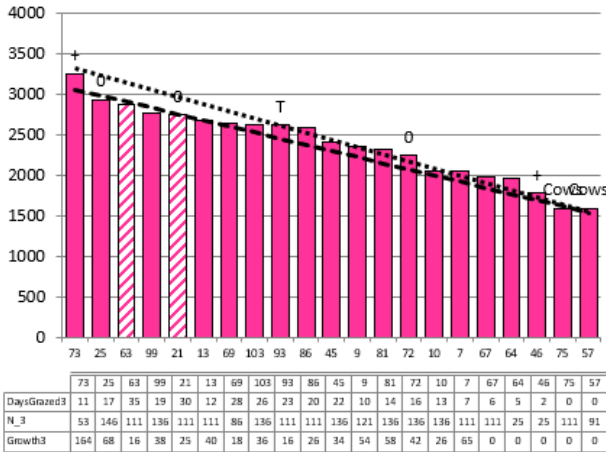




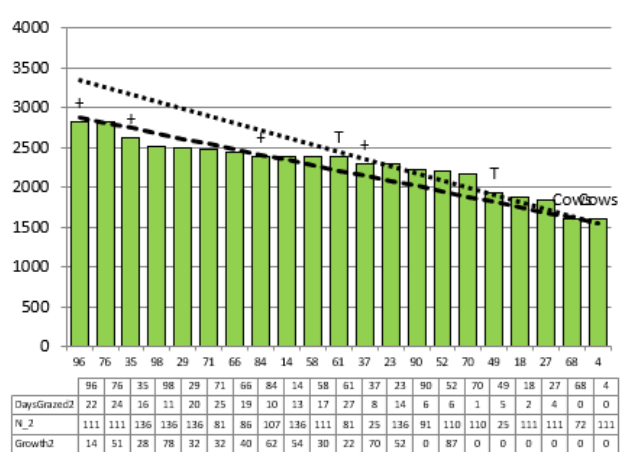
2021/22 Season Hub Weekly Farm Update Date: 27/01/2022

Standard Kale



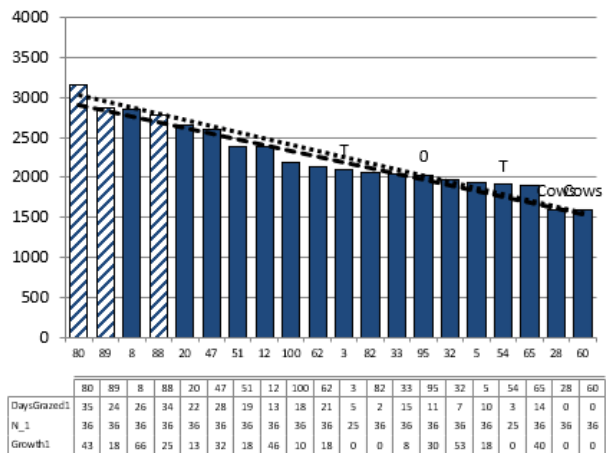
Farmlet notes: Visual APC 2462, GR 59; Growth just at demand so pasture cover holding; 3 kg inshed feed required next week to fill deficit in wedge; N applications planned for early next week; milk production drop more likely a pasture quality than quantity issue; 6 week incalf rate of cows 73.3%, back 3% units from last season; 85% 6 wk ICR for heifers with 15% rechecks

Standard Fodder Beet



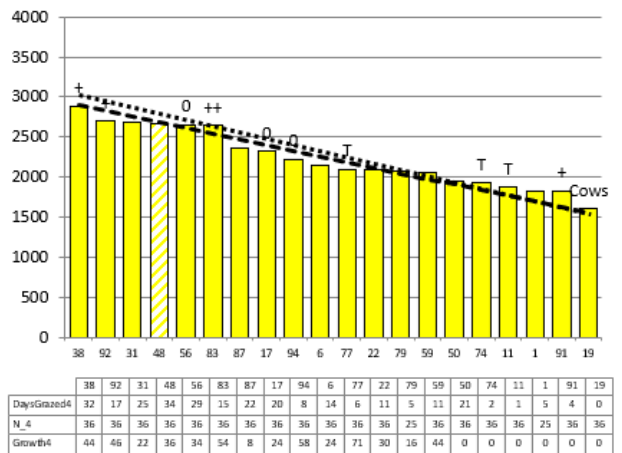
Farmlet notes: Visual APC 2320, GR 47; Pasture growth dropped 200 kg DM/ha in last 2 weeks with variable growth; 2 kg DM PKE plus baleage as required; pdk stepped over last week has been pre-grazed mown & eaten; cows behaviour doesnt indicate they are tight but milk production does; 74.9% 6 wk ICR of cows, up from 68.4% last season; R2 6wk ICR of 84%;

Low Impact Kale



Farmlet notes: Visual APC 2336, GR 39; Growth below demand this week & APC dropped; 2 kg DM inshed feed required to fill pasture deficit; pdks stepped over last week are too mature so will be conserved to keep cows in best quality pasture to drive better milk production; 6 wk ICR of 73.3% down 3% units from last year; R2's 81% 6wk ICR;

Low Impact Fodder Beet



Farmlet notes: Visual APC 2338, GR 51; APC holding but rotation length too fast last week; increase inshed PKE to 2 kg DM/day with baleage as required; x1 pdk identified for conservation based on quality; 74.7% 6 wk ICR for cows, up from 69.5% last year, but only 72% for R2's; big range in quality across pdks has impacted significantly in milk production this week.

NB: Shaded pdks are being stepped over for conservation
 NB: Top target line is for 17.5 kg DM intake from pasture only; bottom line used to determine supplementary feeding requirements



2021/22 Season Hub Weekly Farm Update

Date: 27/01/2022

Table 1: KPI Table across all farmlets

KPI	STd Kale Pink	LI Kale Blue	STd FB Green	LI FB Yellow
Farmlet area inc wintering	75.0	72.1	75.0	69.2
Peak cow numbers	195	162	194	162
Milking Area	63.4	60.5	63.4	60.5
Herd size (cows)	192	160	193	160
Pasture Stocking rate	3.0	2.6	3.0	2.6
Winter Feed Milking supplement	Kale In-Shed feed		Fodderbeet Fodderbeet/Baleage	
Average Cover	2368	2256	2273	2228
Average Growth	45	29	47	37
Target rotation length	32	31	32	31
Last week act rotation (d)	35	35	24	23
Last week supp (kg DM/cow)	2.3	0.7	0.7	1.3
Average BCS	4.44	4.53	4.36	4.43
% of herd on OAD	6%	7%	13%	7%
Milk yield (L/cow)	18.6	18.4	16.4	16.6
Milk yield (KgMS/cow)	1.78	1.76	1.58	1.68
Nitrogen Cap kgN/ha/yr	193	50	193	50
% Nitrogen used (kgN/ha) YTD	58% (111kg)	68% (34kg)	53% (102kg)	68% (34kg)
Effluent N YTD	5	5	7	7
Profit/ha comp to Control	\$0	-\$210	-\$173	-\$166
YTD supp (kg DM/cow)	410	302	300	286
YTD MS/cow	282	291	267	261
YTD MS/ha	734	654	690	612



2021/22 Season

Hub Weekly Farm Update

Date: 27/01/2022

General Farm Information

Table 2: Key Weather and Feeding Numbers 27 January 2022

Soil Temp (°C) (weekly average)	17.7			
Rainfall (mm)	11.2 mm			
Allocation Target kg DM/cow/day	Std. Kale	LI Kale	Std FB	LI FB
Milkers	18 kg DM 15 kg pasture 3 kg DM PKE:barley blend	18 kg DM 16 kg pasture 2 kg DM PKE:barley blend	18 kg DM 14 kg pasture 2 kg DM PKE 2 kg DM baleage	18 kg DM 16 kg pasture 2 kg DM PKE Baleage as required

Key Decisions

Feed:

- Managing pasture quality and allocation continues to be a priority as we struggle to hold milk production across all farmlets.
- Both kale farmlets and the LIFB farmlet have paddocks that are long days post graze and losing quality. The decision was made to harvest these to get the herds into paddocks further down the wedge with shorter return times and higher quality
- To meet demand with baleage paddocks removed the Std Kale herd will require 3 kg/cow/day inshed feed, both LI herds 2 kg/cow/day and the Std FB herd will receive 2 kg inshed feeding plus 2 bales of baleage per day.
- Managing the residuals across all herds will be important this week with the amount of supplement being offered. Paddock selection will be crucial in seeing that the residuals are met.
- A combination of visual and plate data has been used for grazing decision making this week. Dry, stemmy pasture in the base of the sward following the recent dry conditions is still affecting the plate estimates.
- We think pasture quality is the main driver behind the drop in milk production for all herds this week as the residuals don't suggest there has been a shortage of dry matter. There is a significant amount of clover across the farm, which will help maintain quality but tends not to contribute as much total dry matter.
- Additional pasture samples will be collected this week to give a greater understanding of the quality of the feed on offer. There is potentially more ADF and NDF (fibre) and less crude protein in the pastures at present. Fibre affects the intake potential of the feed and protein the milk production.



2021/22 Season

Hub Weekly Farm Update

Date: 27/01/2022

- A range of paddocks were sampled for DM% yesterday. The new grass paddock came back at 16.8% DM while the older pastures ranged between 23 and 27% DM with paddocks at the lower end of the range having more clover and lush urine patch areas and less days since the last grazing.
- The 4 pdks for pasture grass to grass renewal (x1 pdk per farmlet) were sprayed out last week and will be seeded as soon as possible.
- Soil temperature dropped this week to be similar to the same time last year. Season to date rainfall is only 10 mm behind the same time last year.

Milk Production:

- We have noticed a drop in litres across all herds this week but some of this has been compensated for by an increase in fat and protein composition.

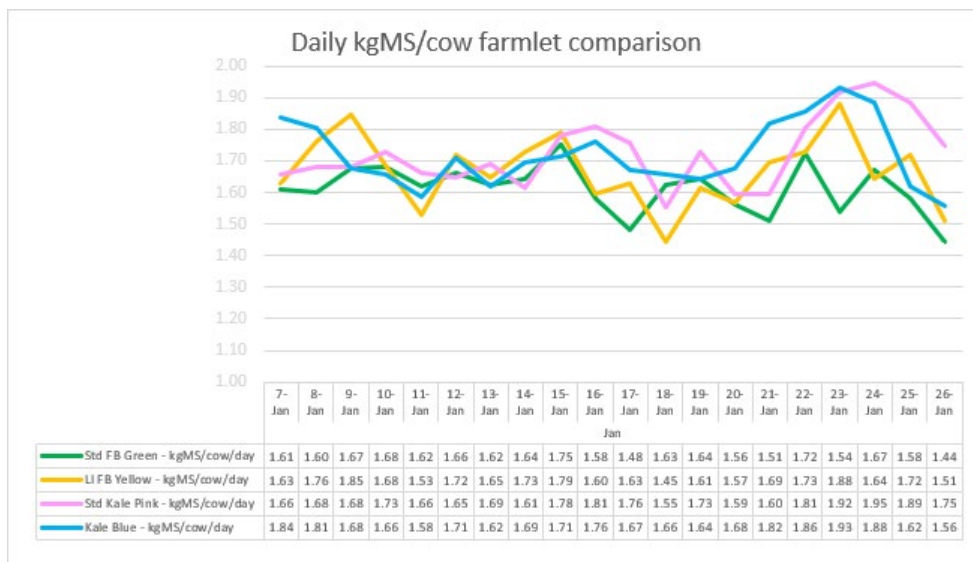


Figure 1: Daily kgMS/cow comparison

- As seen in Table 1, the two FB herds average production is approximately 0.2 kg MS/cow/day lower than the kale herds and has been more variable. The surprising result was the significant drop in production from the kale herds.
- Low BCS cows in all herds are on OAD milking, however the Std FB herd still have the highest % of OAD cows with 13% of the herd.
- There are differences between the kale and fodder beet herds in the protein to fat ratio with kale herds fluctuating between 0.79 and 0.83 while the fodder beet herds are between 0.76 and 0.79. Two factors are driving these differences 1. the kale milk is generally higher in protein than the FB milk while the FB cows are producing milk with higher fat. These differences suggest differences in the quality of the feed on offer with the lower protein in the FB herds suggesting a shortage of energy in the diet with a higher fibre diet driving up milk fat%.
- Herbage samples in the last month have returned lower crude protein but they are still in the range that should be sufficient to maintain the current level of milk production

General Notes:

Animals:

- The first scan of the herds was completed last week for all herds and at a farm level 6 week in calf rate has lifted again on last years results, sitting at 73.8%. Well done farm team!



Figure 2: The VetSouth team busy scanning the herd this week

- The Std FB herd has had the biggest increase from 68% last season to 74.9% this season, however the collar data suggests there could possibly be a few phantom pregnancies in this herd. The data will be interrogated over the coming weeks to see if this is a possibility.
- The re-scan has been booked for 3rd of March, to confirm the late pregnancies and check any animals that the activity data suggests a different pregnancy status from the initial scan.

**2021/22 Season
Hub Weekly Farm Update
Date: 27/01/2022**

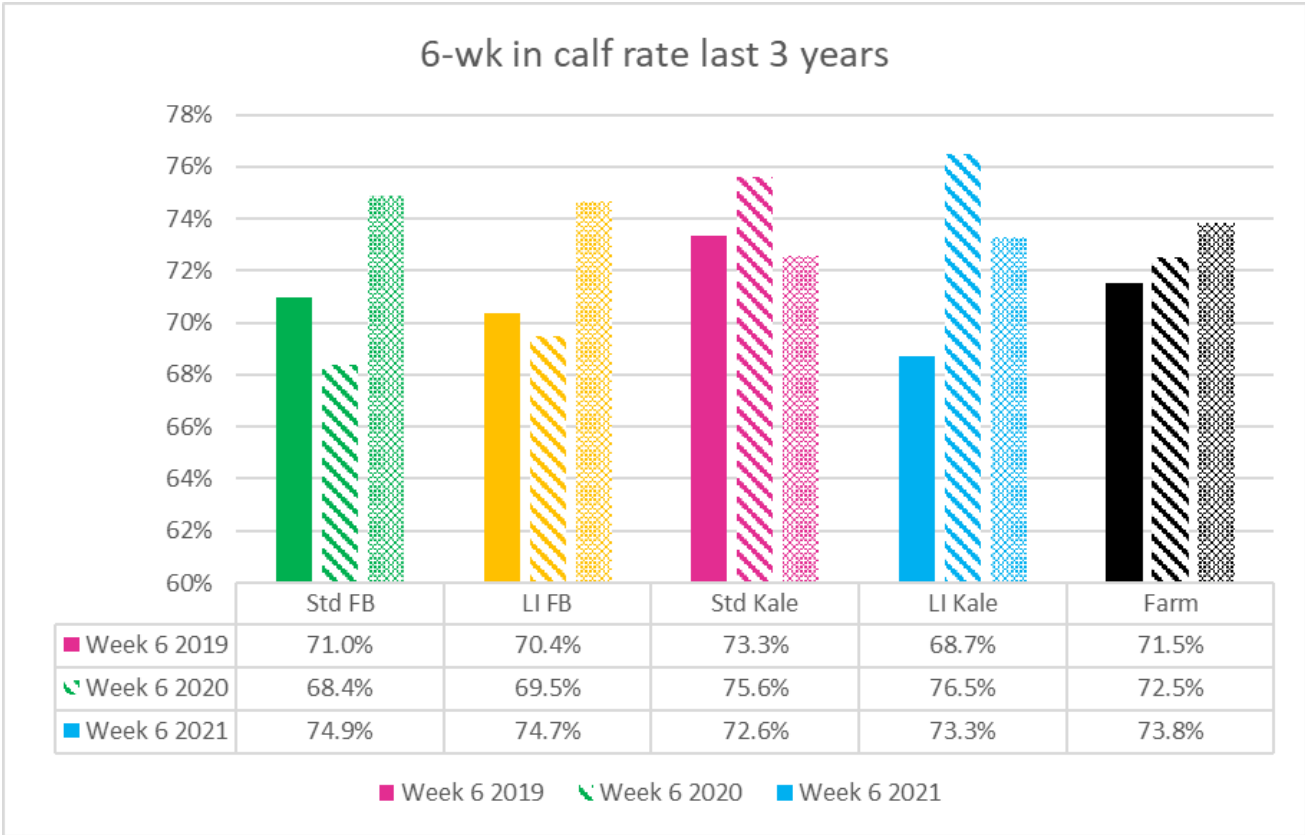


Figure 3: 6-week in calf rate over the last 3 years

- Scanning was also completed on the R2's at the graziers this week with the results coming back as 81% 6-week in calf rate. As seen in table 3 below, the LI FB herd replacements (Yellows) have the highest number of rechecks.

Table 3: 6 week in calf rate data for the R2's

Farmlet	(All)				
Count of Animal ID	Column Labels				
Row Labels	Pink	Blue	Green	Yellow	Grand Total
6 wk in-calf rate	85%	81%	84%	72%	81%
Recheck	15%	19%	16%	28%	19%
Grand Total	100%	100%	100%	100%	100%

- Rechecks have been booked in for the 10th of February for these heifers.

Young Stock:

- To clarify after some feedback from our notes last week, the calves that went to the graziers last week had an average liveweight of 150kg and the 85 calves that remain at the support block averaged 132kg on the 11th of January
- The calves at the support block will be brought in for drenching next week and will be weighed again to measure their gains over the past 3 weeks.



2021/22 Season Hub Weekly Farm Update Date: 27/01/2022

Animal Health:

- Considering the amount of clover that has been seen across the farm recently, there has been no sign of bloat
- Bloat oil will remain in the system as a precautionary measure.

Environment:

- After no N being applied last week due to limited rain in the forecast we are confident of sufficient rain over the next 10 days to recommence N applications on the Std farmlets and to all new grass paddocks following grazing.
- Despite receiving 10-15 mm rain per week through January Figure 5 below indicates that soil moisture levels are not far off stress point. This is an ideal opportunity to keep the effluent irrigators going to provide additional N and water to as many paddocks as possible during the drier period.



Figure 4: January soil moisture data from HALO.

Research:

- As part of the farm system comparison, we are interested in tracking changes in pasture composition on an annual basis, particularly in relation to the reduction in N fertiliser applications for the LI farmlets
- Next week we will start completing botanical compositions on each paddock just prior to grazing to add to the data in Figure 4 below

2021/22 Season Hub Weekly Farm Update Date: 27/01/2022

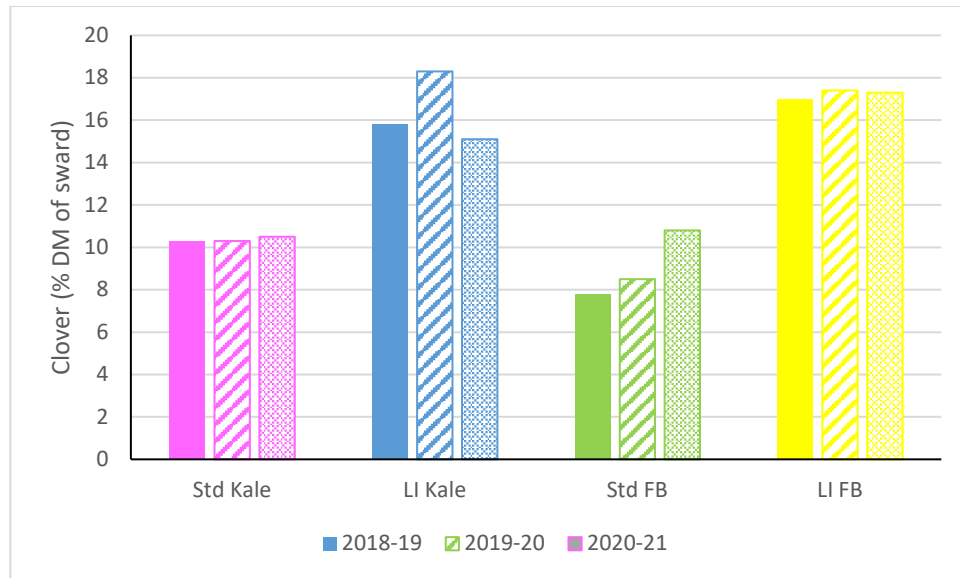


Figure 5: Average clover proportion for farmlot paddocks across the three years of the study

- Results of blood samples collected from all herds early in January have come back and are summarised below
- On average the serum calcium, magnesium and phosphorus concentrations for the fodder beet herds were lower than the kale herds (Table 4) but all were in the normal range.
- All cows sampled in the kale herds had values above the minimum reference range
- The Std FB herd had 8% of animals with Mg below the reference range and 13% below the reference range for phosphorus
- The LIFB herd had 5% of animals sampled with Mg & P below the relevant reference ranges
- In contrast the blood urea concentrations were higher in the fodder beet herds and reflect the higher crude protein content of the pastures being grazed at the same time.



2021/22 Season Hub Weekly Farm Update Date: 27/01/2022

Table 4: Herd average blood metabolite concentrations from morning and afternoon collected samples plus pasture crude protein from the paddock grazed at the same time

	Calcium (mmol/L)	Magnesium (mmol/L)	Phosphate (mmol/L)	Urea (mmol/L)	Pasture crude protein (%)
Std_Kale (Pink)	2.57	0.99	2.00	2.91	14.7
am	2.59	0.97	1.95	3.06	
pm	2.55	1.00	2.04	2.78	
LI_Kale (Blue)	2.56	0.99	2.11	2.50	14.6
am	2.60	0.94	1.97	2.00	
pm	2.50	1.05	2.26	3.04	
Std_FB (Green)	2.46	0.93	1.86	3.64	16.2
am	2.46	0.92	1.94	3.50	
pm	2.46	0.94	1.78	3.78	
LI_FB (Yellow)	2.50	0.93	1.93	4.06	16.1
am	2.53	0.91	2.04	3.78	
pm	2.48	0.95	1.82	4.34	

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>