

Weekly Farm Summary 29 November 2023

Farm-system impacts of: Bales vs Beet for winter AND Reducing N loss to water by 30%.

| | Std Infrastructure Blue | LI Baleage Pink | Std FB Green | LI FB Yellow |
|-----------------------------------|---|-----------------|--------------|--------------|
| Farmlet area including wintering | 49.3 | 93.6 | 86.9 | 60.8 |
| Peak cow numbers | 138 | 208 | 233 | 136 |
| Milking Area | 43.5 | 82.0 | 69.5 | 52.1 |
| Current Herd size (cows) | 138 | 208 | 232 | 136 |
| Pasture Stocking rate (current) | 3.2 | 2.5 | 3.3 | 2.6 |
| Winter Feed Milking supplement | Baleage | Baleage | Beet | Beet |
| | In-shed feed 500kg/cow + silage as required | | | |
| Average Cover (kgDM/ha) | 2205 | 2400 | 2466 | 2319 |
| Average Growth (kgDM/ha/d) | 42 | 47 | 60 | 36 |
| Target rotation length (d) | 24 | 30 | 26 | 29 |
| Last week actual rotation (d) | 20 | 30 | 26 | 28 |
| Last week supp (kgDM/c) | 4.3 | 2.6 | 6.4 | 2.0 |
| Latest Average BCS | 4.9 | 4.7 | 4.8 | 5.0 |
| % of herd on priority management | 29% | 44% | 42% | 28% |
| % in Milk | 100% | 100% | 100% | 100% |
| 7-day Average Milk yield (L/cow) | 22.8 | 22.5 | 23.5 | 23.2 |
| 7-day Average Milk yield (kgMS/c) | 2.09 | 2.06 | 2.16 | 2.13 |
| Nitrogen Cap kgN/ha/yr | 180 | 50 | 180 | 50 |
| % Nitrogen used (kgN/ha) YTD | 28% (51kg) | 44% (22kg) | 28% (51kg) | 48% (24kg) |
| Effluent N YTD | 2 | 4 | 5 | 3 |
| YTD Pasture growth TDM/ha | 6.2 | 6.1 | 6.2 | 5.8 |
| YTD supp (kg DM/c) | 213 | 159 | 298 | 174 |
| YTD MS/c | 194 | 191 | 203 | 200 |
| YTD MS/milk ha (YTD MS/farm ha) | 616 (544) | 487 (426) | 656 (524) | 549 (470) |
| Focus area | Current Status | | | |
| Milk Production | Production is 177 kg MS less than the same time last year. Herds have dropped on average by 0.1 producing an average of 2.1 kgMS/cow/day. This drop is potentially a result of the lower quality silage that was started to be fed. | | | |
| Pasture & Feed | Growth rates have dropped this week, and residuals are getting closer to target. A significant amount of all farmlets have been either mown for baleage or topped in the last couple of weeks which will be impacting growth rates. We have decided to limit the amount of silage that we offer (made last season) due to disappointing quality (CP = 13%, ME = 9 & DM = 29%). Third round application of N fertiliser for the standard herds continues and the LI will receive theirs in early December at this stage. | | | |
| Animals | Have seen an increase in the incidence of lameness across the farmlets, so have consulted veterinary expertise, particularly around the cases with interdigital damage. Four new cases of Mastitis with the 7-day SCC average of the FB and Baleage vats being 85 and 127 respectively. BCS has continued to improve for all farmlets with a herd average of 4.8. (see Latest BCS info on website). Mating continues to go well, with 16 cows not mated to date. The last 17 x 2023 born calves were weaned this week | | | |
| Environment | Pond level has dropped to 43% full. Continue to apply effluent at every opportunity, whilst monitoring applications to make sure they are spread evenly across all the farmlets. | | | |
| Wintering | Agronomist has been on farm this week to view the fodder beet, some weeds are beginning to appear, but it's too early to spray them. Will revisit next week to check on them and see how the newly regressed paddocks are processing, then make a plan as required. | | | |
| People | Callum, a Lincoln University Student, is a welcomed member to the team to help cover staff time with annual leave over the festive season. Another Farm team member has been confirmed to start on the 4th of December. | | | |
| Research | Planning is underway for a couple of paired paddock comparisons of baleage wintering for 2024. We are interested in further understanding the impact of pre-graze pasture mass, bale density and frequency of baleage allocation. We will also be looking for some case study farms to partner with as well. | | | |

Milk production

Principles of Milk Production management this week

| | |
|-----------------------------------|--|
| Milk production | Milk production has taken a slight drop this week, most likely because of the introduction of silage to fill a pasture deficit that has emerged in several of the farmlets. Milk yield is in a similar range (2.05-2.15 kg MS/cow) to the same time last year however we have fed significantly more supplement this week than previous weeks. |
| Key Influences of Milk Production | Unfortunately, the silage we have started feeding is not the milking quality we were expecting. Now we have the results, we have made the decision to limit the amount offered per day to no more than 3kg/cow/day of this silage and will top up and additional deficit with in-shed feed. As the stack was made up of pasture from 3 different sources, we will keep a close eye on the stack when loading the wagon to identify any changes that might indicate we are moving into different material. We will continue with weekly DM assessment and retest for quality and adjust supplement use to ensure enough crude protein in the cows diet. |
| Cow Management | We are continuing to monitor cow BCS on the fortnightly basis and adjust the priority feeding and OAD milking groups as required. |

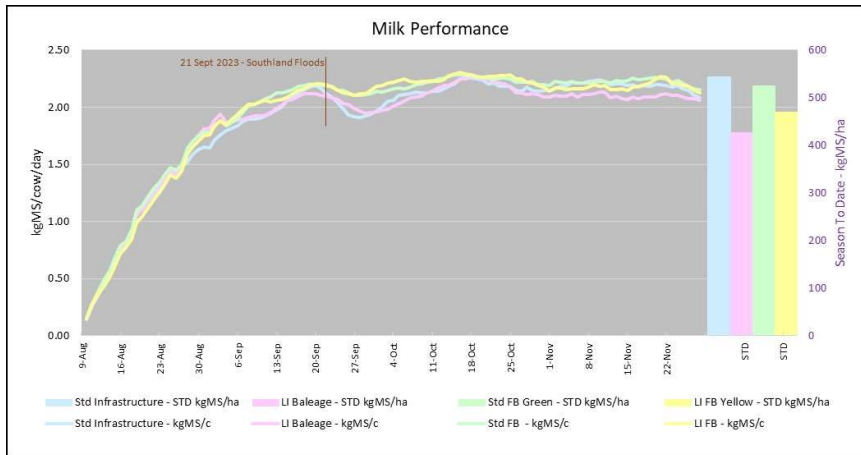


Figure 1. Milksolids per cow/day STD and kgMS/ha STD.

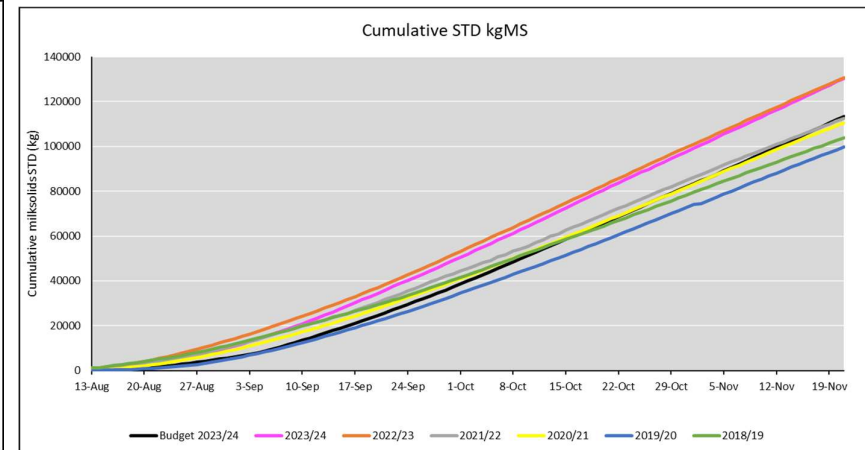


Figure 2. Cumulative kg Milksolids season to date

Feed Management

Principles of Feed management this week

| | |
|-------------------|--|
| Feed Quality | The latest silage quality results are in and it averaged 29% dry matter, 9 ME and 13% crude protein. This is below what we aim for as a milking quality silage (ME = >10.5 and CP = >15%). We have started our 4 th round of pasture quality analysis. Pastures without plantain are continuing to test slightly higher in DM% and soluble sugars, but lower in ME, crude protein, and fibre, with NDF now in the mid to high 40's. |
| Growth Rate | All growth rates this week were below demand. As expected, growth has slowed following all the topping and conservation that has happened in the last few weeks. A higher proportion of the LI farmlets have been topped post grazing. Across the farmlets between 31 and 86% of the total area has been either conserved or topped this season. Soil temperature has lifted and is back in line with same time last year. Average pasture growth for November for the LI farmlets was the same as November last season, however the Std farmlets had a higher average growth rate. November is the first month this season where average growth rate has been higher in the standard compared to the LI farmlets. |
| Nitrogen Strategy | The third round of N application has been begun for the Std farmlets. The LI farmlets will begin their next round of applications in early December. |

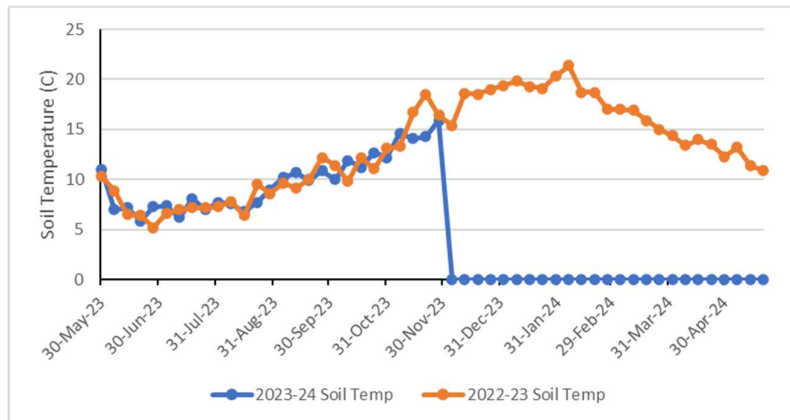


Figure 3. Soil temperatures 2023-24 vs 2022-23

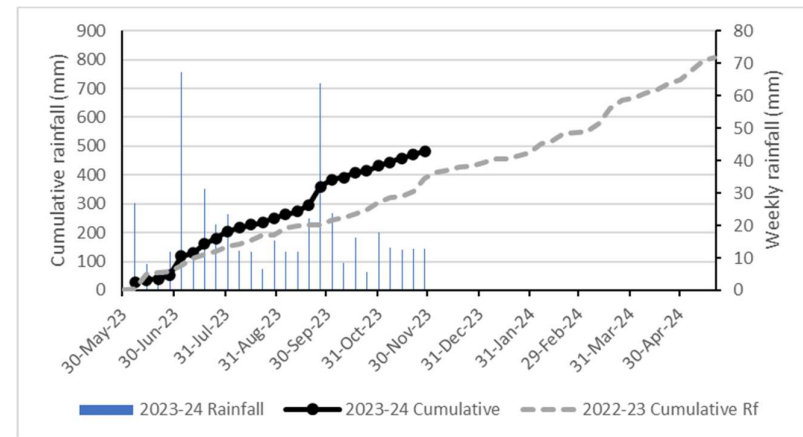
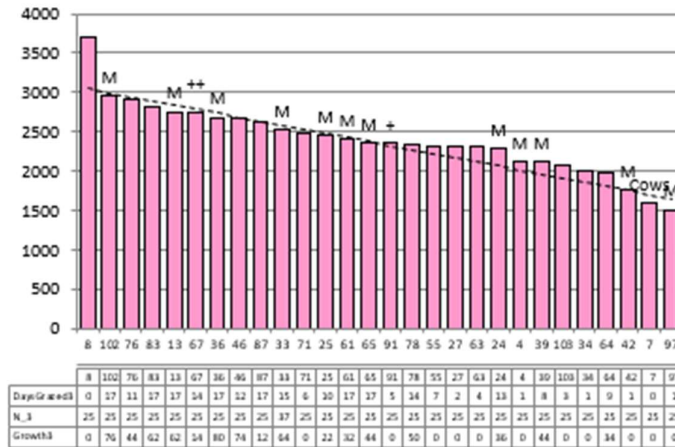


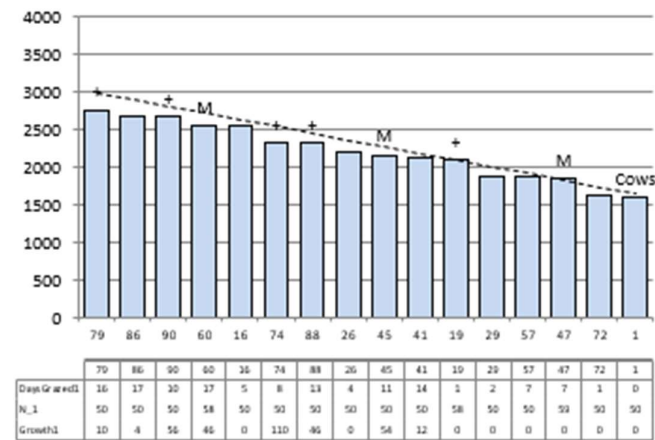
Figure 4. Season to date rainfall compared with cumulative rainfall 2022-23

Feed Management

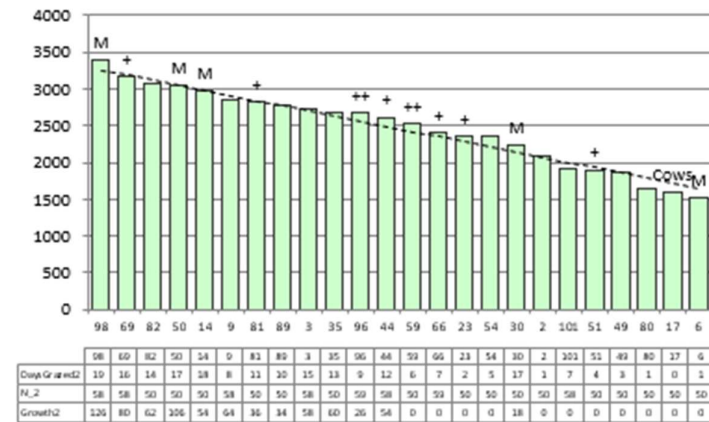
Lower Impact Baleage



Standard Infrastructure



Standard Fodder Beet



Lower Impact Fodder Beet

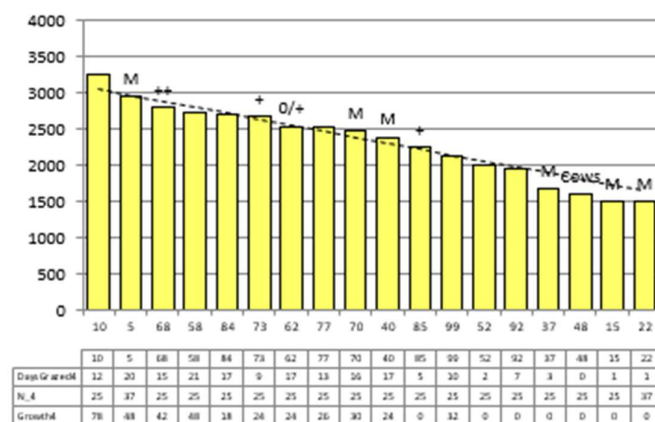


Figure 5. Plate meter feed wedges at 28 November 2023

Feed Management

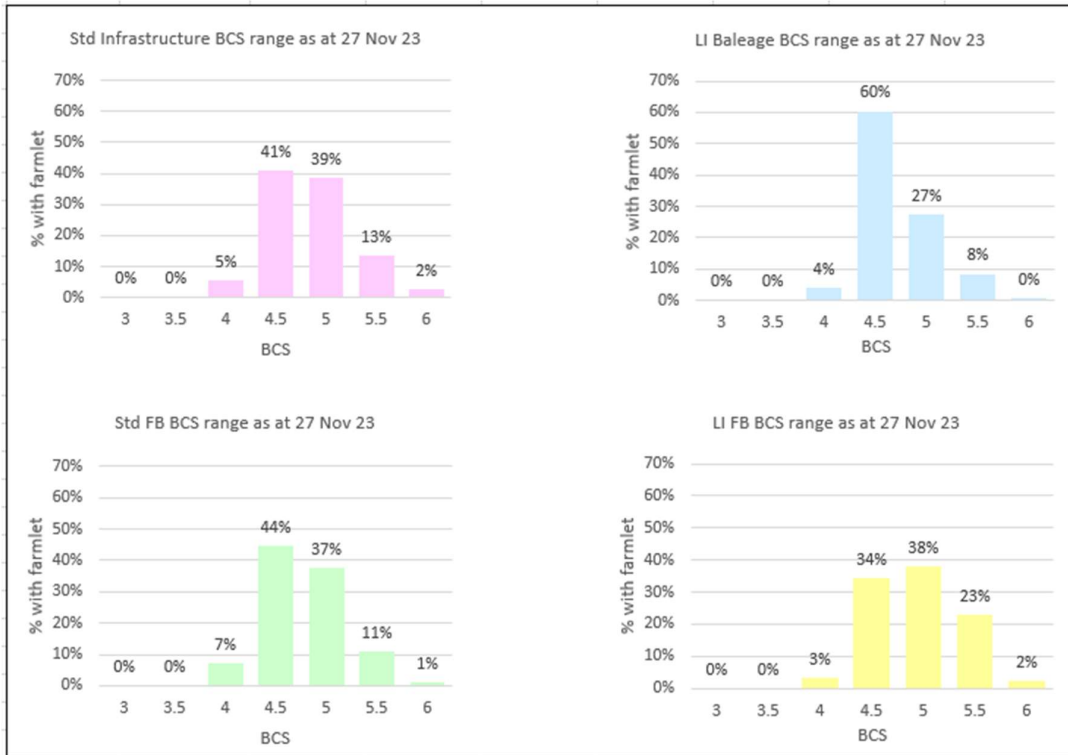
Table 1: Pasture quality results from the first three complete grazing rounds and start of the 4th round

| | | DM (%) | ME (MJ/kg DM) | Crude protein (% DM) | NDF (% DM) | ADF (% DM) | Ash (%) | NSC (% DM) | Soluble Sugars (% DM) |
|---------------|-----------|----------|---------------|----------------------|------------|------------|----------|------------|-----------------------|
| With Plantain | 1st round | 17.8 | 12.3 | 19.3 | 38.1 | 19.5 | 9.8 | 29.4 | 12.4 |
| | 2nd round | 16.3 | 12.0 | 21.7 | 39.7 | 21.0 | 11.1 | 24.2 | 12.2 |
| | 3rd round | 12.0 | 12.2 | 21.9 | 39.0 | 20.4 | 10.7 | 25.0 | 11.3 |
| | 4th round | 18.3 | 11.3 | 17.9 | 45.8 | 24.7 | 11.0 | 22.0 | 8.6 |
| No Plantain | 1st round | 17.0 | 12.1 | 21.2 | 40.6 | 20.8 | 10.3 | 24.2 | 10.4 |
| | 2nd round | 18.2 | 12.4 | 23.8 | 38.9 | 20.7 | 10.9 | 23.1 | 11.0 |
| | 3rd round | 17.6 | 12.0 | 21.8 | 42.5 | 21.7 | 10.5 | 21.7 | 9.5 |
| | 4th round | 17.2 | 11.5 | 24.0 | 47.8 | 23.8 | 10.5 | 13.5 | 2.9 |
| Range | | 8.7-23.0 | 10.6-12.9 | 13.2-27.9 | 32.8-55.9 | 17.8-29.0 | 8.6-14.9 | 8.1-34.8 | 0.9-22.1 |

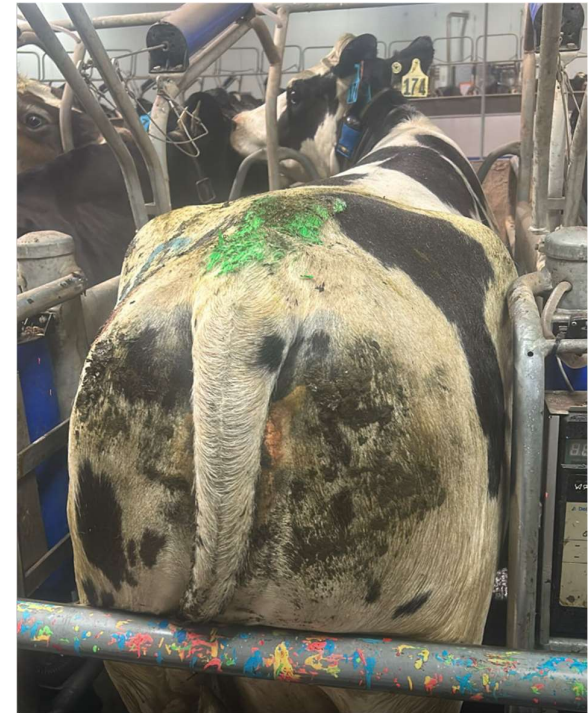
Table 2: Average monthly growth rate and season to date cumulative pasture DM production per hectare

| SDH monthly growth rate summary | | | | | | | | | | | | |
|---------------------------------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|--------------|--------------|--------------|---------|
| | 180-190 kg N | | | | | | 50 kg N | | | | | |
| | Mean | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 | Mean | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 2023-24 |
| June | 9 | 6 | 12 | 10 | 7 | 12 | 9 | 7 | 9 | 11 | 5 | 13 |
| July | 10 | 12 | 7 | 12 | 10 | 11 | 9 | 10 | 8 | 9 | 9 | 11 |
| August | 17 | 13 | 19 | 19 | 13 | 20 | 17 | 14 | 19 | 18 | 15 | 20 |
| September | 30 | 29 | 31 | 31 | 39 | 35 | 29 | 26 | 32 | 30 | 37 | 35 |
| October | 57 | 56 | 50 | 65 | 61 | 51 | 53 | 50 | 50 | 58 | 59 | 50 |
| November | 65 | 69 | 67 | 59 | 66 | 74 | 59 | 62 | 61 | 53 | 63 | 63 |
| December | 53 | 53 | 57 | 50 | 69 | | 43 | 48 | 44 | 37 | 60 | |
| January | 55 | 50 | 73 | 43 | 31 | | 44 | 44 | 52 | 37 | 30 | |
| February | 49 | 51 | 57 | 41 | 31 | | 40 | 42 | 41 | 36 | 29 | |
| March | 39 | 42 | 51 | 23 | 43 | | 32 | 32 | 42 | 22 | 39 | |
| April | 33 | 42 | 33 | 24 | 51 | | 28 | 33 | 32 | 20 | 46 | |
| May | 24 | 23 | 24 | 25 | 31 | | 22 | 20 | 21 | 24 | 30 | |
| STD (kg DM/ha) | 5727 | 5686 | 5705 | 5927 | 6008 | 6151 | 5333 | 5210 | 5475 | 5437 | 5743 | 5820 |
| Total (kg DM/ha) | 13408 | 13479 | 14535 | 12264 | 13744 | | 11655 | 11776 | 12419 | 10816 | 12793 | |
| Diff to Average | | | | | | 424 | | | | | | 486 |

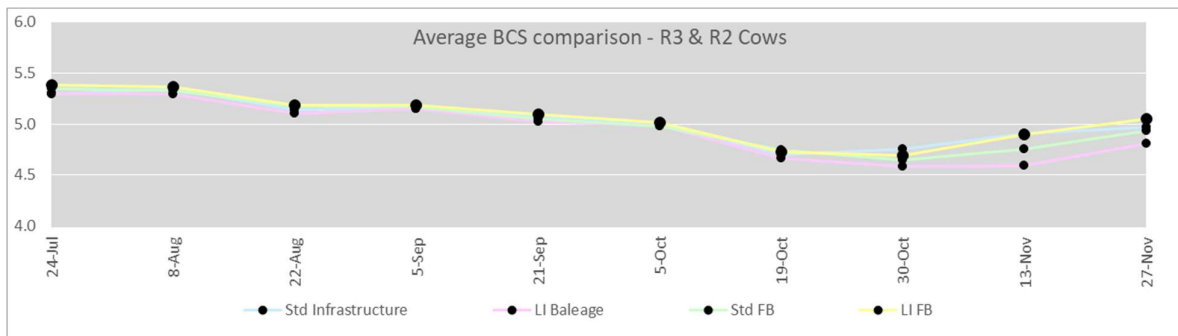
Latest BCS



Ranges of BCS scores for each farmlet as at 27 Nov 23



Cow 174 from the LI Baleage farmlet (0.5% at BCS 6)



Results from the focus on improving R3 & R2 cows BCS as of 27 Nov 23

- Std Infrastructure – 5.0
- LI Baleage – 4.8
- Std FB – 4.9
- LI FB – 5.1