



Providing knowledge.

ST PETER'S SCHOOL & LINCOLN UNIVERSITY
DEMONSTRATION DAIRY FARM



St. Peter's
CAMBRIDGE N. Z.



LINCOLN
UNIVERSITY
TE WHARE WĀNAKA O AORAKI

FARM FOCUS DAY

Wednesday 16 September 2026

ravensdown

DairyNZ



PGG Wrightson Seeds



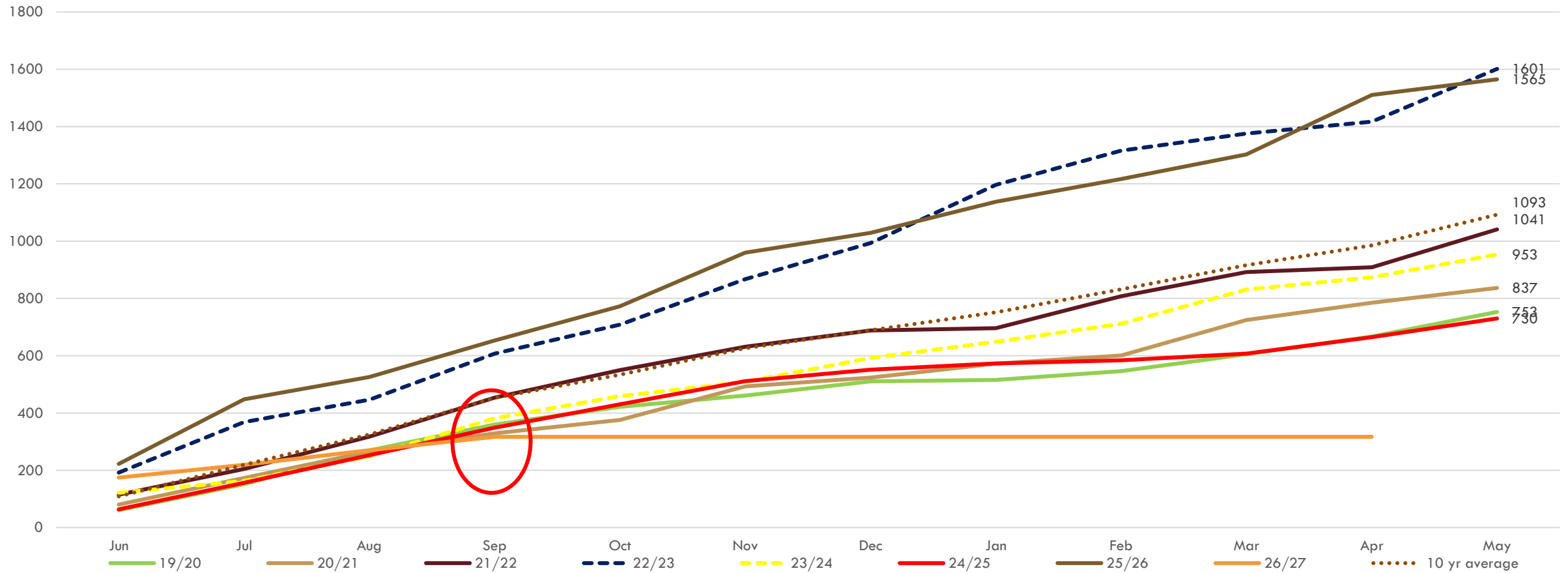
WAGON WHEEL KPIs



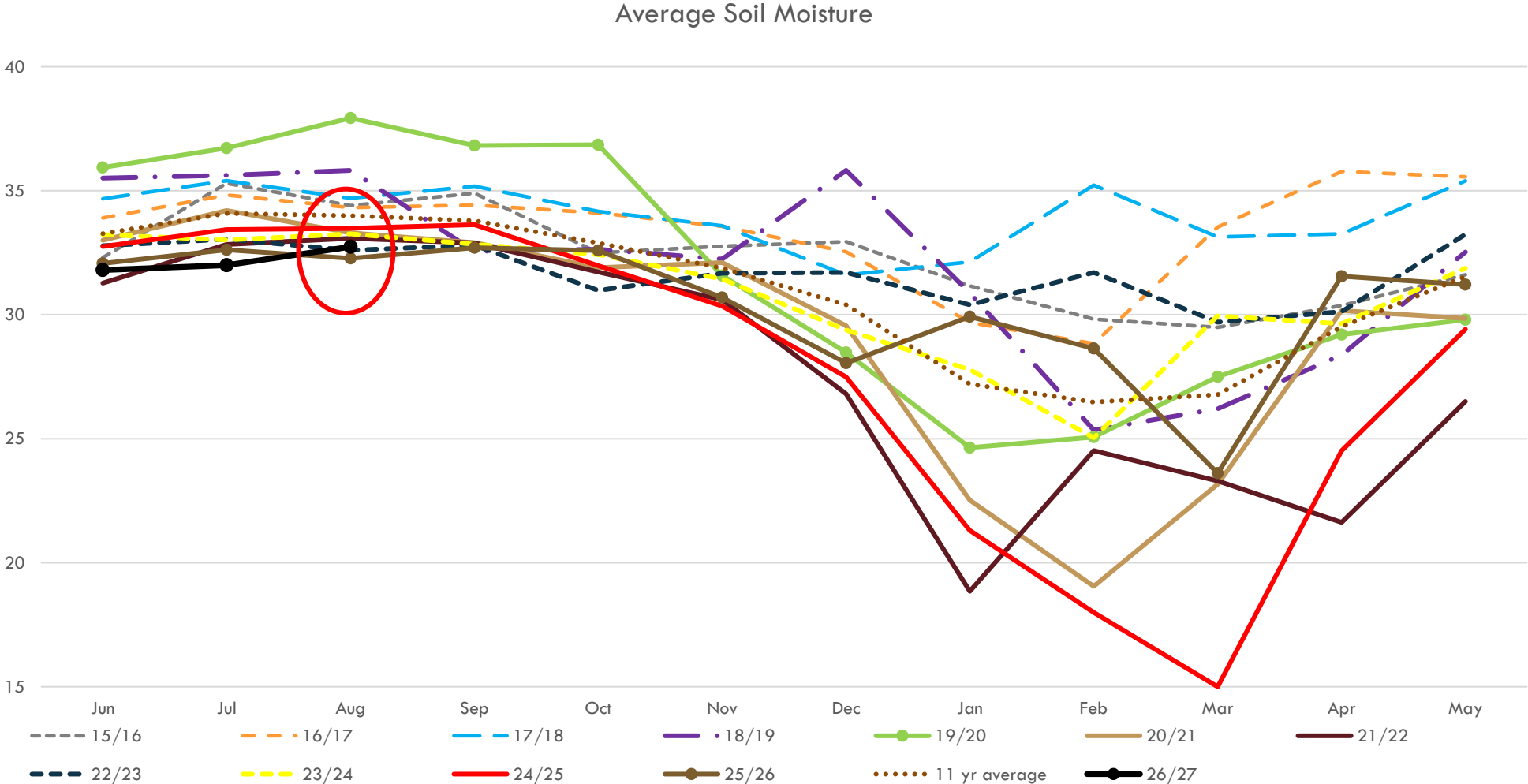
Rainfall cumulative updated



Rainfall - Farming Year

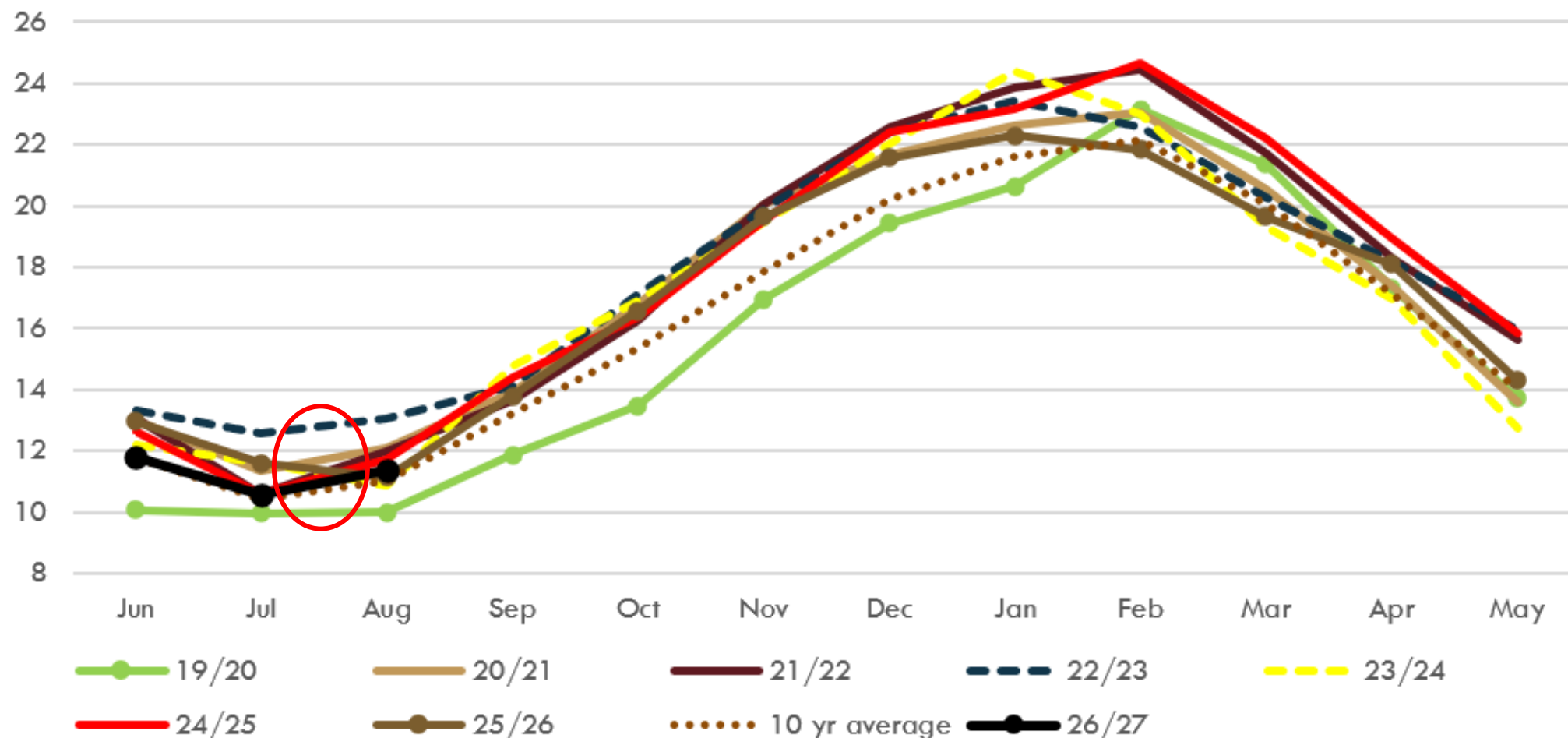


Soil moisture



Soil temperature

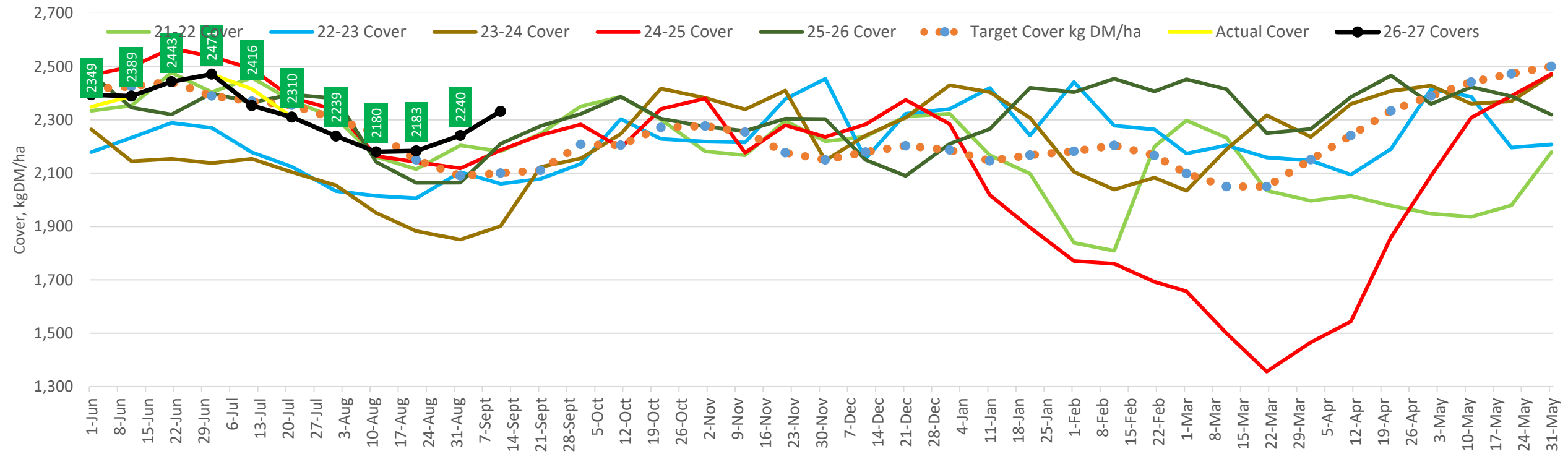
Average Soil Temperature



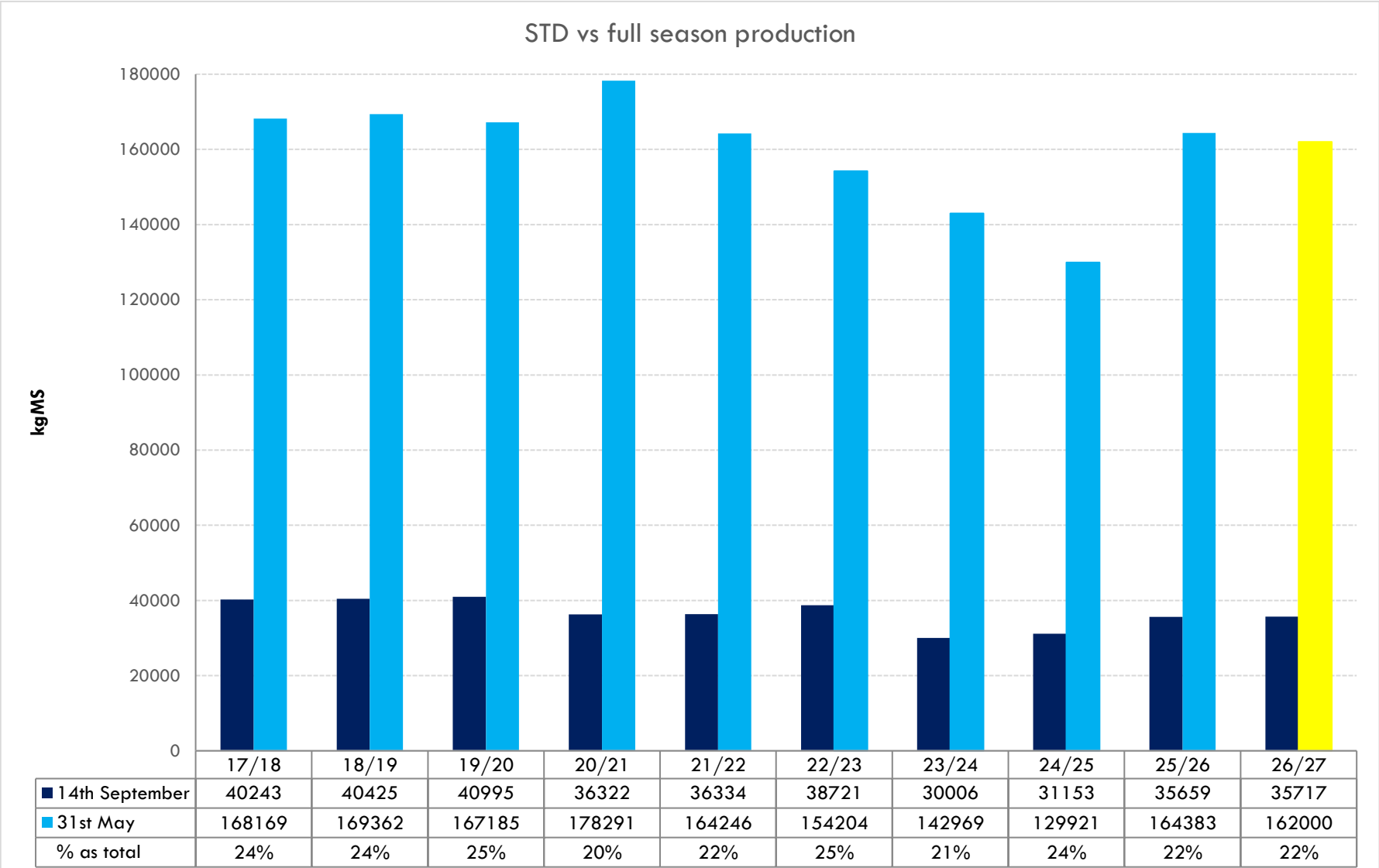
APC updated



Owl Farm Pasture Cover



Season to date production

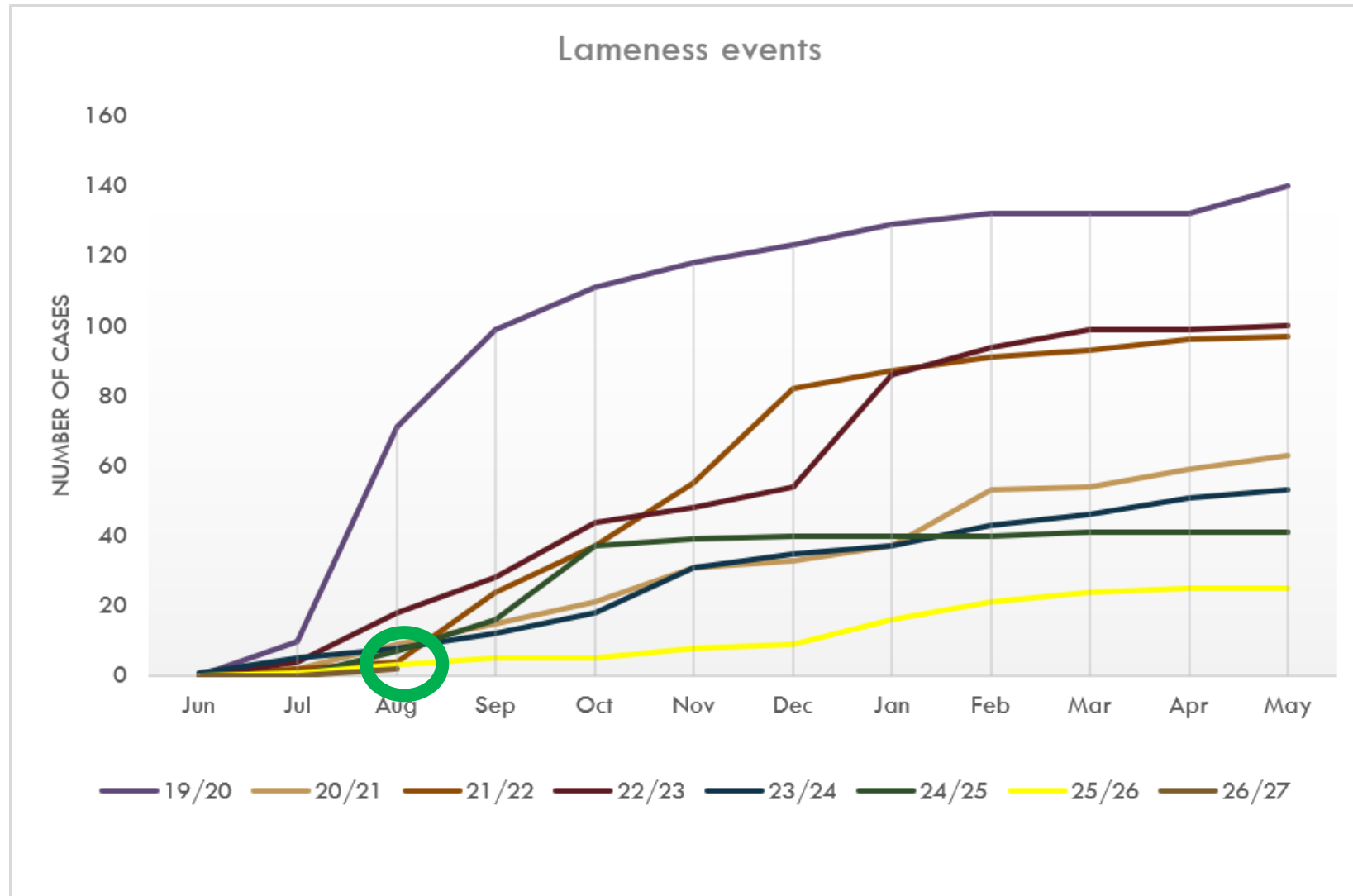


Animal Well-being KPIs



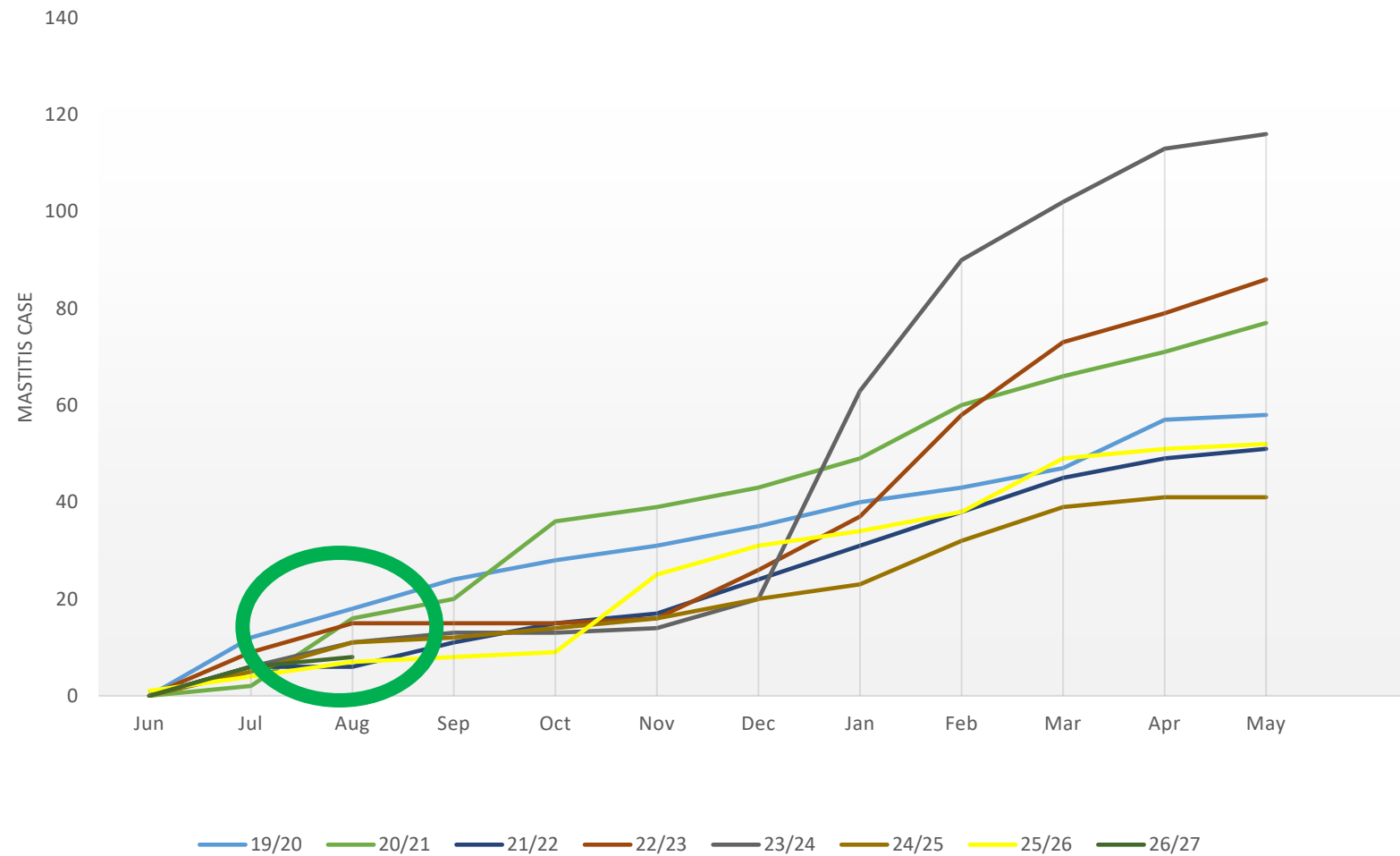
#	PRIMARY KPI	OWL FARM TARGET	2023/24	2024/25	2025/26	2026/27
1	Healthy cows	15% or less involuntary culls	22%	23.6%	18%	
2	Purposeful lives for calves	100% reared past 4 days on farm	54%	77%	85%	89%
3	Replacements reared	21% at weaning	20%	28%	29%	27%
4	Healthy calves	100% adequate total protein	77%	92%	87.5%	77%

Lameness



Mastitis

Mastitis - cases treated



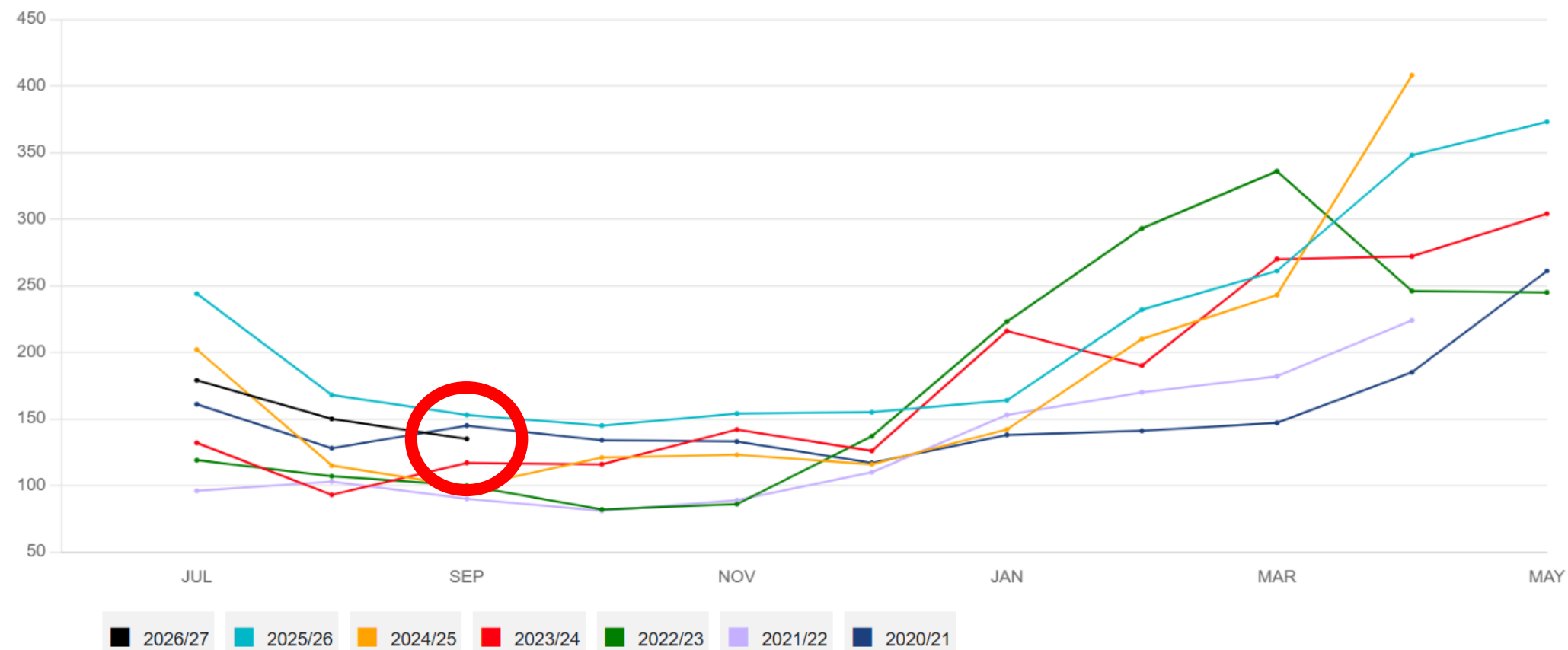
Somatic Cell Count



ANIMAL
WELL-BEING

SCC

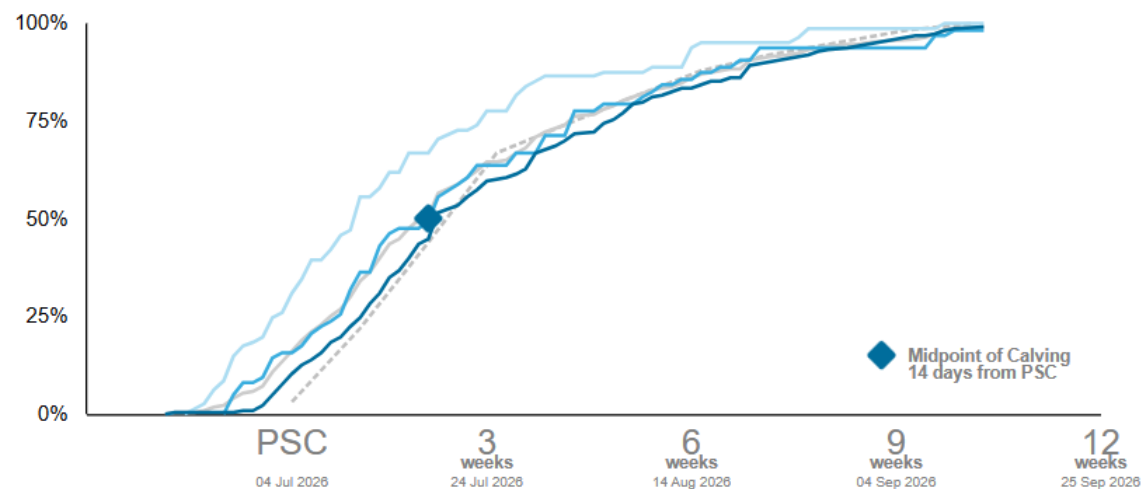
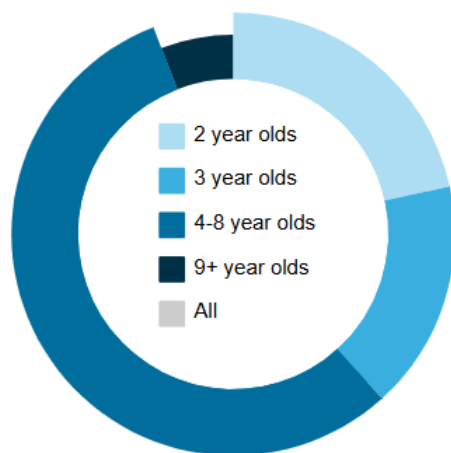
1 Jun - 31 May



Calving Rate 2026



ANIMAL
WELL-BEING



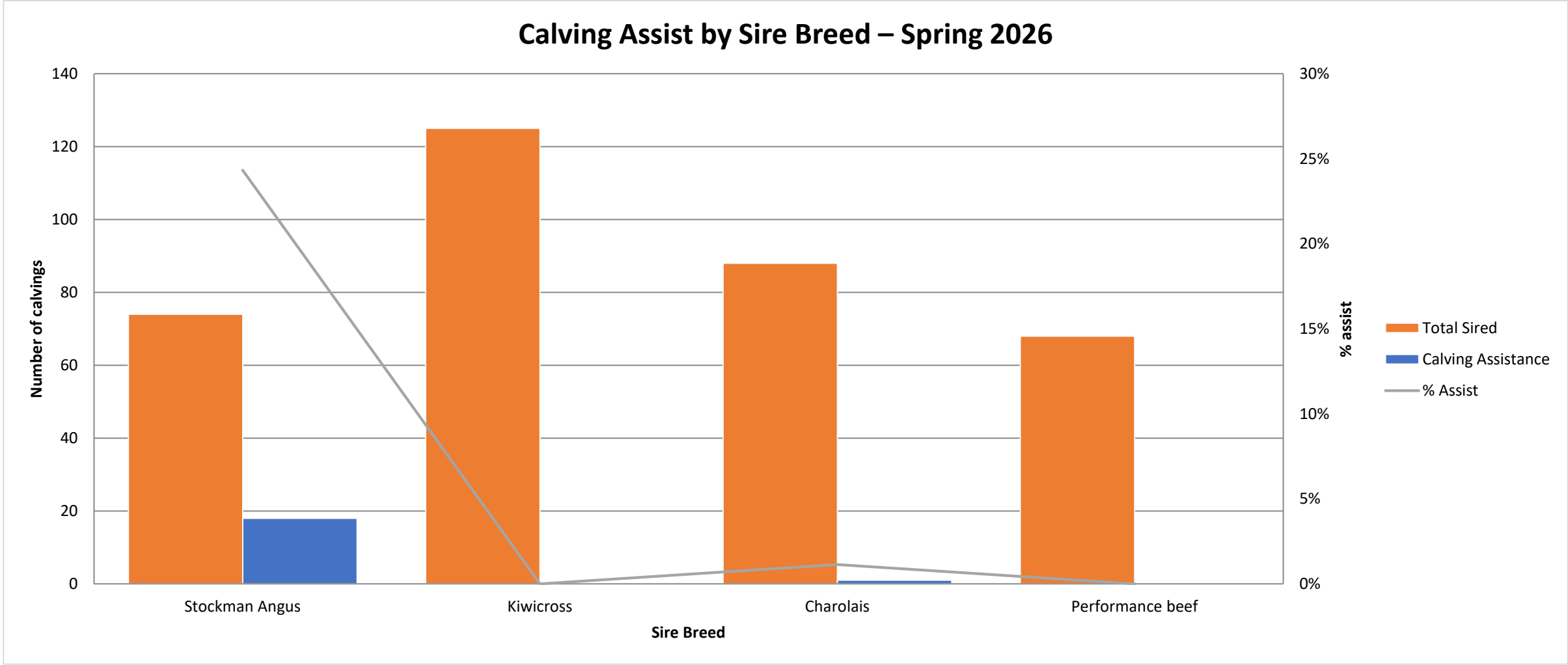
Number of Cows Calved by Week

Age	Count		< PSC	3	6	9	12	Total	
2 year olds	81	22%	26%	78%	94%	99%	-	81	100%
2 Year Old Target				80%	95%	100%			
3 year olds	63	17%	16%	63%	86%	94%	-	62	98%
4-8 year olds	210	56%	8%	60%	83%	96%	-	208	99%
9+ year olds	22	6%	14%	64%	82%	86%	-	21	95%
All	376	100%	13%	64%	86%	95%	-	372	99%
Whole Herd Target				67%	88%	98%			

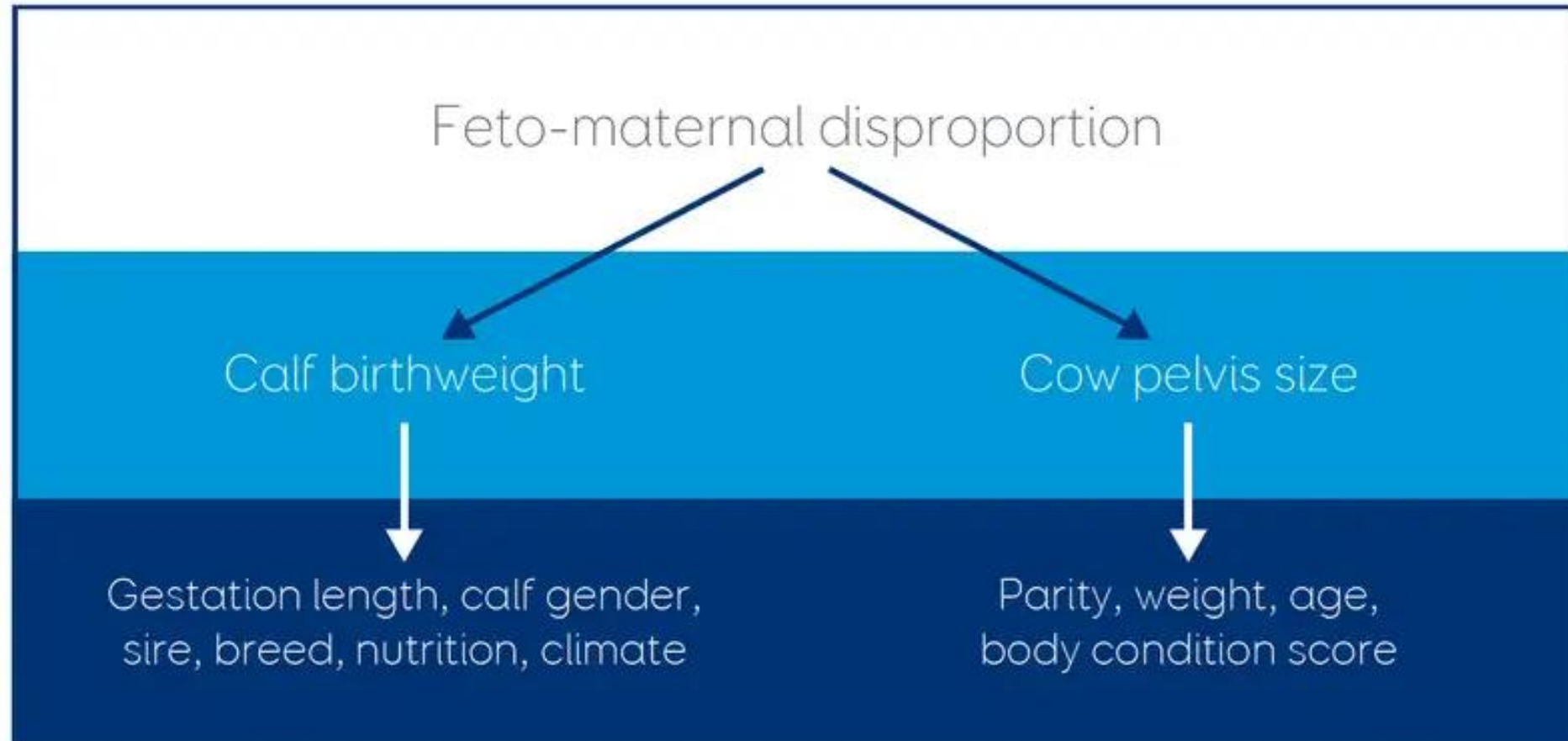
Calving Assists by breed 2026



Calving Assist by Sire Breed – Spring 2026



Contributors to calf oversize



* Image credit to Agriscience (2019), sourced from <https://www.agriscience.com/post/calving-difficulty-in-dairy-cattle-genetics>

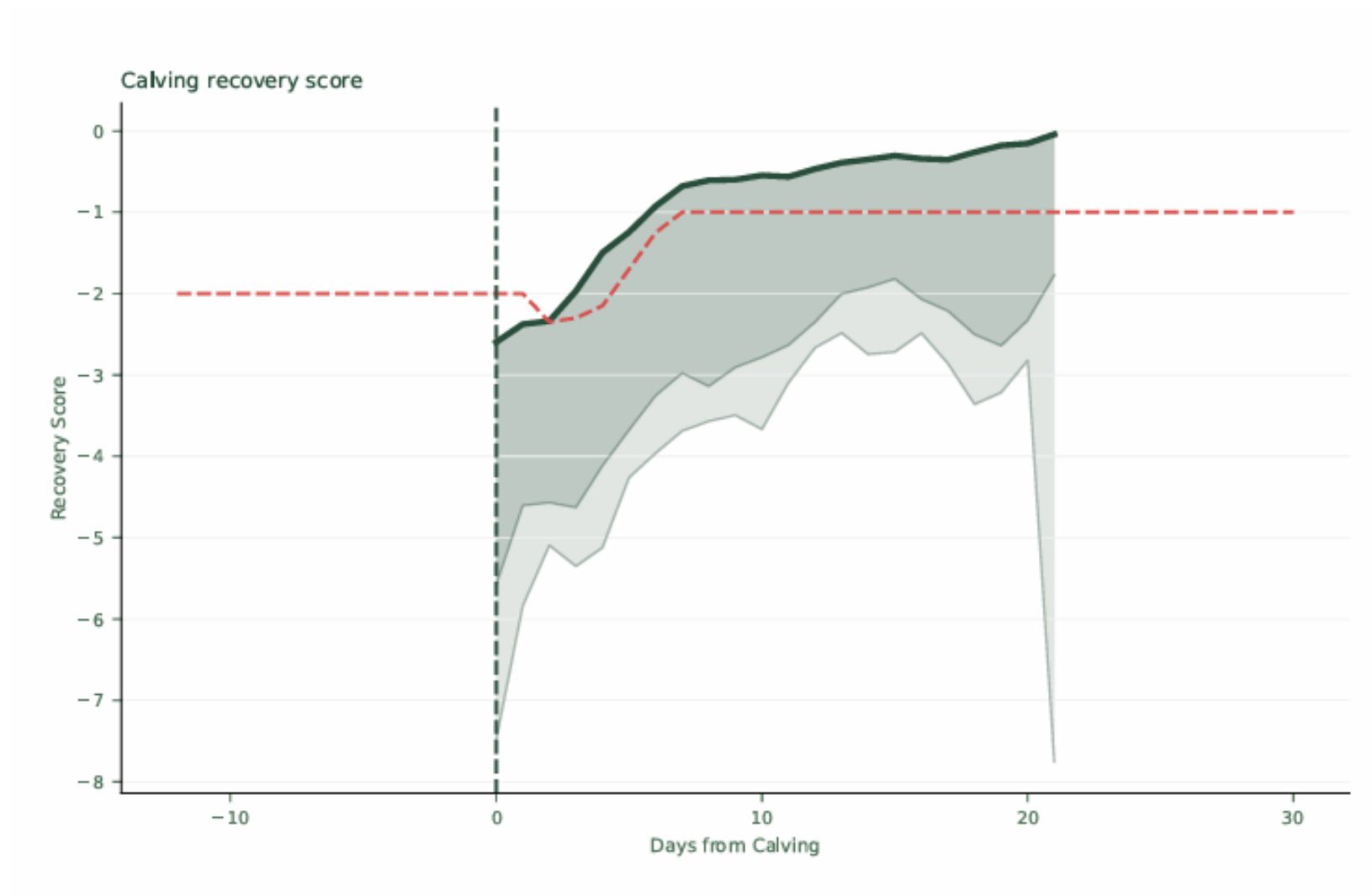
Whole Herd



ANIMAL
WELL-BEING



Impacts on Heifers



Halter heats



ANIMAL
WELL-BEING

Cycled after calving ⓘ

Cycled in first 6 weeks

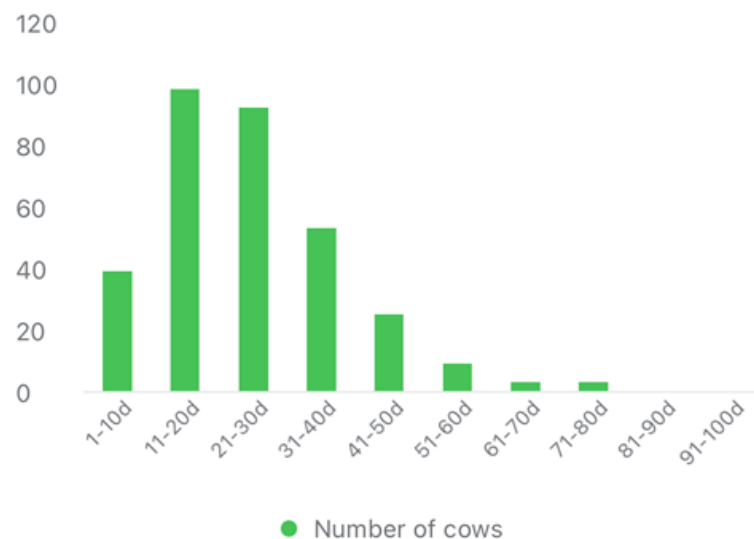
86%
cows

Target

64%
cycled

Average

25 days
to first heat



You had **27% more** cows cycle in the first 6 weeks after they calved compared to nearby farms which averaged **59%**

Cycling ⓘ

In the last 26 days

Recently cycled

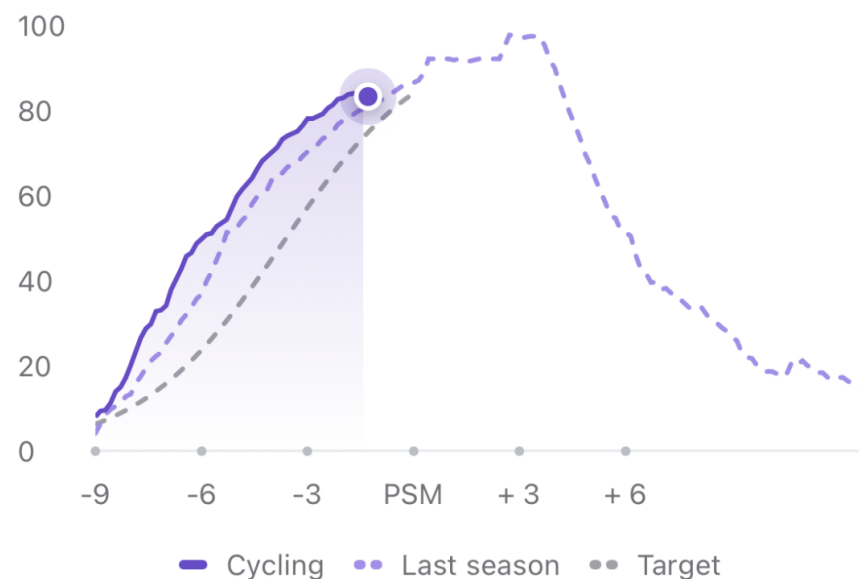
85%
of cows

Non-cycling

15%
of cows

Target

85%
cycling



Cycling rate is **21% above** nearby farms which had an average of **63%** cycling 9 days before PSM

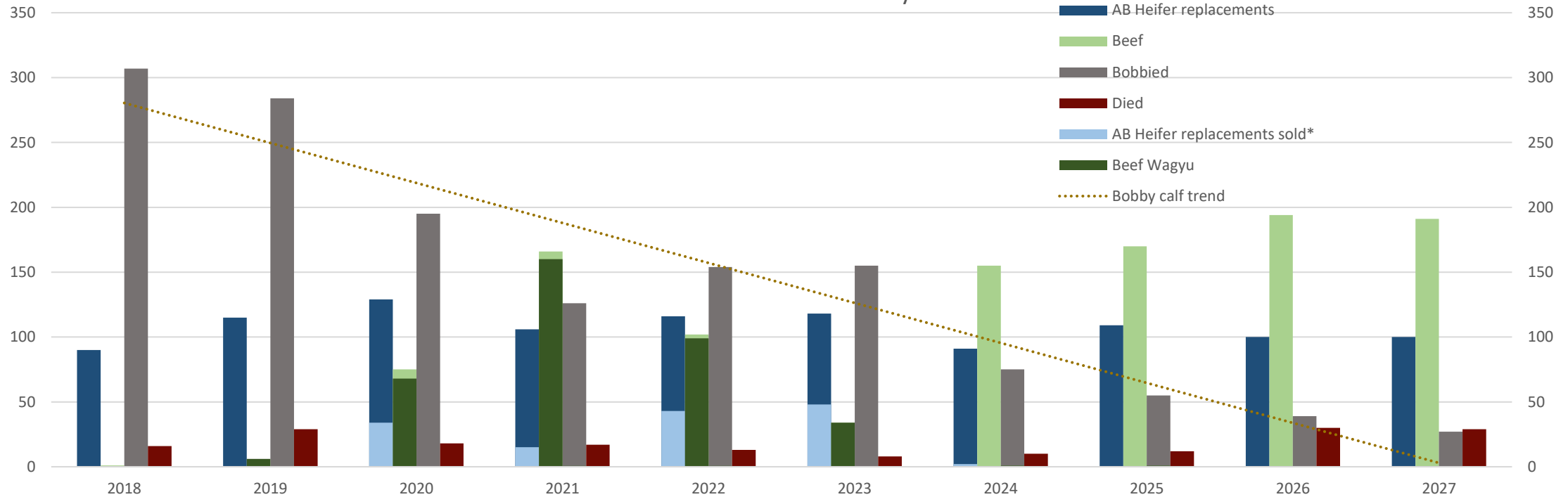
Pre-mating cycling



- Calving assists
- RFM x 1.4% (5) vs 0% last season
- Metri-clean 48 treatments for 42 animals (to 9/9/26) 12% (from 360 cows) vs 5.9% last season
- Milk fever 3.5% (13) vs 3% last season
- Bloods taken in June - all adequate (copper low end of adequate)

Calf fate trend over time

Owl Farm Calf Summary



Mating plan 2026



Replacement AB – 25/9/26 to 22/10/26 – 28 days

- 25/9/26 to 15/10/26 – 21 days @ 8 straws sexed per day (168 straws)
- 16/10/26 to 22/10/26 – 7 @ 4 straws sexed per day (28 straws)
- During this 4-week period x2 cows a day need to go to Forward Pack Kiwicross on top of what's going to sexed semen (this is to ensure enough calves)
- Beef - Charolais (Quantum/Fortress) or Kiwiprime into anything else on the day (low BW/late/intervention cows)

Marker – Charolais (Quantum/Fortress) or Kiwiprime - 23/10/26 to 27/10/26

- 23/10/26 to 27/10/26 – 5 days

Performance Beef – 28/10/26 to 3/12/26

- 28/10/26 to 11/11/26 – 15 days (Profit Maker – No Choice Pack)
- 12/11/26 to 26/11/26 – 15 days (Project)
- 27/11/26 to 3/12/26 – 7 days (Synergiser)

SGL Kiwicross – Week 11

- 4/12/26 to 10/12/26



Kellogg project – price setting



Pasture Silage Nov 2025

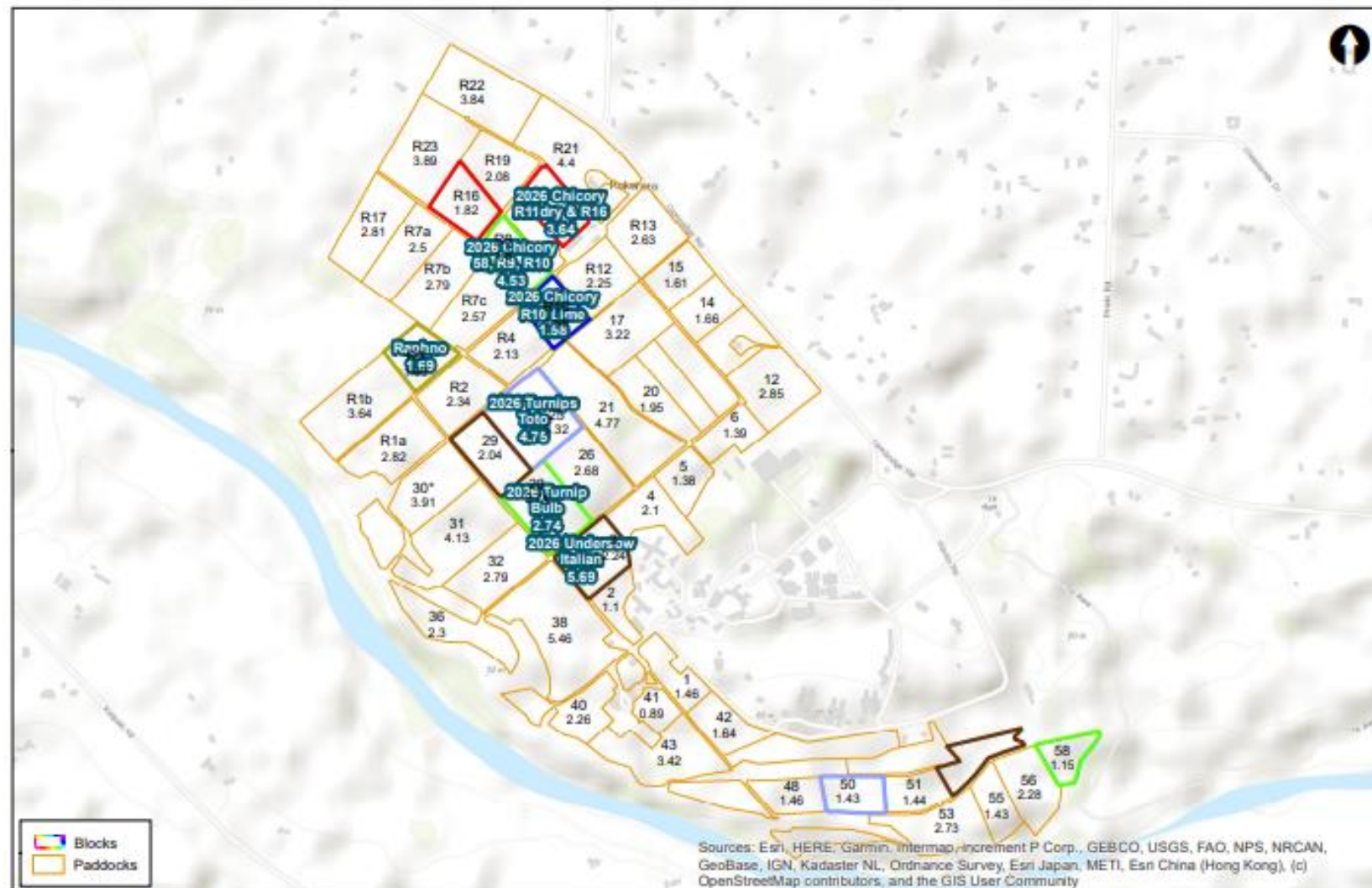
Sample Name: Silage			Lab Number: 4279475.5			
Sample Type: Mixed Pasture, Silage (P143)						
Analysis		Level Found	Medium Range*	Low	Medium	High
Nitrogen	%	2.6	2.2 - 3.2			
Nitrogen	%DM	2.7				
Phosphorus	%	0.39	0.30 - 0.45			
Potassium	%	2.9	2.0 - 3.0			
Sulphur	%	0.33	0.25 - 0.40			
Calcium	%	0.57	0.50 - 1.00			
Magnesium	%	0.19	0.18 - 0.25			
Sodium	%	0.262	0.100 - 0.250			
Iron	mg/kg	504	50 - 200			
Manganese	mg/kg	102	40 - 150			
Zinc	mg/kg	35	30 - 50			
Copper	mg/kg	7	8 - 15			
Boron	mg/kg	6				
Molybdenum	mg/kg	0.97	0.50 - 2.0			
Cobalt	mg/kg	0.21	0.08 - 0.15			
Selenium	mg/kg	0.05	0.05 - 0.15			
Titanium*	mg/kg	39				
Chloride	%	0.86	0.30 - 2.4			
Dry Matter*	%	33.3	25.0 - 30.0			
Crude Protein	%DM	17.1	14.0 - 20.0			
Acid Detergent Fibre (seq)	%DM	28.3	20.0 - 35.0			
Neutral Detergent Fibre	%DM	46.9	30.0 - 45.0			
Lignin*	%DM	3.7				
Ash	%DM	12.0	7.0 - 14.0			
Organic Matter*	%DM	88.0				
Soluble Sugars	%DM	3.6				
Starch	%DM	< 0.5				
Crude Fat	%DM	3.9				
Digestibility of Organic Matter in Dry Matter (DOMD)	%	65.9	65.0 - 75.0			
Metabolisable Energy	MJ/kgDM	10.5	9.0 - 11.0			
pH*	pH Units	4.5	3.7 - 4.5			
Ammonium-N*	%DM	0.21				
Ammonium-N/Total-N Ratio*	%	8.0	3.0 - 10			
Lactic Acid*	%DM	2.4	6.0 - 10.0			
Non Structural Carbohydrate*	%DM	20.1				
OMD in-vivo*	%DM	74.1				
Grass Staggers Index*	me	1.7	(<1.8 recommended, >2.2 increased risk)			
K/Na Ratio*		11	(<10 recommended, >20 increased risk)			
Ca/P Ratio*		1.5	(>1.5 recommended, <1.2 increased risk)			

Agronomy Plan



- 5.81 ha undersown in Spring with Italian
- 8.4 ha split sown 5th and 20th October Chicory for calves
- 4.81 ha early Toto turnip
- 2.77 ha later Bulb Turnip
- 1.73 ha Raphno

Total summer brassicas 9.31 ha



Making quality pasture silage

Raewyn Densley



Why make good quality silage?

- Why make good quality pasture silage?
- How do you maximise pasture quality?
- What is a good fermentation?
- Tips for stack design and feedout management
- Bales vs stacked silage
- Silage safety

Why make good quality silage?

- It costs about as much to make rubbish silage as it does to make good silage.
- **There is no good time to feed crap silage (especially in the diet of high producing herds).**
- High fibre levels:
 - result in a low energy content
 - can limit animal intake.
- Poor fermentation/spoilage
 - Higher losses
 - Animal health considerations

What impacts cow intake?



McDonald et al trial

- DairyNZ 1997-98
- Three pasture silages - high (10.4 MJME/kgDM), medium (9.4 MJME/kgDM) and low (8.3 MJME/kgDM) fed in the spring, summer and autumn.
- Average of 0.22 kgMS/cow/day difference between the high and the low quality silage.
- \$2/cow/day difference in milk return @ \$9 payout

⇒ QUALITY SILAGE = ⇒

HIGH ENERGY PASTURE



Harvested
at the right time



GOOD FERMENTATION



Rapid anaerobic
fermentation



Low pH
(preserves nutrients)



Stable, nutritious
silage



EXCELLENT FEED OUT MANAGEMENT



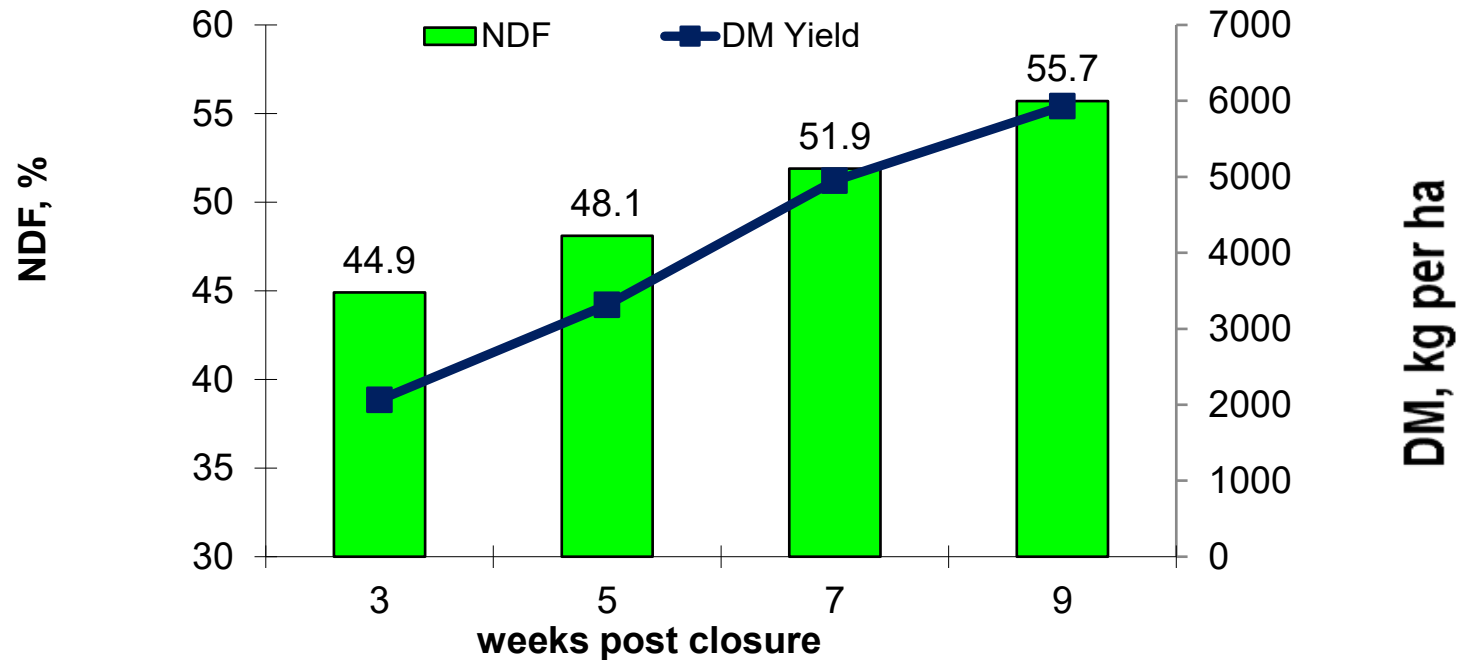
Remove often
Keep a clean face
Minimise spoilage



Factors impacting pasture quality

- The quality of ryegrass falls very quickly as it matures.
- Ideally pasture silage should be cut no more than 35-40 days since the last grazing or when a maximum of 10% of the ryegrass has a seed head.
- You can get away with a longer period between grazing and cutting if you are prior to heading date.

Silage maturity and NDF

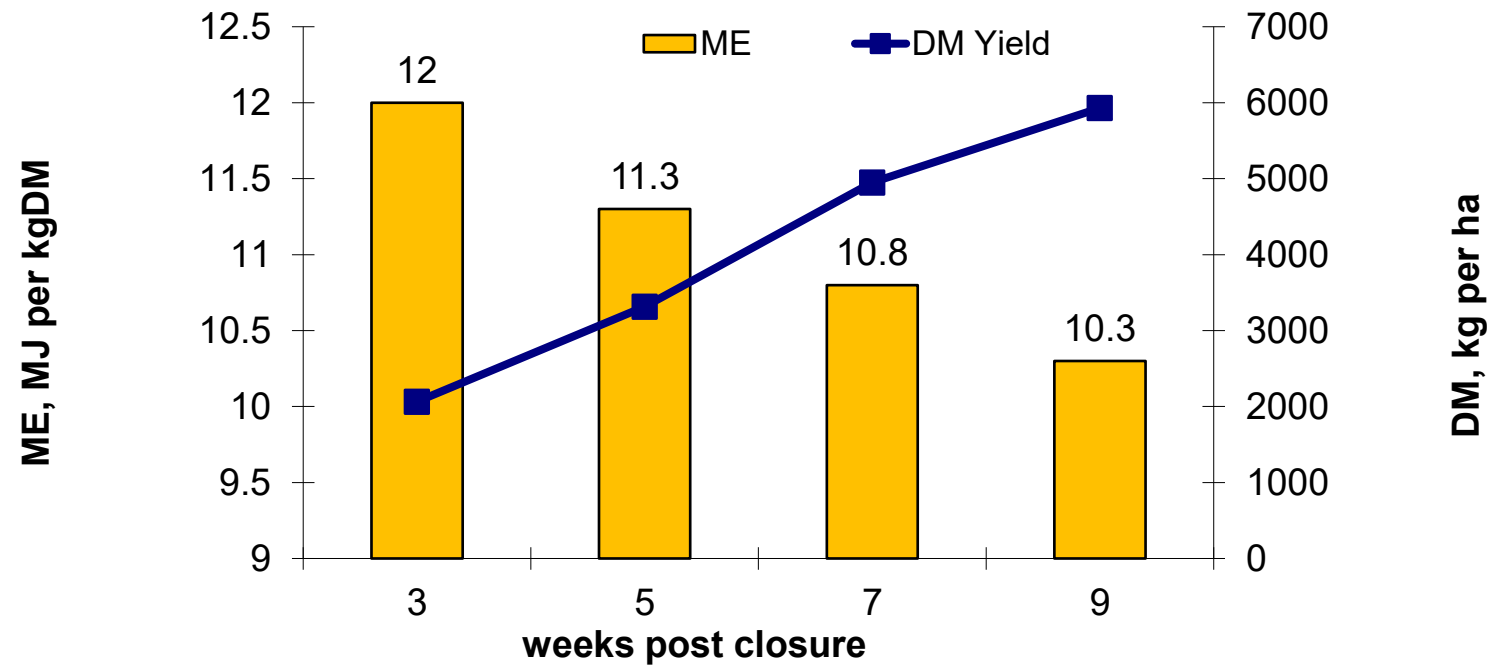


Source: McGrath et al 1998

More grass but less quality over time:

- DM yield goes up over time (blue line)
- NDF (cell wall) goes up (green bars) lower quality with more NDF.

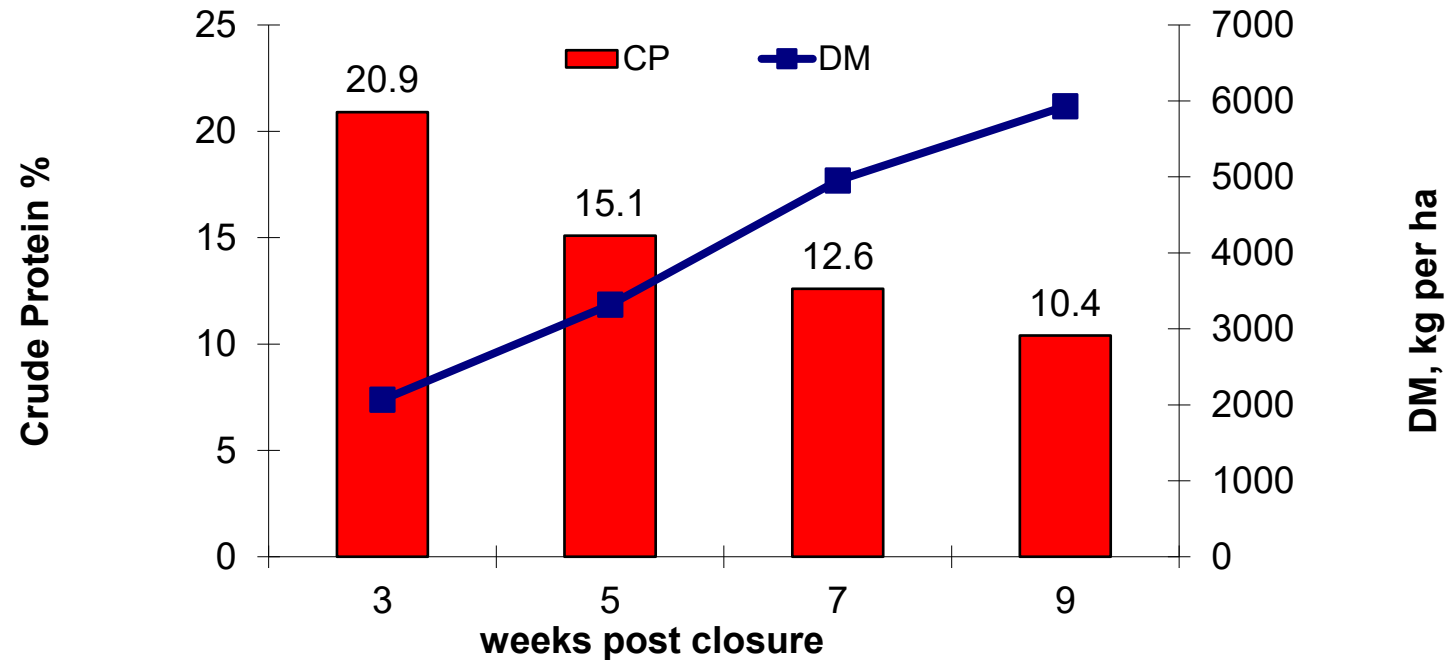
Silage maturity and energy



More grass but less quality over time:

- DM yield goes up over time (blue line)
- ME per kg goes down (yellow bars)

Silage maturity and protein



More grass but less quality over time:

- DM yield goes up over time (blue line)
- Crude protein per kg goes down (red bars)

Soil contamination

- Cool-season grasses naturally contain about **5% to 6%** internal ash (nutritional minerals like calcium, potassium, and magnesium).
- Mineral soils are 90-99% ash.
- If your silage has a high ash content, you have a lot of soil contamination
 - Soil has no feed value
 - It contains yeasts and spoilage microorganisms
- Try to avoid paddocks with bad pugging, don't cut too low, avoid stacking in wet weather.

Benchmarks for feed value

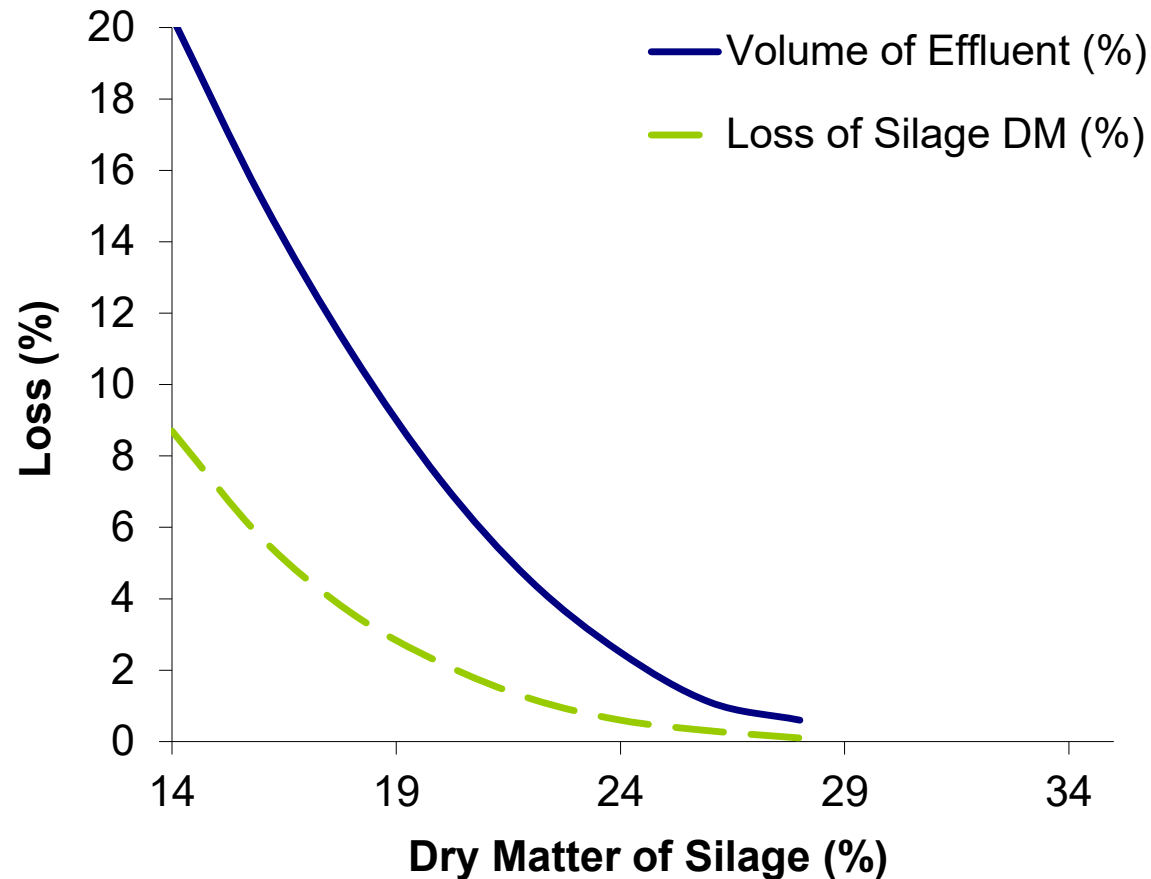
Benchmarks

- Above 10 MJME/kgDM
- Above 16% crude protein
- Less than 10% ash, and ideally less than 8% ash

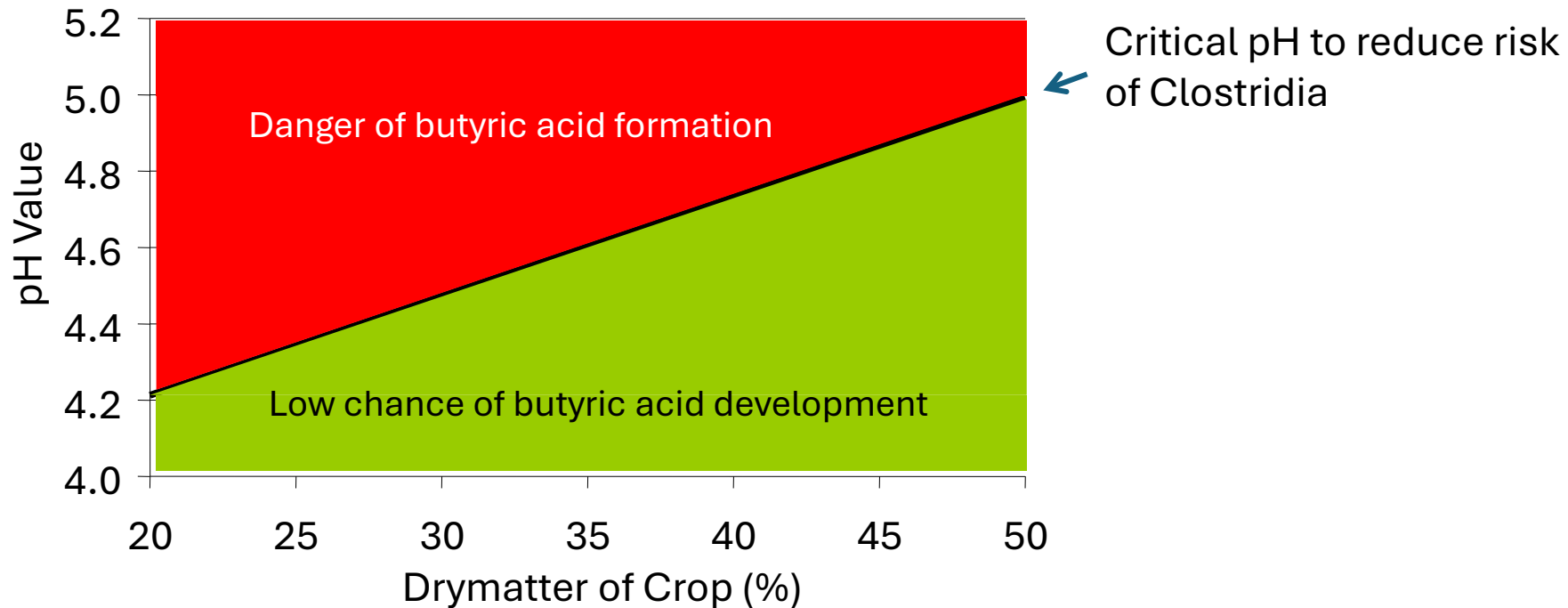
**“CUT 35-40 DAYS AFTER THE LAST GRAZING OR
NO MORE THAN 10% SEED HEAD”**

Drymatter: what is best ?

Losses from leachate



Drymatter and Clostridia



Clostridia come with soil contamination. They like a low drymatter percentage.
The silage pH needs to drop quickly below critical level to reduce risk

Mold



Typically, with

- high sugar grass and at high DM (>45%)
- Low compaction

Summary on drymatter and sugar

- Higher than 28% to prevent losses from seepage
 - Ideally from a high sugar crop at ~ 35-40% DM to reduce influence of Clostridia.
 - Wilt ideally within 24 hours to prevent sugar loss
 - Not higher than 45% to reduce chance of moulding
-



“WILT TO AT LEAST 28% DRYMATTER



Silage fermentation

- Get all the air out of the stack or bale
- Seal it to keep it out
- When you feed the silage out avoid exposing it to the air

Fermentation acid profile

	Grass Silage	comments
Drymatter, %	>30%	
pH	4.3 - 4.7	Result of acid and buffering capacity
Lactic Acid	6.0 - 10.0	Reduces pH effectively
Acetic Acid	1.0 - 3.0	Sign of less effective fermentation
Propionic Acid	<0.10	Clostridia/ propionic acid bacteria
Butyric Acid	<0.10	Clostridia
Ethanol (% of DM)	<1.0	Yeasts- air in stack/heating
Ammonia-CP (% of CP)	<12.0	Clostridia degrade protein
Lactic:Acetic ratio	2 +	Explains efficiency of fermentation
Lactic (% of total acids)	60 +	

Source: 1. Limin Kung Jr., University of Delaware and 2. Richard E. Muck, U.S. Dairy Forage Research Center, Madison, WI

Note: Target levels represent naturally fermented silages or silages treated with fermentation aids such as microbial inoculants and/or enzymes.

Silage inoculants

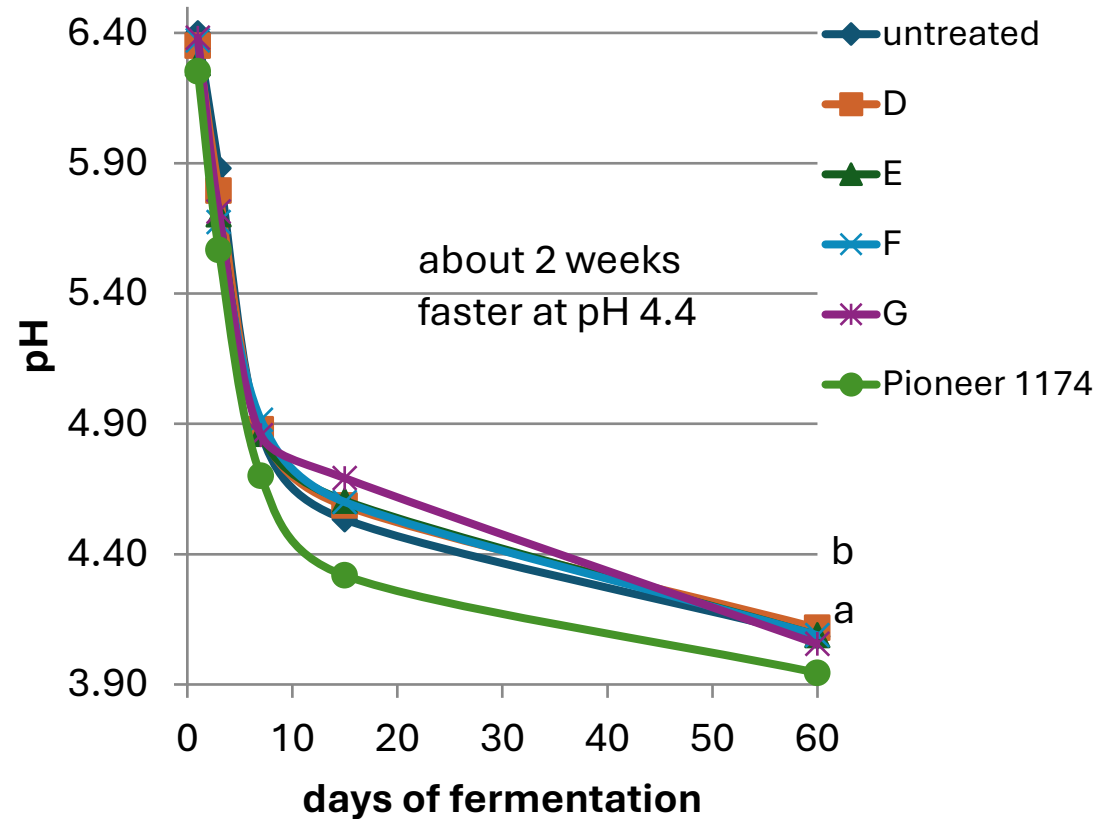
- Beneficial bacteria, added to silage at harvest time.
- Need sufficient numbers to outcompete the naturally occurring bacteria.
- Choose:
 - A proven product with trial data
 - A product that has bacteria levels on the bottle
 - From a reputable supplier with good infield support

Using silage inoculants to improve the quality of pasture and maize silage in New Zealand

J. J. KLEINMANS, W. R. DEWAR, H. J. H. ERASMUS, R. J. DENSLEY
Genetic Technologies Ltd., P.O. Box 105 303, Auckland
jkleinmans@genetic.co.nz

Proceedings of the New Zealand Grassland Association
2011 73: p. 223-228

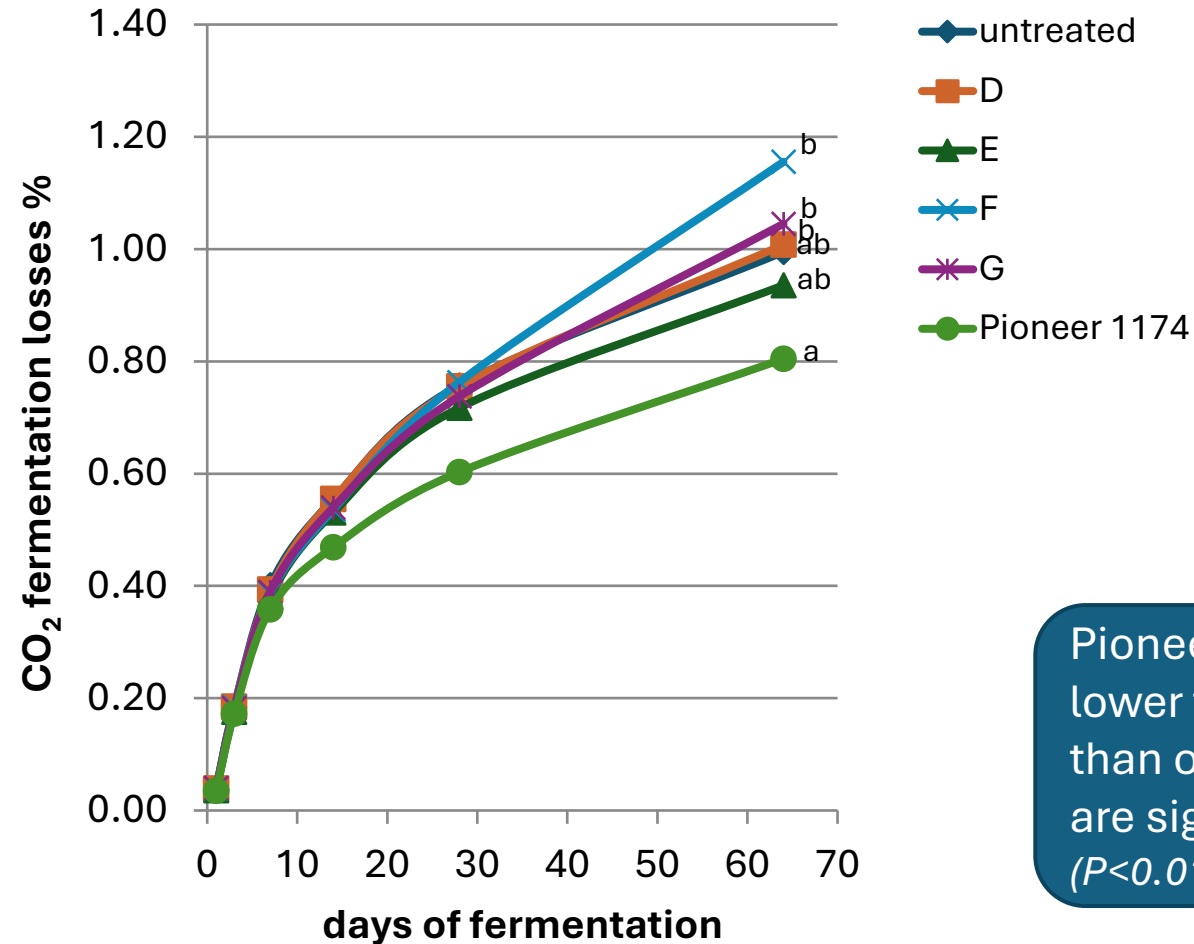
pH development in pasture silage ensiled in vacuum pack silos (average of six trials)



Faster pH drop with Pioneer® brand 1174 compared to other products

^{a,b} values with different superscripts are significantly different ($P < 0.01$)

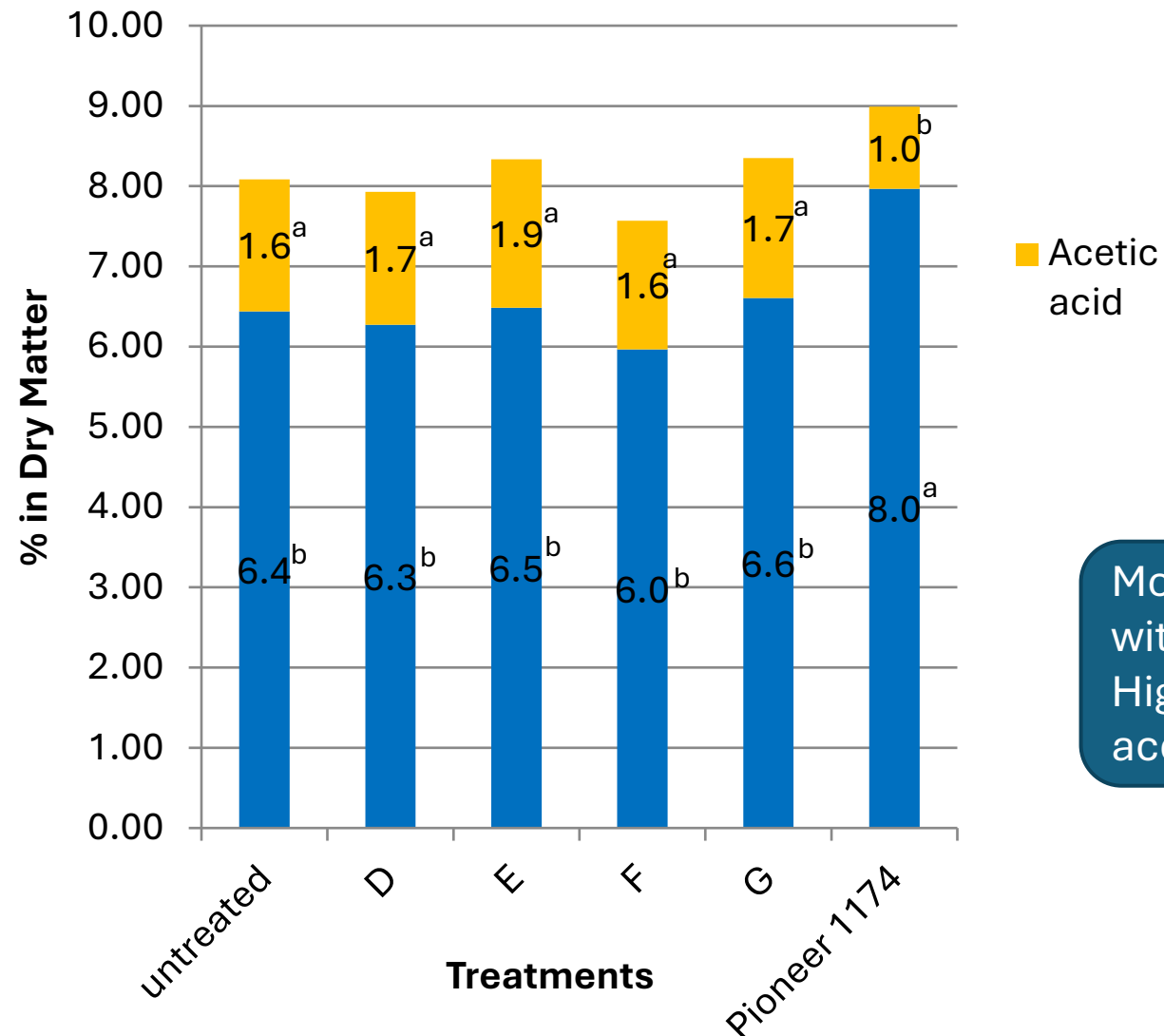
CO₂ losses from pasture silage ensiled in 2.7 litre laboratory silos (average of six trials)



Pioneer® brand 1174 has lower fermentation losses than other products. Some are significantly higher ($P < 0.01$)

a,b values with different superscripts are significantly different ($P < 0.01$)

Lactic acid and acetic acid in pasture silage ensiled in vacuum pack silos for 60 days (average of 6 trials)



Most efficient fermentation with Pioneer® brand 1174. Highest lactic acid and lowest acetic acid ($P < 0.01$)

^{a,b} values with different superscripts are significantly different ($P < 0.01$)

How close is too close?



“SILAGE **CAN COLLAPSE. IT
COULD HAPPEN TO YOU”**





OUR WHAT

Leading a
smarter,
sustainable,
high performing
primary sector

OUR HOW

Using the best
people and greatest
ideas for the benefit
of our clients

OUR WHY

We believe in
creating a vibrant
future for the
primary sector

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26 November 2026 FARM FOCUS DAY

ravensdown

DairyNZ



PGG Wrightson Seeds

