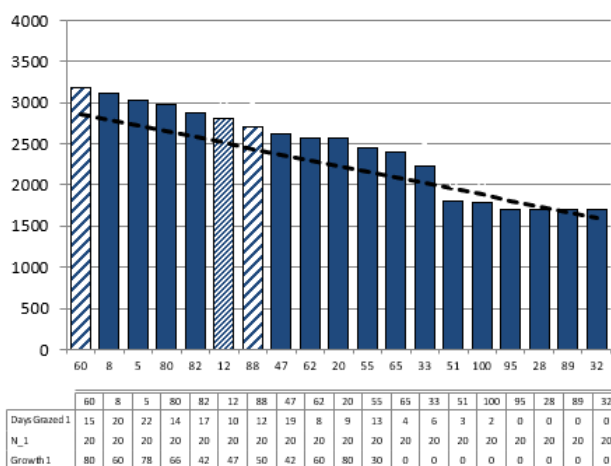


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Herd size (cows)	161	Average Cover	2414
Target residual (kg DM/ha)	1600	Average Growth	58
Target pasture intake (kg DM/cow)	18	Farmlet area	55.2
Target Area offered (ha/day)	2.3	Target rotation length	24
Last week rotation avg	27	Target demand	52
Last week supp (kg DM/cow)	0.1	YTD supp (kg DM/cow)	193
Last week N (kg N/ha)	0	Fert N YTD	17
Milk yield	23.3	Effluent N YTD	2
Fat%	4.4	Last wk MS	2.0
Prot%	3.8	YTD MS/cow	180
SCC	141	YTD MS/ha	490
Average BCS	4.5	% less than BCS 4	4%

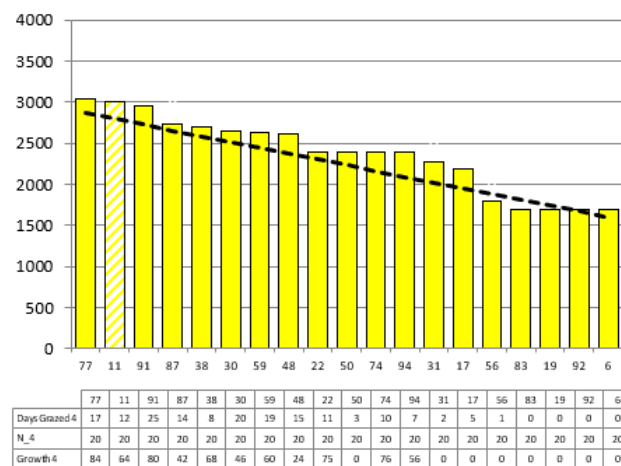
Herd size (cows)	162	Average Cover	2368
Target residual (kg DM/ha)	1600	Average Growth	61
Target pasture intake (kg DM/cow)	18	Farmlet area	55.1
Target Area offered (ha/day)	2.3	Target rotation length	24
Last week rotation avg	24	Target demand	53
Last week supp (kg DM/cow)	0.1	YTD supp (kg DM/cow)	202
Last week N (kg N/ha)	0	Fert N YTD	17
Milk yield	21.7	Effluent N YTD	3
Fat%	4.6	Last wk MS	1.9
Prot%	3.9	YTD MS/cow	160
SCC	90	YTD MS/ha	405
Average BCS	4.5	% less than BCS 4	3%

Low Impact Kale



Farmlet notes: Visual APC 2507, GR 63; growth still exceeding demand; x3 pdks mown for baleage this week; no inshed feeding; No fert N; x2 pdks identified for conservation with a 3rd possible; x1 springer pdks not sprayed out yet; mating going well with 35 % of the herd having been submitted after 5 days; first CIDR's removed & cows mated this Thu/Fri

Low Impact Fodder Beet



Farmlet notes: Visual APC 2500, GR 51; growth still exceeding demand; x3 pdks mown for baleage this week; x1 pdk identified for conservation and another possible; all springer pdks now out of rotation in prep for next winters crops; mating going OK with 31 % of the herd having been submitted after 5 days; first CIDR's removed & cows mated this Thu/Fri

Table 1: Key Herd Numbers 04/11/2021 – number of cows in each mob

DATE: 4 th Nov 2021	Std Kale	LI Kale	Std FB	LI FB	Total
Cows on Farm	197	161	195	162	715
Milkers TAD	174	147	176	154	700
Milkers OAD	19	13	19	6	57
Sick OAD	4	1	0	2	7
Springers	0	0	0	0	0
Slips/empty/deaths	4	5	14	4	27



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General Farm Information

Table 2: Key Weather and Feeding Numbers 4th November 2021

Soil Temp (°C) (weekly average)	16°C			
Rainfall (mm)	14 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

- Again, we are finding ourselves dealing with fantastic growth rates (ranging between 61-80kgDM/ha/day) which has now exceeded demand on all 4 farmlets. So far, we have taken out 14 paddocks for baleage (x3 on each of the farmlets and x2 'spare' paddocks) and another 3 have been earmarked for skipping this week.
- 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 – mainly related to seedhead development and quality.
- With conservation having started we are developing a baleage storing plan to streamline feeding to farmlets, placing on crops and reallocating at the end of the season for the new farm systems comparison. All bales are labelled with the date, paddock and given a colour strip the same as the farmlet they were made from.
- We are still targeting a 25-day round length, but with the growth over the past week and wanting to ensure that residuals are being hit, a number of paddocks that were supposed to be used for 2 feeds, have done 3 feeds, therefore pushing the round out to 27-28 days.
- The low impact farmlets are moving into a period where the response from their spring application of Nitrogen will be running out. With the next application not scheduled for early December we need to be more conservative with decisions around conservation on these farmlets so we don't mow ourselves into a feed deficit.
- Nitrogen will be applied to the Std farmlet paddocks that have been mowed for baleage at a rate of 30kgN/ha.
- Based on the fine weather and dry days, the allocation per cow per day will remain at 18kgDM/ha/day for the coming week.
- For the FB farmlets, there is the ability to put in up to 1.5kgFB/day to ensure that intake remains at least 18kg, especially as we head towards a potential pinch point that will arise due to paddocks being taken out of the round for supplement. If this option is used, the farm team will ensure that all cows in the herd have equal access



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to the FB to ensure even and accurate per cow intake, especially since it has been out of the diet for over a week.

- This week there is still 50 lighter cows (BCS and visually assessed) that will remain on OAD.
- Mating is now underway and although its only day 4, we are tracking ahead of last years submission rates, with over 30% of the cows on farm being put up already. The Std Kale cows are tracking well ahead of the daily targets for submission, with the remaining farmlets also all tracking higher than the daily target to reach 90%.

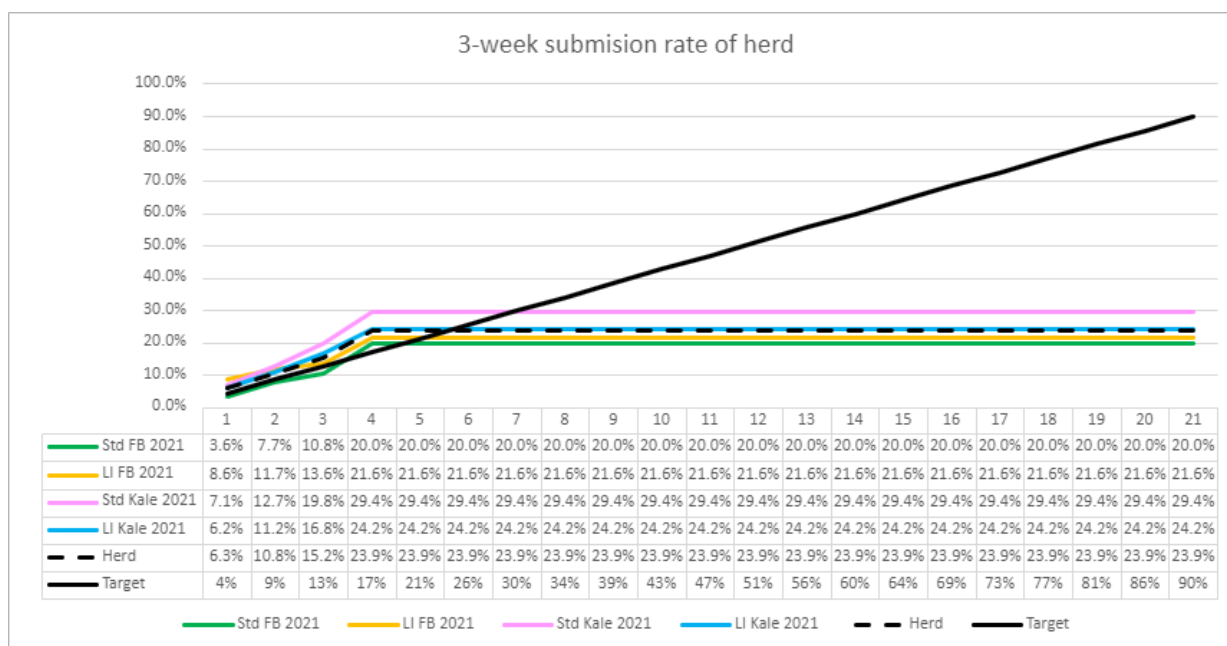


Figure 1: 3-week submission rate tracking for the herds

General Notes:

- Of the 46 cows that had CIDR's, 14 have cycled since having them removed and the remaining 32 have been given a GnRH injection and will be put up for insemination on 5th Nov.
- The data coming from the Allflex collars has been showing strong heats and the farm team are very impressed with how the Allflex collars are performing so far. Along with the Allflex collars on all cows we have 93 cows across the farmlets that have SmaXtec boli in their rumen for a project investigating heat stress. It is interesting tracking how the two technology approaches are performing relative to each other and tail paint/visual observations.



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Figure 1: Data extract from Allflex for cow 96 showing rumination and activity

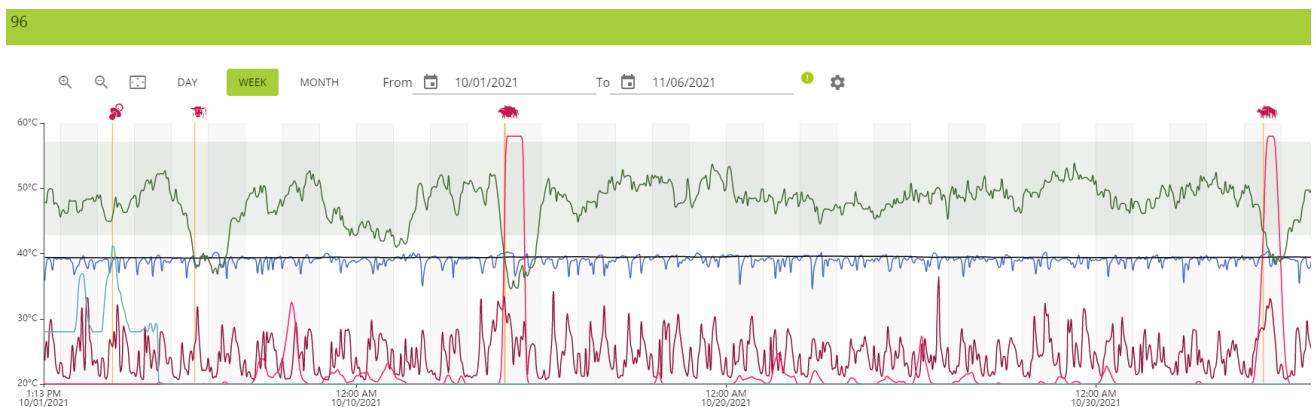


Figure 3: Data extract from SmaXtec for cow 96 showing rumination, rumen temperature, heat index and activity

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- Extra effluent hydrants have been installed this week to replace some of the old Alliance line extending the current area that receive effluent by 10 paddocks. This will increase the effluent area to approximately 115 ha. By creating a larger area for effluent application, the nutrient load on the current effluent area will be reduced and the additional area see benefit from additional nutrients without the extra cost.
- All calves (6 mobs) have now been shifted from the platform to the support block, one mob has been weaned and an additional three mobs will be weaned on Monday, with the remaining to be weaned once they reach weaning weights based on their breed and liveweight BV's . Farm technicians Nicole and Tash will be taking DNA samples from the replacements on Monday as well to confirm their parentage in MINDA.
- This week we have had the digger contractors in doing drainage work on the lower terrace. This work was prompted after 2 of our springer paddocks were not drying out so we couldn't get in to prepare them for regressing. On investigation it was discovered that the outlet of a pipe servicing 7 paddocks had collapsed so the water was not getting into the drain



Figure 4: Contractors putting in drainage to get the drainage system operating efficiently

- Milk production for all farmlets is bouncing around a bit from paddock to paddock. To ensure that the production continues to hold constant, we will be making sure that pasture quality remains a top priority and we have consistent feed allocation across the farmlets.

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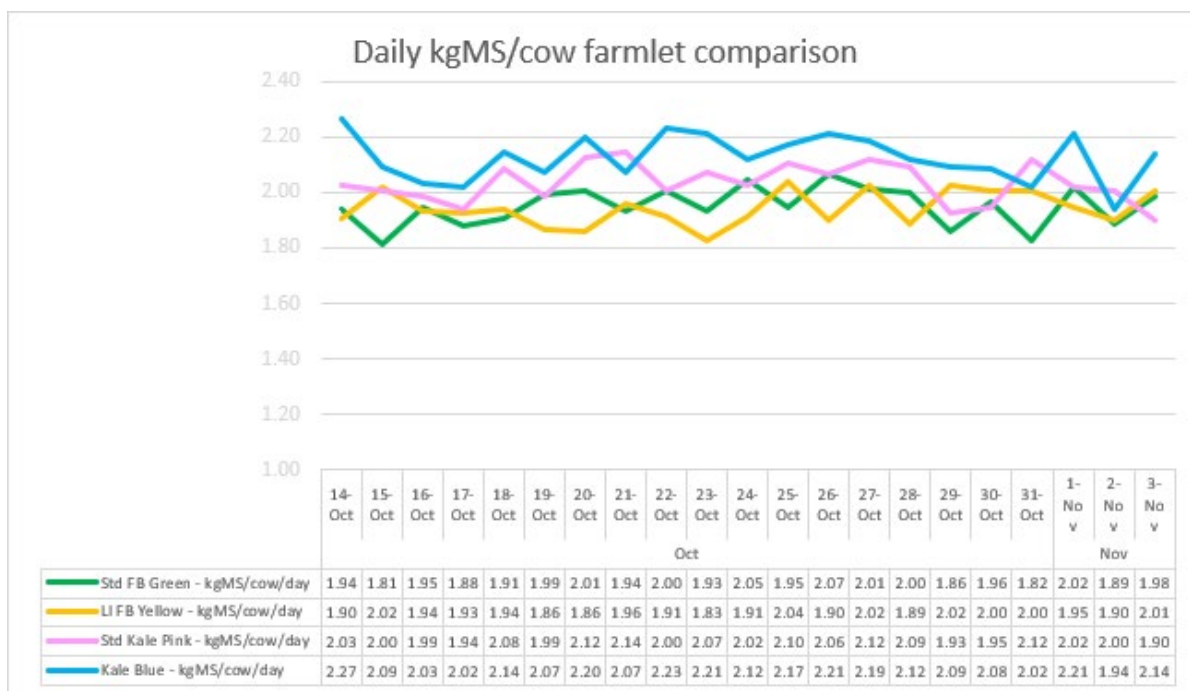


Figure 5: Average daily kgMS/cow for each farmlet

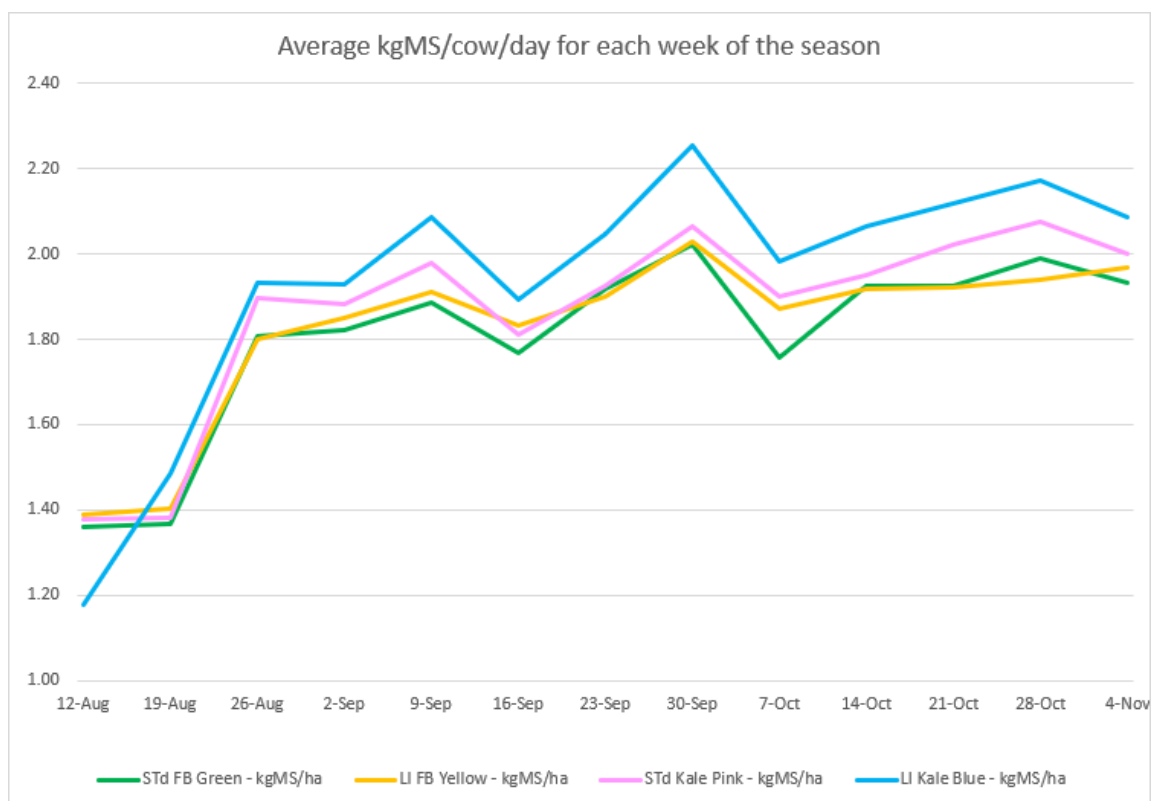


Figure 6: Average kgMS/cow/day for each week of the season

- Soil temperature this season is tracking 2-3 °C higher than last season and although we had a wetter August/September the cumulative rainfall between the two seasons since the 1 May is similar between the seasons.

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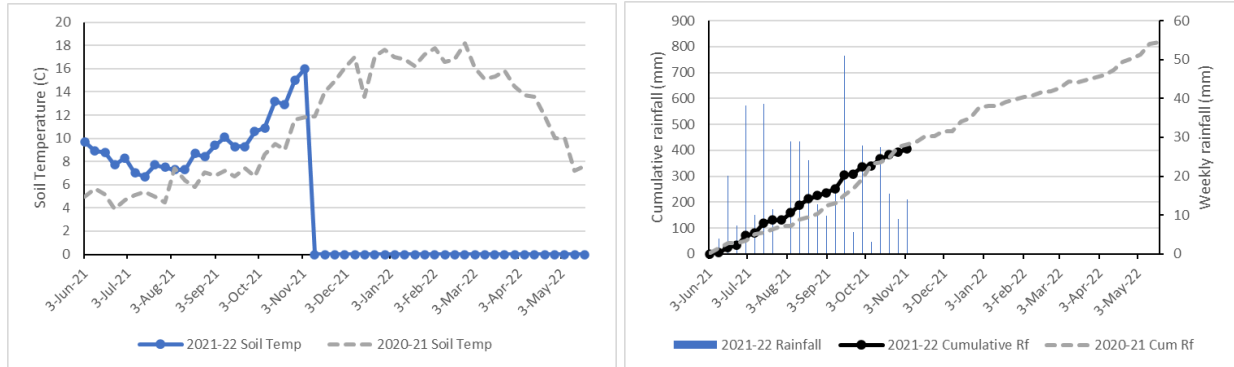


Figure 7: Average weekly soil temperature and rainfall for the 2019-20 and 2020-21 seasons

- All herds currently average BCS 4.5 however there is a higher proportion of cows in the Std farmlets below BCS 4. As mentioned above these are being actively managed on OAD milking and priority feeding if they are kale cows. The Std FB is currently looking the worst with more cows having rough coats and their BCS 4 cows being at 4 whereas many cows scored at 4 in other herds are midway between 4 and 4.5

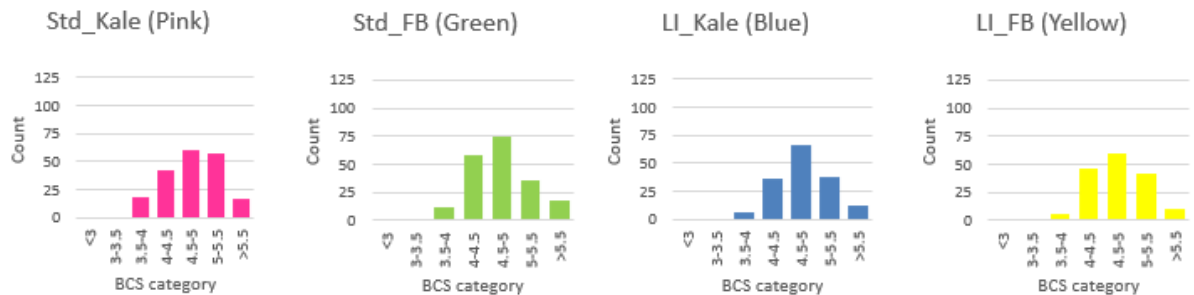


Figure 8: Herd BCS distribution from this week

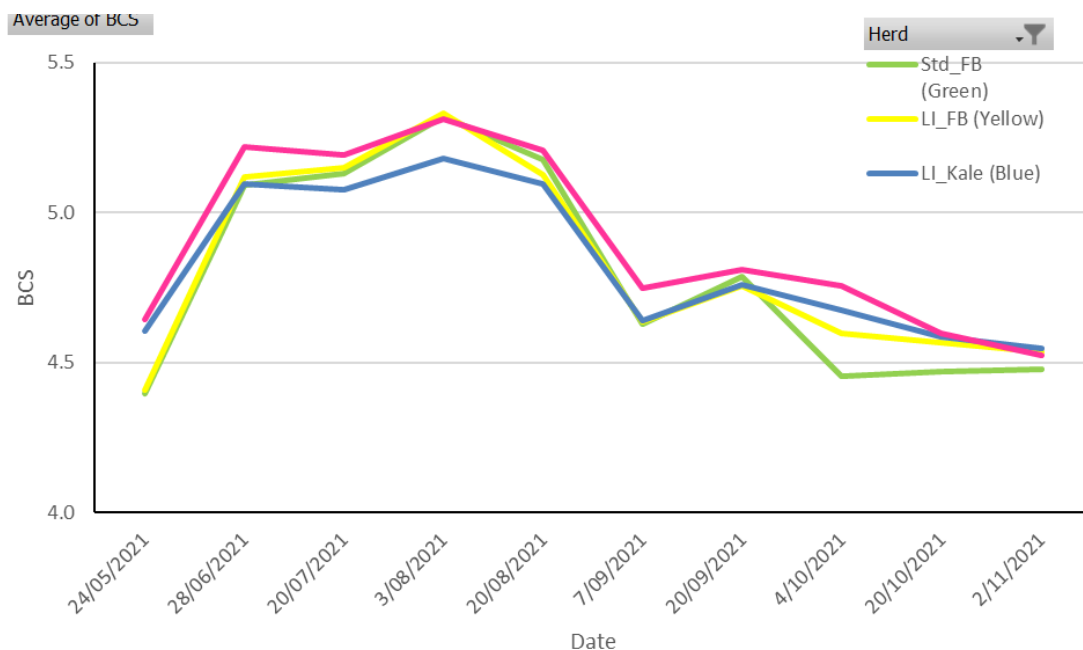


Figure 9: Herd average BCS since the start of the season



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Animal Health

- With several cows having repeat incidences of mastitis we took some samples to culture. We have identified a cow positive for Staphylococcus Aureus (Staph) mastitis so will continue to test to determine the extent of the issue and identify positive cows for culling. It has been suggested to run these cows in a separate herd to prevent the spreading of the infection. We had a similar issue in the 2018-19 season and did separate them, however this added further complication to an already complicated farming operation so we are still working through the best approach.
- As a result of the latest blood test results, combined with a conversation with the vets, 1ml/cow of selenium and 0.5ml/cow of iodine have been added in to the dosatron mix, in addition to our standard trace mineral mix to give the animals a boost to support milk production and reproduction.
- There have been 2 cases of grass staggers over the last week, so a conversation will be had with the vets to discuss how much additional magnesium chloride can be added to the dosatron before running into palatability issues. We have been unable to dust MgO due to supply issues i.e. we have run out and have more on back order.

SDH Research & Demonstration

- Now that we are through the busy period of winter and calving the research team are enjoying dealing with the more routine activities of herd testing and body condition scoring (fortnightly) and weekly farmwalks. This is the time to catch up on data management and start looking at results
- We have been working through all the soil and crop measurements from the Thriving Southland funded crop establishment trial. As reported earlier we admit we made a number of mistakes in establishing the crops but learnt a lot about the preparation of the paddocks and timing of establishment of our strip till and direct drill fodder beet crops due to the issues we encountered. The issues primarily related to the complexity of the paddock layout, soil conditions and timing.
 - Direct drill – soil conditions not ideal at the time of planting, too much dead trash after establishment, poor plant survival due to insect damage, pasture and weed competition following redrilling
 - Strip till – soil conditions not ideal at the time of planting, too much trash after establishment, poor germination due to uneven seed depth, poor plant survival due to insect damage, significant competition from grass due to poor spray out and mistimed follow up sprays
 - It is important to note that this was set up as a pilot demonstration and not a replicated experiment so the results will be confounded by the variation in yield that resulted between the establishment methods. In the table below we present a preliminary summary of results captured during the grazing period.
 - Key observations so far for fodder beet
 - Yield within the direct drilled and strip till fodder beet areas were lower and more variable than the conventionally established
 - Direct drill and strip till fodder beet had a higher proportion of leaf at grazing



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- Pugging depth was lower in the direct drill area but gumboot score and % pooling higher
- Key observations so far for kale
 - No differences in yield between the establishment methods but both were lower than that measured in other paddocks on the farm
 - No differences in pugging depth but a tendency for more surface pooling following direct drilling.

Table 2: Summary data for the crop establishment demonstration in winter 2021 (not a statistical comparison)

	Yield (t DM/ha)	Leaf (%)	Pugging depth (cm)	Gumboot score (0-2)	Dry (%)	Wet (%)	Sodden (%)	Pooling (%)
Fodder beet								
Conventional	22.3 (21-25)	0.24	5.6	0.57	57	29	14	32
Direct Drill	10.8 (8-15)	0.33	2.6	0.60	52	36	12	38
Strip till	14.8 (13-17)	0.28	4.2	0.58	55	32	13	34
Kale								
Conventional	10.2		3.7	0.57	57	29	14	38
Direct Drill	10.2		3.5	0.56	58	27	14	42

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

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>