Weekly Farm Summary 21st 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	Swede/Bale	Baleage	Beet 80 days	Beet 60 days
Milking supplement	In-shed feed 500kg/cow + baleage as required			
Average Cover	2334	2297	2381	2308
Average Growth	71	63	67	55
Target rotation length	22	26	22	26
Last week act rotation (d)	23	26	22	34
Last week supp (kg DM/cow)	2.3	1.7	1.5	6.9
Average BCS	4.5	4.5	4.4	4.4
% of herd on priority feeding	4%	4%	5%	4%
Milk yield (L/cow)	24.8	26.0	25.2	25.0
Milk yield (kgMS/cow)	2.19	2.33	2.22	2.22
Nitrogen Cap kgN/ha/yr	**180**	**50**	**180**	**50**
% Nitrogen used (kgN/ha) YTD	32% (58kg)	26% (13kg)	31% (56kg)	26% (13kg)
Effluent N YTD	2	1	2	2
Profit/ha comp to Control	$0	$0	$0	$0
YTD supp (kg DM/cow)	258	165	225	189
YTD MS/cow	109	115	107	115
YTD MS/milk ha (YTD MS/farm ha)	330 (295)	287 (259)	324 (289)	287 (260)

Business Area	Current Status
Milk Production	More variable production between herds this week, primarily based on pre-graze covers. All herds appear to be holding peak production well
Pasture & Feed	Much more consistent growth this week and with good soil temperature and moisture we expect the farm to continue growing well. Std FB had 2 paddocks above their pre-graze target so these have been stepped over for conservation, all other herds pretty tidy with their wedges. Starting to see seed head emergence in mid flowering cultivars
Animals	Still good oestrus activity across all the herds. Just 2 cows left to calve, both of whom are overdue.
Environment	Continuing to apply effluent following the cows' providing conditions allow. No N fertiliser for the Std farmlets for another 2-3 weeks. Lower Impact paddocks have started their 2nd round of N fertiliser applications.
Wintering	2022 winter crop paddocks continue to be prepared for re-grassing. Contractors have been given a hurry up this week as not much has progressed in the last 2-3 weeks and conditions have been good.
People	Annual leave booked for the team for the next week/10 days to clean up time off before mating starts
Research	Research advisory committee met with the Hub family boards this week to discuss the newly developed SDH Research Strategy

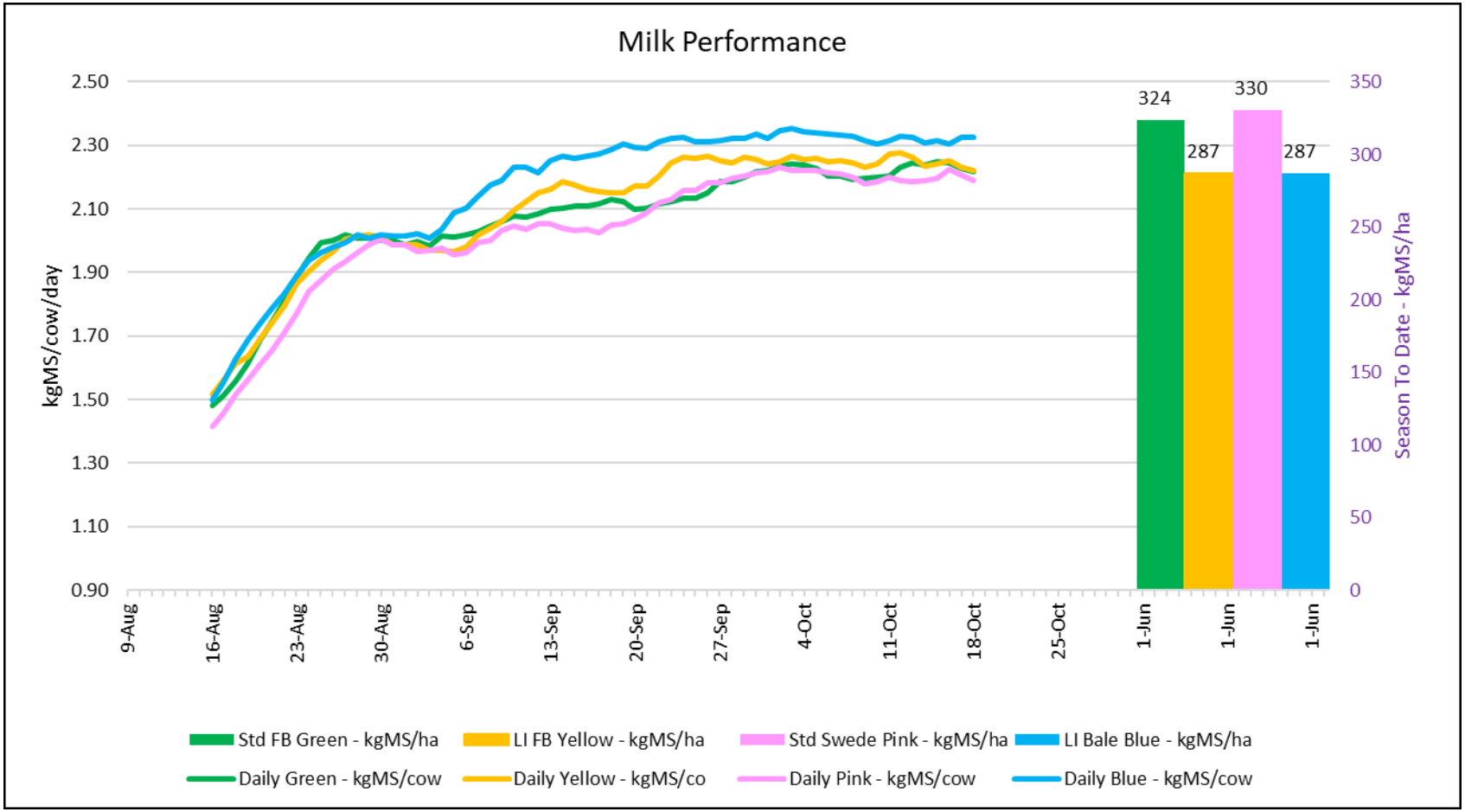
Milk Production

Principles of Milk Production management this week

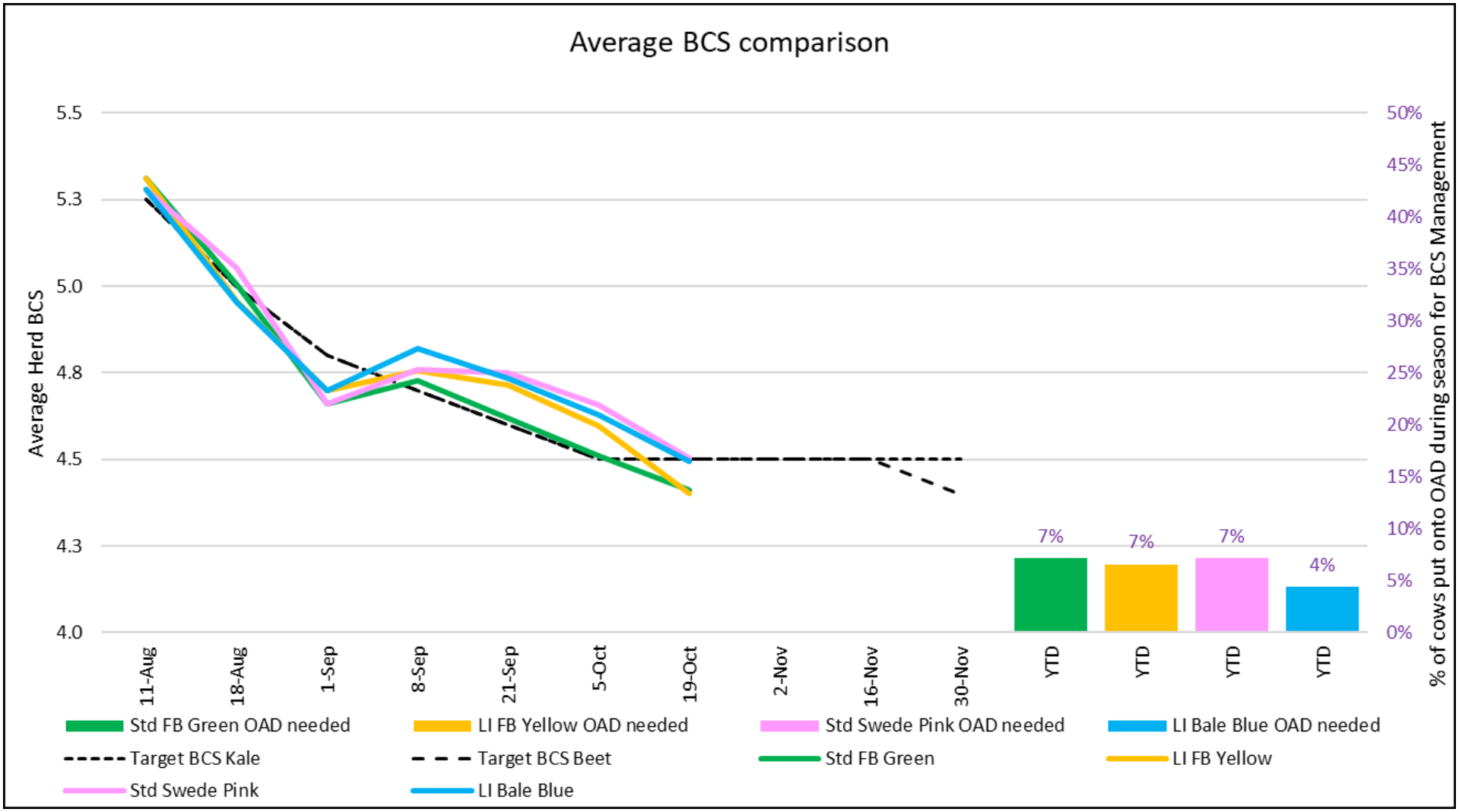
Milk Production	Production has been more variable between the herds this week with the LI Baleage continuing to perform the best. While production is fluctuating the cows are holding peak production well. All herds are still significantly ahead of last year's production at the same time.
Key Influences on Milk Production	The post-baleage paddocks have caught the Std Brassica (Pink) herd out this week with less available DM than estimated, requiring additional supplementary feed as baleage. To hold their rotation the LI FB herd grazed one paddock above their target pre-graze mass resulting in a decline in production, however they are slowly creeping back up.
Cow Management	After the BCS assessment at the beginning of the week our OAD priority feeding group has been revised with the aim to get them cycling priority to planned start of mating.

	Std brassica/baleage Pink	LI Baleage Blue	Std Fodder beet Green	LI Fodder beet Yellow
kg Milksolids per cow this week / (last week)	2.19 (2.22)	2.33 (2.34)	2.22 (2.24)	2.22 (2.25)
kg Milksolids per ha this year / (same time last year)	330 (295)	287 (259)	324 (289)	287 (260)
% Var kg Milksolids per ha Season per ha to date vs last season to date	15.2	9.2	21.5	14.5
No. of Cows needing preferential feeding (% herd)	16 (7)	6 (5)	16 (7)	9 (7)
Animal health peculiarities	None	None	None	None

Milk Production



Body condition score



Feed

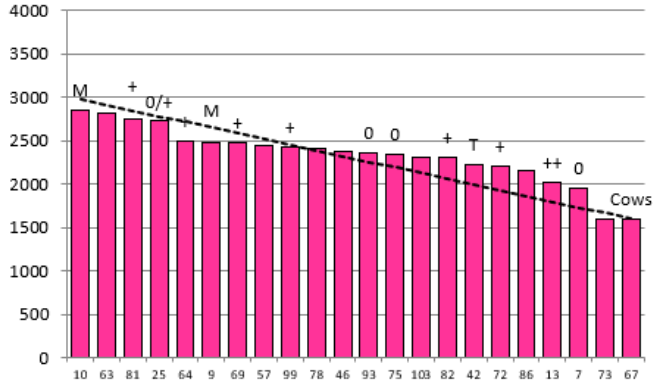
Principles of Feed management this week

Feed Quality	Second round pastures have been of very high quality with samples tested so far coming back with an average DM of 17%, ME of 12.2 MJ/kg DM and crude protein of 21.5%. Paddocks above the pre-graze target for any herd will continue to be stepped over for conservation to ensure cows are going into the right pre-graze mass and residuals are being achieved
Growth Rate Management	The farm is currently in a great position to grow grass with good soil moisture and temperature (12.2 °C) and minimal damage from first round grazing. There is good N in the system for the Std herds.
Nitrogen Strategy	Second round application of N protect (25 kg N/ha) to the Std farmlets has been completed. Second round applications (12.5 kg N/ha) to the LI farmlets have started

	Std brassica/baleage Pink	LI Baleage Blue	Std Fodder beet Green	LI Fodder beet Yellow
Quantity	OK	OK	Slight surplus	OK
Quality	Very Good	Very Good	Very Good	Very Good
Surplus Management	None	None	X2 pdks of baleage to be made	None
Deficit Management - kgDM (diff from last week)	3.2 (0.9)	1.6 (-0.1)	1.7 (0.2)	2.4 (-4.5)
Target Rotation Length (days)	22	26	22	26

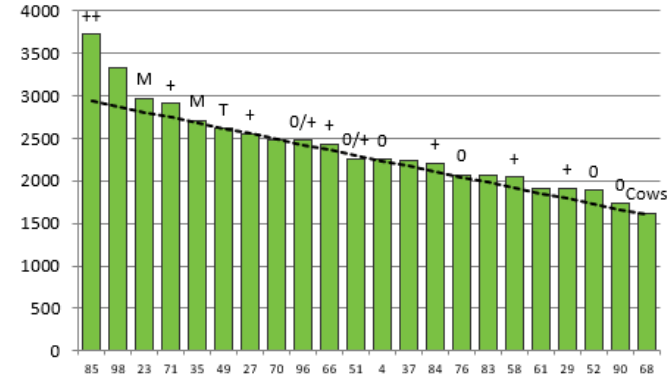
Feed

Standard Brassica/Baleage



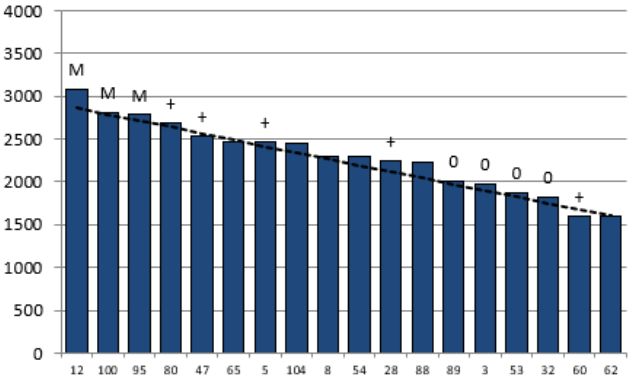
	10	63	81	25	64	9	69	57	99	78	46	93	75	103	82	42	72	86	13	7	73	67
Days Grazed 3	17	19	11	16	12	6	4	25	5	14	10	18	15	7	6	8	3	2	7	1	0	0
N_3	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Growth 3	82	98	92	82	64	0	0	52	0	78	50	60	70	0	0	56	0	0	0	0	0	0

Standard Fodder Beet



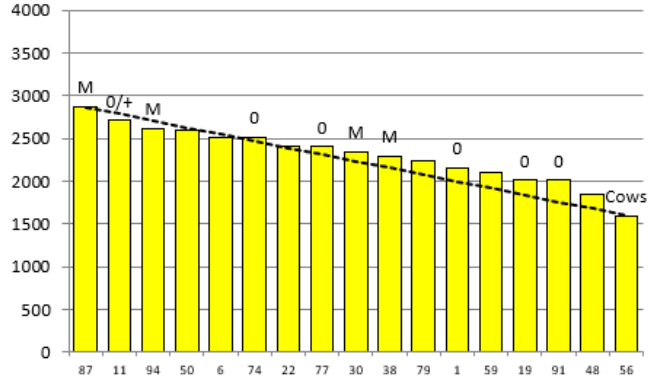
	85	98	23	71	35	49	27	70	96	66	51	4	37	84	76	83	58	61	29	52	90	68
Days Grazed 2	22	19	17	16	17	17	9	23	15	11	12	10	14	4	8	7	3	6	1	5	2	0
N_2	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
Growth 2	108	114	92	82	50	44	92	46	68	50	44	72	40	0	30	0	0	0	0	0	0	0

Lower Impact Baleage



	12	100	95	80	47	65	5	104	8	54	28	88	89	3	53	32	60	62
Days Grazed 1	17	17	17	16	23	21	10	17	7	14	11	1	5	8	4	3	20	0
N_1	12	12	12	12	12	12	24	12	24	12	24	12	24	24	24	24	12	12
Growth 1	104	54	86	68	60	72	74	34	0	64	44	0	0	28	0	0	0	0

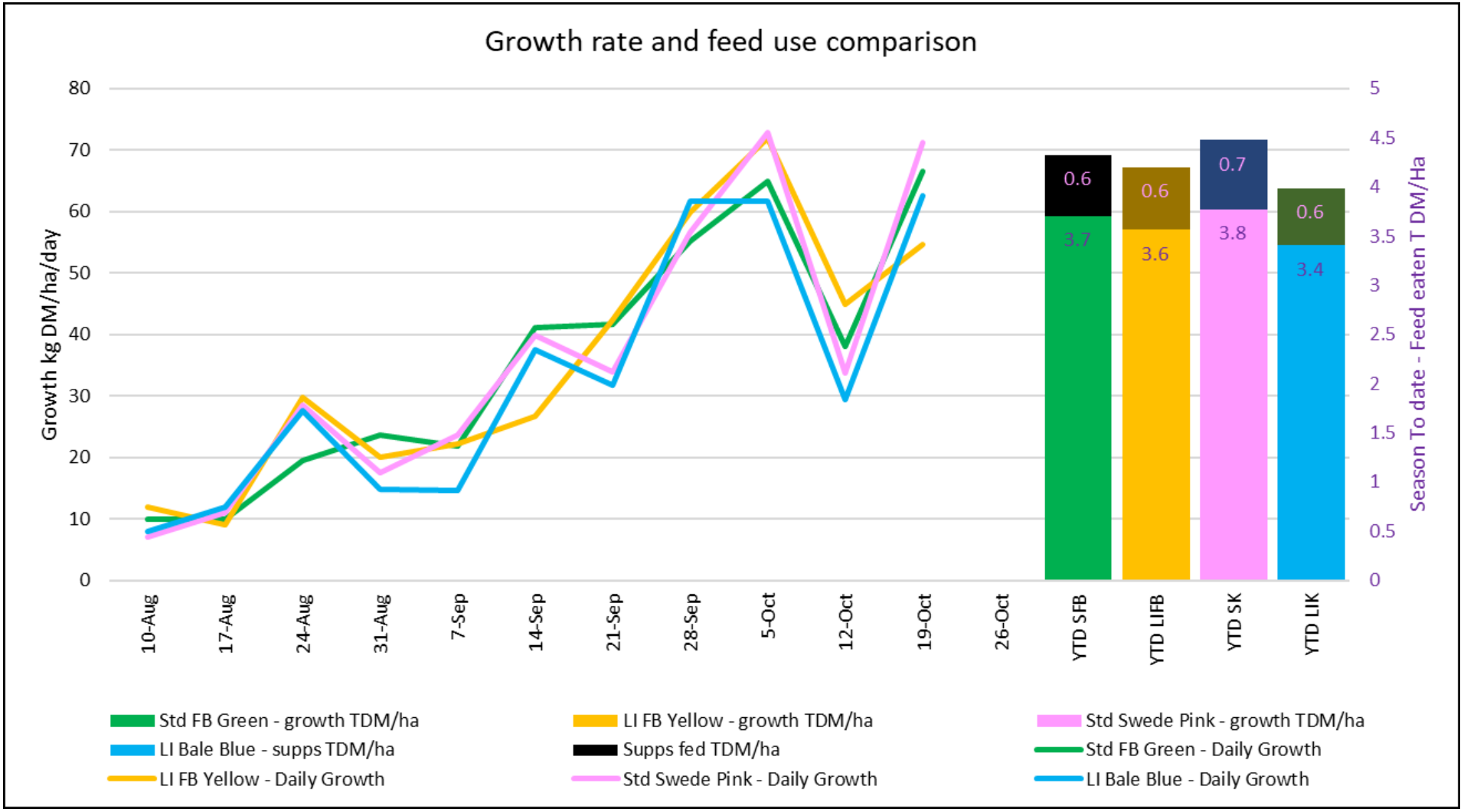
Lower Impact Fodder Beet



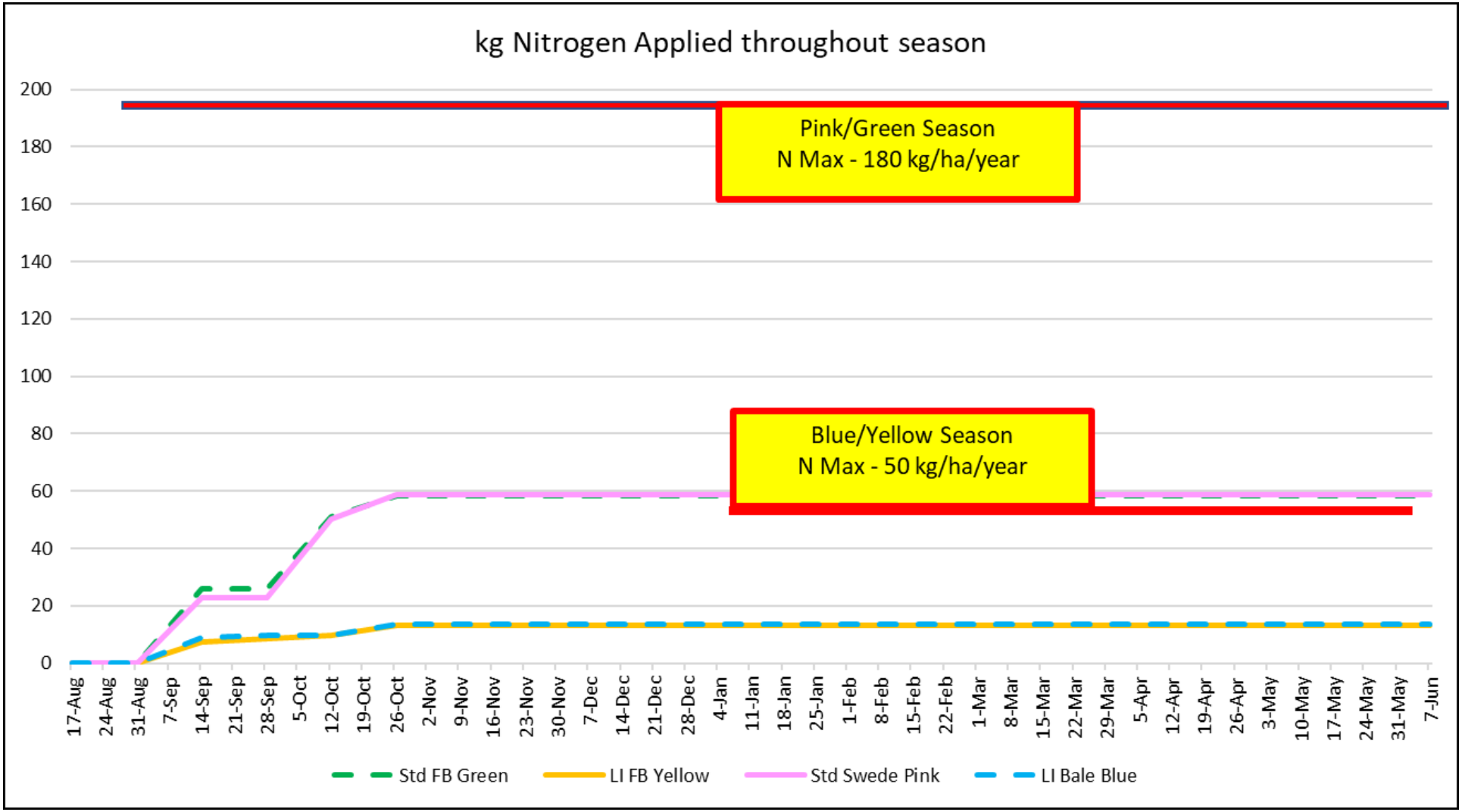
	87	11	94	50	6	74	22	77	30	38	79	1	59	19	91	48	56
Days Grazed 4	17	17	17	20	7	18	5	15	6	6	14	10	0	4	8	2	0
N_4	12	12	12	12	24	12	24	12	12	12	12	24	12	24	24	24	12
Growth 4	58	78	46	50	0	46	117	52	0	0	32	16	0	0	52	0	0

Figure 2: Feed Wedges as of 18th October 2022

Feed


Growth rate and feed use comparison
Growth kg DM/ha/day
Season To date - Feed eaten T DM/Ha
80
70
60
50
40
30
20
10
0
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
10-Aug
17-Aug
24-Aug
31-Aug
7-Sep
14-Sep
21-Sep
28-Sep
5-Oct
12-Oct
19-Oct
26-Oct
YTD SFB
YTD LIFB
YTD SK
YTD LIK
0.6
3.7
0.6
3.6
0.7
3.8
0.6
3.4
Std FB Green - growth TDM/ha
LI FB Yellow - growth TDM/ha
Std Swede Pink - growth TDM/ha
LI Bale Blue - supps TDM/ha
Supps fed TDM/ha
Std FB Green - Daily Growth
LI FB Yellow - Daily Growth
Std Swede Pink - Daily Growth
LI Bale Blue - Daily Growth

Nitrogen


kg Nitrogen Applied throughout season
200
180
160
140
120
100
80
60
40
20
0
Pink/Green Season
N Max - 180 kg/ha/year
Blue/Yellow Season
N Max - 50 kg/ha/year
17-Aug
24-Aug
31-Aug
7-Sep
14-Sep
21-Sep
28-Sep
5-Oct
12-Oct
19-Oct
26-Oct
2-Nov
9-Nov
16-Nov
23-Nov
30-Nov
7-Dec
14-Dec
21-Dec
28-Dec
4-Jan
11-Jan
18-Jan
25-Jan
1-Feb
8-Feb
15-Feb
22-Feb
1-Mar
8-Mar
15-Mar
22-Mar
29-Mar
5-Apr
12-Apr
19-Apr
26-Apr
3-May
10-May
17-May
24-May
31-May
7-Jun
Std FB Green
LI FB Yellow
Std Swede Pink
LI Bale Blue

Pasture Quality

September/October SDH pasture results

- Quality of the first-round pastures has been very consistent across the Standard and Lower impact farmlets and of very high quality

	Dry matter	Crude Protein	ME	NDF	ADF	Lignin	Ash	Total Sugar	Non structure carbohydrates	Starch
Lower Impact	17.0	21.7	12.2	41.4	21.4	4.3	9.7	11.6	23.3	2.0
Standard	17.0	21.5	12.2	41.3	21.5	4.2	9.8	11.5	23.6	1.2

- Four of the 17 samples had a crude protein content less than 20%, however only 2 were below the recommended 18% for cows in early lactation
- Five samples were below 12 MJME/kg DM however the lowest of these was still 11.6 MJME/kg DM. Paddocks with the lowest ME had a higher proportion of NDF and lignin, indicating a higher proportion of structural fibre which is more difficult to digest.
- Relative to spring 2021, the pastures this year are similar in crude protein and NDF, 0.-1% units higher in dry matter and 0.5-0.7 MJ higher in metabolizable energy

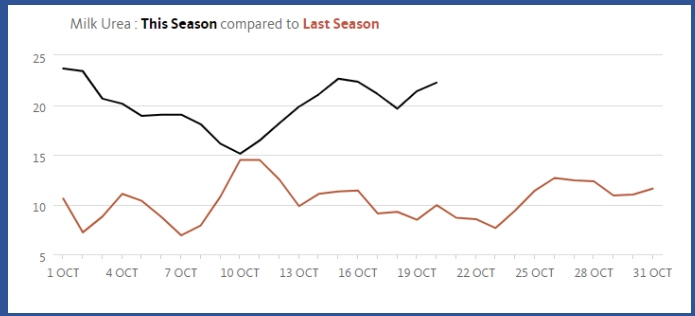
How we interpret our feed test results at SDH

Where to start with interpreting feed test results can be a bit daunting with all the different numbers. For us at SDH there are four components we focus on the most:

Dry matter (DM) percent: This gives an indication of how likely it is for the cows to consume high intakes of pasture. Below 15% dry matter it becomes difficult for cows to achieve high DM intake because of the volume of 'pasture' water they also must process

Metabolisable Energy (ME): energy is the most likely first limiting nutrient for milk production in early lactation. At SDH our aim is to be offering pastures above 12 MJ ME/kg DM

Crude protein (CP): Protein intake is likely to be the second limiting nutrient behind ME. Recommended range for early lactation cows is 18-24% crude protein. Milk urea can indicate if dietary protein levels are low. Below is a snapshot of the milk urea concentrations for the fodder beet herd vat comparing this October to last October when we were feeding fodder beet which we know is low in crude protein.



Neutral Detergent fibre (NDF): this metric indicates how easy the pasture is to eat and digest with a recommended range of 35-45%. Below 30% NDF the diet becomes fibre deficient and milk fat depression may occur.

For more information and tools please visit the DairyNZ website: **https://www.dairynz.co.nz/feed/pasture**