

Weekly Farm Summary 7th October 2022

Farm-system impacts of: Kale vs Fodder beet for winter AND Reducing N loss to water by 30%.

	Std Brassica/ Baleage Pink	LI Baleage Blue	Std Fodder beet Green	LI Fodder beet Yellow
Farmlet area including wintering	82.7	60.9	82.7	60.9
Peak cow numbers	223	137	223	137
Milking Area	73.8	55.1	73.8	55.1
Current Herd size (cows)	222	133	215	134
Pasture Stocking rate (current)	3.0	2.4	2.9	2.4
Winter Feed Milking supplement	Swede/Bale	Baleage	Beet 80 days	Beet 60 days
	In-shed feed 500kg/cow + baleage as required			
Average Cover	2364	2297	2348	2383
Average Growth	74	57	65	72
Target rotation length	22	26	22	26
Last week act rotation (d)	25	32	21	29
Last week supp (kg DM/cow)	1.0	0.9	1.1	0.9
Average BCS	4.7	4.6	4.5	4.6
% of herd on priority feeding	5%	4%	5%	4%
Milk yield (L/cow)	24.7	26.2	25.3	25.2
Milk yield (kgMS/cow)	2.21	2.33	2.24	2.25
Nitrogen Cap kgN/ha/yr	180	50	180	50
% Nitrogen used (kgN/ha) YTD	22% (40kg)	18% (9kg)	22% (39kg)	18% (9kg)
Effluent N YTD	2	1	2	2
Profit/ha comp to Control	\$0	\$0	\$0	\$0
YTD supp (kg DM/cow)	225	147	193	140
YTD MS/cow	79	84	77	85
YTD MS/milk ha (YTD MS/farm ha)	239 (214)	210 (190)	234 (209)	211 (191)

Business Area	Current Status
Milk Production	Is currently stable for all herds. Have begun farmlet level milk composition sampling by rotating the herds through the two Fonterra vats
Pasture & Feed	Growth exceeding demand. In-shed supplements reduced to the lowest amount required to meet daily mineral supplementation requirements. Further conservation and post graze topping on hold until post weather event
Animals	Animal health continues to be good. One new case of lameness this week and one case of bloat. Bloat oil now going through the inline dispenser. Second group of cows were Metri-checked. Plans for mating being finalised with a 2-day delay in PSM for cows and 5 days for heifers based on gestation BV information. BCS down on average across all herds by 0.1 points, similar numbers in the priority feed group.
Environment	Effluent applications continue to follow the cows. Standard paddocks on 2 nd round of N fertiliser (25 kgN/ha). Lower Impact paddocks will begin 2 nd round approx. 20 th Oct.
Wintering	17 cows to calve. Finalising plans of herd numbers, crop types and paddocks for 2023
People	Farm and research teams continue to work well together particularly around sharing feedback and feed utilisation observations
Research	Refining details for 2023-24 farm systems setup. Farmer reference group meeting held last week with excellent and insightful discussions around mating date, dry summer feeding strategies, and infrastructure herd sizes for next project

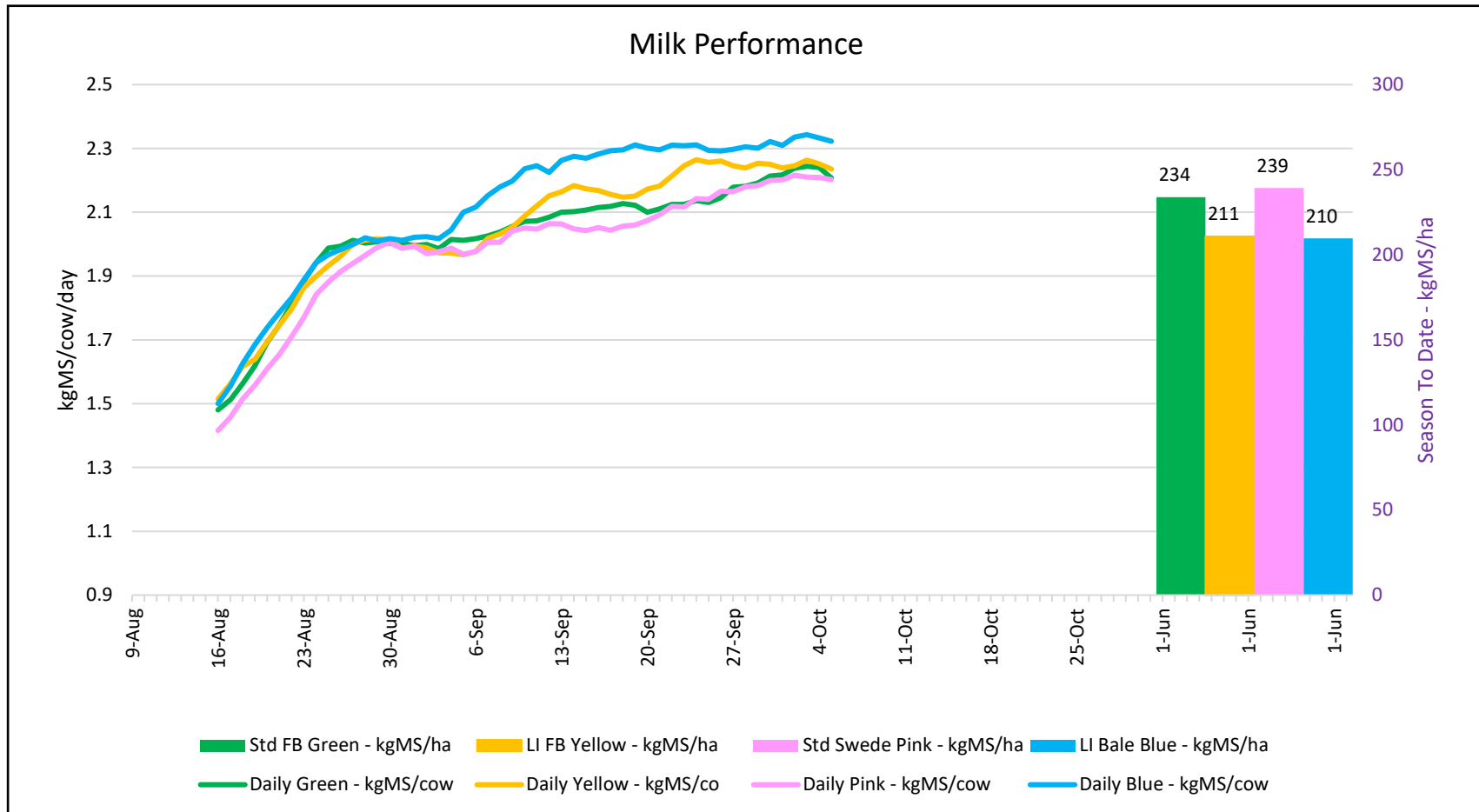
Milk Production

Principles of Milk Production management this week

Milk Production	Year to date (YTD) production (kgMS/ha) for the standard herds continues to be higher than the lower impact herds, with all herds significantly ahead of last season. On a kgMS/cow/day basis, the standard herds have caught up to LI FB, and the LI Baleage herd remains ahead of all of them
Key Influences on Milk Production	Stage of lactation. Continue to be proactive with feed quality management and stepping over paddocks above a pre-graze target. Some extreme weather this week has seen temperatures ranging from mid-teens to below freezing with snow during a two-day polar blast.
Cow Management	Continue to milk majority of the cows TAD with some animals being with some cows on OAD to protect BCS and aid recovery post calving

	Std brassica/baleage Pink	LI Baleage Blue	Std Fodder beet Green	LI Fodder beet Yellow
kg Milksolids per cow this week / (last week)	2.21 (2.13)	2.33 (2.36)	2.24 (2.13)	2.25 (2.21)
kg Milksolids per ha this year / (same time last year)	239 (214)	210 (190)	234 (209)	211 (191)
% Var kg Milksolids per ha Season per ha to date vs last season to date	16.4	10.8	22.5	14.8
No. of Cows needing preferential feeding (% herd)	12 (5)	5 (4)	12 (6)	5 (4)
Animal health peculiarities	Bloat	None	None	None

Milk Production



Feed

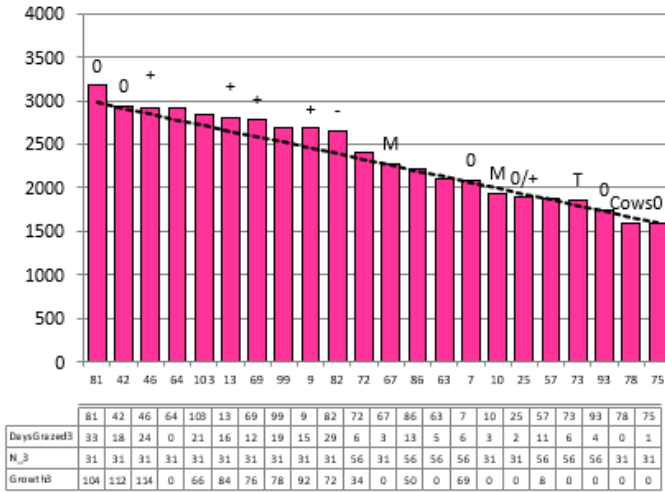
Principles of Feed management this week

Feed Quality	Expecting reduced utilization due to the polar blast. Utilizing ex springer paddocks for this period with increased supplementary feed to minimise pasture damage on the milking platform during this weather event. Will only post graze mow where clumps of pasture need to be managed or residuals reset.
Growth Rate Management	Not stepping over any paddocks at this stage (due to the turn in the weather). Will monitor and reassess situation once weather settles. Having previously taken the baleage out, we are back on top of the grass surplus, which is where we want to be at this time of year. Will continue to keep herds on their fastest rotation over the next week (22-26 days for the standards versus the lower impacts, excluding springer paddocks)
Nitrogen Strategy	Round two applications (25 kgN/ha) for the standard herds have commenced, targeting paddocks no more than 7 days since last grazing. Second round (12.5 kg N/ha) for the LI herds will commence around the 20 th of October.

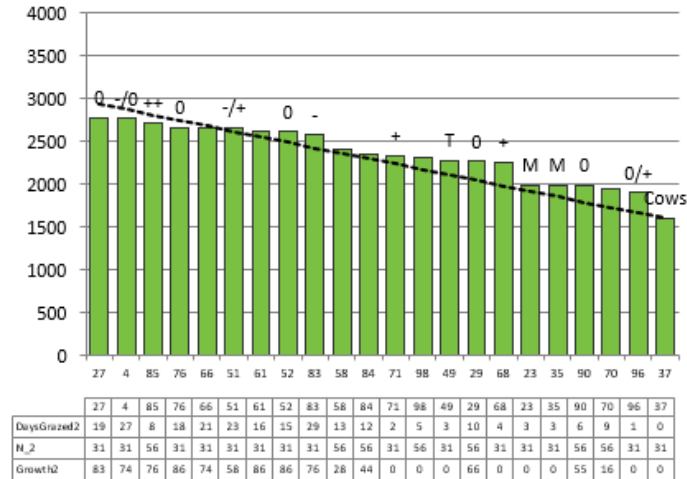
	Std brassica/baleage Pink	LI Baleage Blue	Std Fodder beet Green	LI Fodder beet Yellow
Quantity	Slight surplus	OK	OK	Slight surplus
Quality	Second round good, DM 17%	Second round good, DM 17%	Second round good, DM 17%	Second round good, DM 17%
Surplus Management	Baleage made	Baleage made	Baleage made	Baleage made
Deficit Management - kgDM (diff from last week)	1.8 (0.8)	1.5 (0.6)	3 (1.9)	1 (0.1)
Target Rotation Length (days)	22	26	22	26

Feed

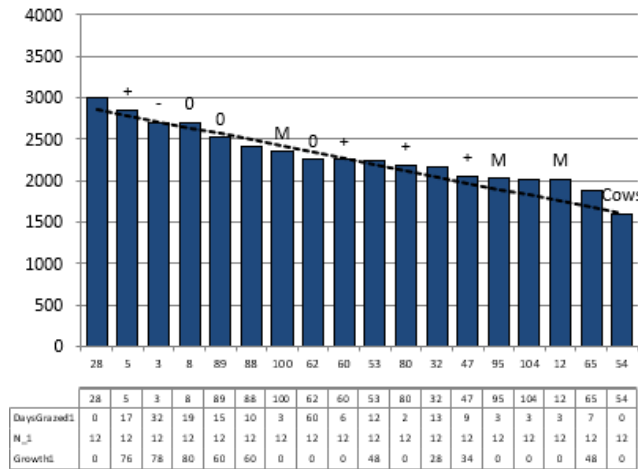
Standard Conserved Pasture



Standard Fodder Beet



Lower Impact Conserved Pasture



Lower Impact Fodder Beet

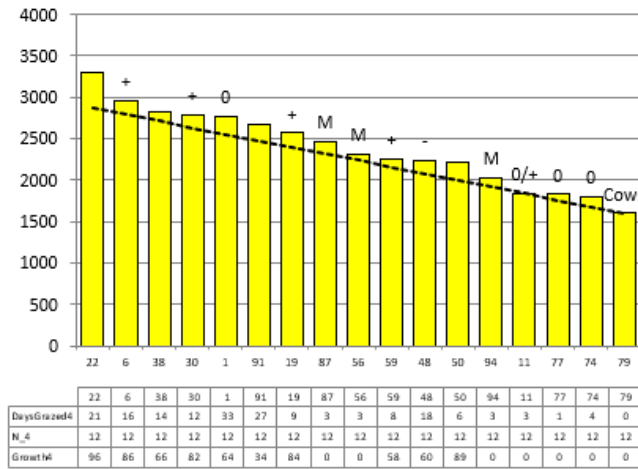
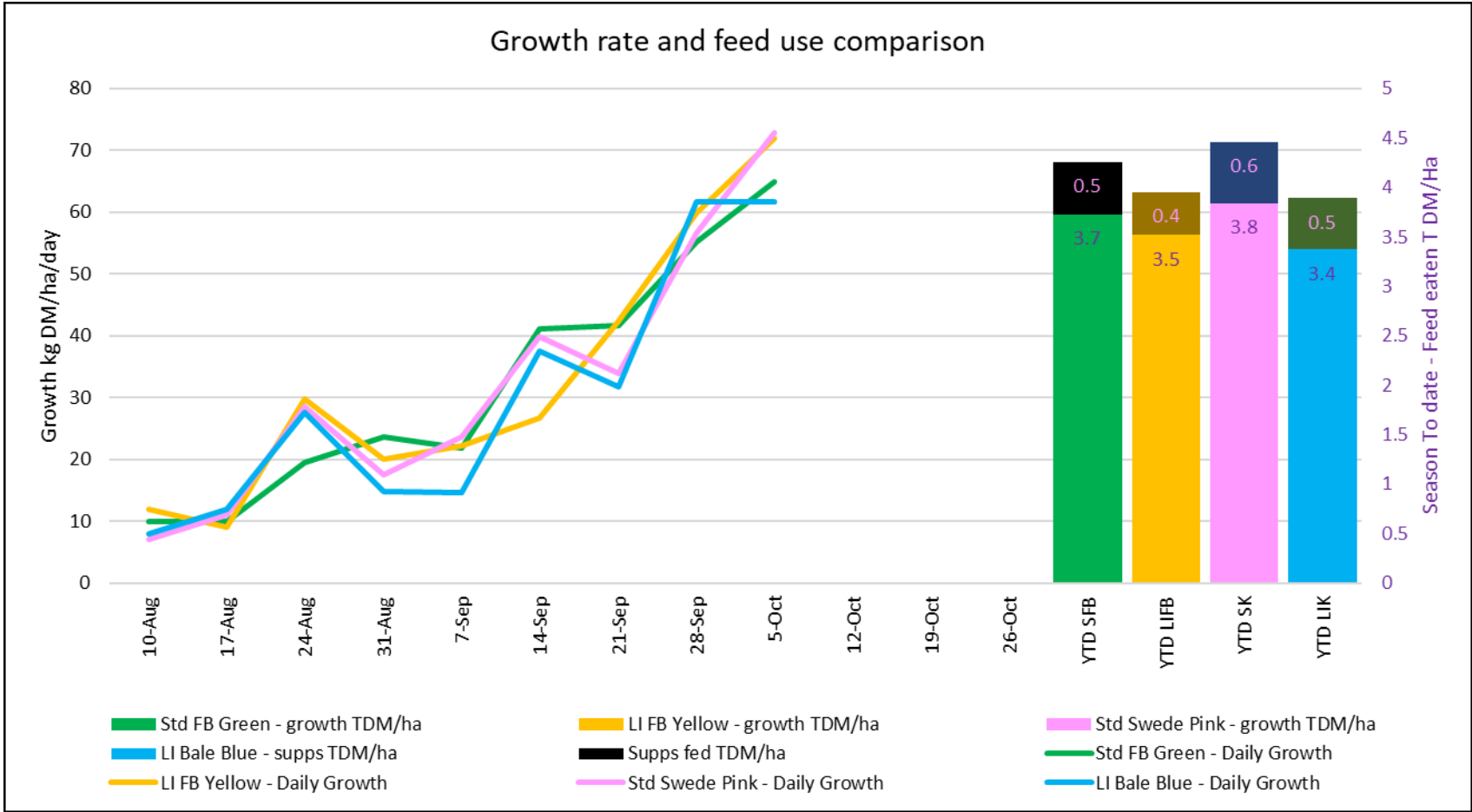


Figure 2: Feed Wedges as of 4th October 2022

Feed



Environment

Why Reduce N Fertiliser Use

- Using less N fertiliser can contribute to improving the environmental footprint thus improving water quality and a reduction in greenhouse gas emissions
- As a result of the above initiatives, the Government has a 190 kgN/ha/year cap on synthetic N fertiliser to each hectare of land not used to grow annual forage crops

Response rates

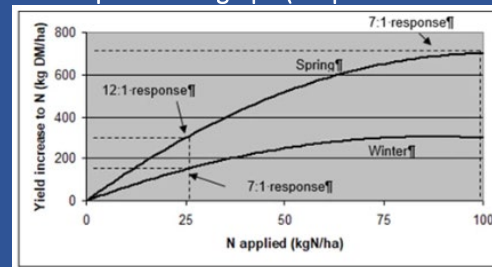
For more information and tools please visit the DairyNZ website:
<https://www.dairynz.co.nz/environment/>

- Best not to apply more than 50 kgN/ha at any one application and the need for application should be assessed against:
 - The need for extra pasture growth & how well the additional pasture can be used
 - Soil conditions – temperature (more than 6°C and less than 16°C) and moisture
 - Ratio of milk price to the cost of N fertiliser
- Response rates depend on the season and the application rate with responses lower and slower in winter than in spring

Impact of pasture growth rate on response rates to N fertiliser (N applied at optimum rates i.e. < 50 kg N/ha)

Pasture growth rate	Pasture growth (kg DM/ha/day)	Response (kg DM/ kg N)	Time to full response (weeks)
Slow	10	5	10-14
Moderate	20-40	10	6-8
Fast	50-70	15	5-6
Rapid	>80	20	3-4

Effect of season on response rate graph (adapted from Cameron et al, 2005)



What are we doing at SDH – Our Nitrogen Strategy

- No more than 40 kgN/ha onto pasture in a single application
- Spreading the applications for the Lower Impact farmlets evenly throughout the season to manage quality & quantity
- Targeting applications during higher response periods: Spring soil temperature >7°C and rising; autumn >7°C soil temperature and nothing after 10th April.

Schedule and rates of applications

Week ending	2-Sep-22	30-Sep-22	21-Oct-22	28-Oct-22	25-Nov-22	9-Dec-22	23-Dec-22	20-Jan-23	17-Mar-23	Total
Standards Rate (kg N/ha)	30	25		25	25		25	25	25	180
Lower Impact Rate (kgN/ha)	12.5		12.5			12.5			12.5	50

Quantity Assessment Team

