Westside

Fytera™ Lacteco Dairy Observation Trial in the Western Cape, SA

Background

The observation trial was done on a Jersey dairy herd with 1200 cows in milk and which is situated in the Mediterranean Swartland region of the Western Cape province in South Africa, approximately 160m above sea level. The dairy is one of the subdivisions in a mixed farming business with livestock, small grain cash crop and vineyard. This herd is in open outside pens and therefore prone to heat stress during the hot, dry summers with temperatures up to and above 40 degrees C and mud stress during the wet winters which inevitably results in significant seasonal milk production variations. Such variations can be substantially relieved with cow housing which is the next step for this dairy.

The herd is milked twice a day with a basal partially mixed ration (PMR) in the pens and a fractionated/precision diet in the parlour. The parlour is a 60 point rotary with computerized feed troughs to deliver the required amount of feed which is fractionated in protein and energy pellets. This is fed per individual cow as a percentage of live body weight for a given milk production as percentage of live body weight. This requirement takes into account lactation number, DIM, days pregnant and BCS, body weight at calving, expected current body weight and expected dry off weight and environmental and management data. This has been done for different breeds, parity and whether it is a pasture or semi TMR system. Feed menus have then been developed from AMTS predictions to feed cows in parlour for their specific nutrient requirements on a daily basis. Energy, protein, mineral and fresh cow concentrates were then formulated, produced and tested to compliment this feed regime.

In September 2022 a phytogenic product was introduced in the diet at 9g/cow per day initially and then reduced to 6g/day which is recommendation level. At the same time **(1) Virginiamycin and (2) AcidBuf** was removed from the diet and **(3) Sodium Monensin increased from 18.5ppm to 26ppm**. **(4) Megafat high C16 rumen inert fat was replaced by Megalac and (5) Metasmart with Smartamine**. Both Megafat and Metasmart was used to boost butterfat concentration, but it is expensive. The reason for introducing the phytogenic product was because a butterfat increase was anticipated, but at a lower cost with the mentioned changes to the diet. This indeed realised with a butterfat increase from 4.7% average to 5.3% average with a monthly variation depending on *inter alia* environmental conditions. The variation in butterfat % was also much higher before the introduction of the phytogenic product and narrowed considerably after the introduction. Milk production increased with 1 litre average from September 2022 to October 2022, but this is the normal curve for the time of the year due to better environmental conditions and longer daylight. **So, milk production was not really affected, but it never was the objective. The objective was to increase and maintain higher butterfat levels.** This objective was achieved and since the introduction of the phytogenic product, butterfat was maintained at an average of 5.3% and 4% for milk protein.

However, production efficiency and health of dairy cows resulting in high milk- and solids yields are the key to profitability of dairy enterprises all over the world. To meet these goals, feeding strategies comprise higher levels of easily degradable carbohydrates. Such feeding regimes can bring along a cascade of problems in the digestive tract. Selected phytogenic feed additives, which is natural plant extracts, can support physiological and metabolic rumen functions resulting in less systemic inflammation and enhanced rumen fermentation. Any inflammatory response requires energy, so the animal will now have more energy available for milk production. Selko Fytera™ Lacteco phyto-complex claims to decrease inflammation and improves immunity and bioavailability of nutrients. This may improve production, health and reproductive performance.

Protocol

The aim of this observation trial was to evaluate the performance of cows receiving a typical dairy TMR with the inclusion of Selko Fytera™ Lacteco phyto-complex instead of the competitor phytogenic product (CPP) in 3 Phases as follows:

	Fytera™ inclusion	CPP inclusion level	Replacement with Fytera™ Lacteco	Time of year
Phase 1	300mg	3g	50%	April - May
Phase 2	600mg	0g	100%	May - June
Phase 3*	700mg	0g	117%	June - July

*Phase 3 is the cost breakeven point for Fytera™ Lacteco inclusion vs CPP.

Results

DMI and LBW

LBW was slightly lower than the previous year and can be explained by 200 more 1st lactation cows. DMI slightly higher than the previous year with 20 days lower DIM from 170 to 150. However, LBW and DMI followed the same trend than the previous year with an increase from March to end of May or when the first heavy rains started. Fytera™ Lacteco inclusion performed the same as with CPP, but a lower cost.

Health and especially before and immediately after calving

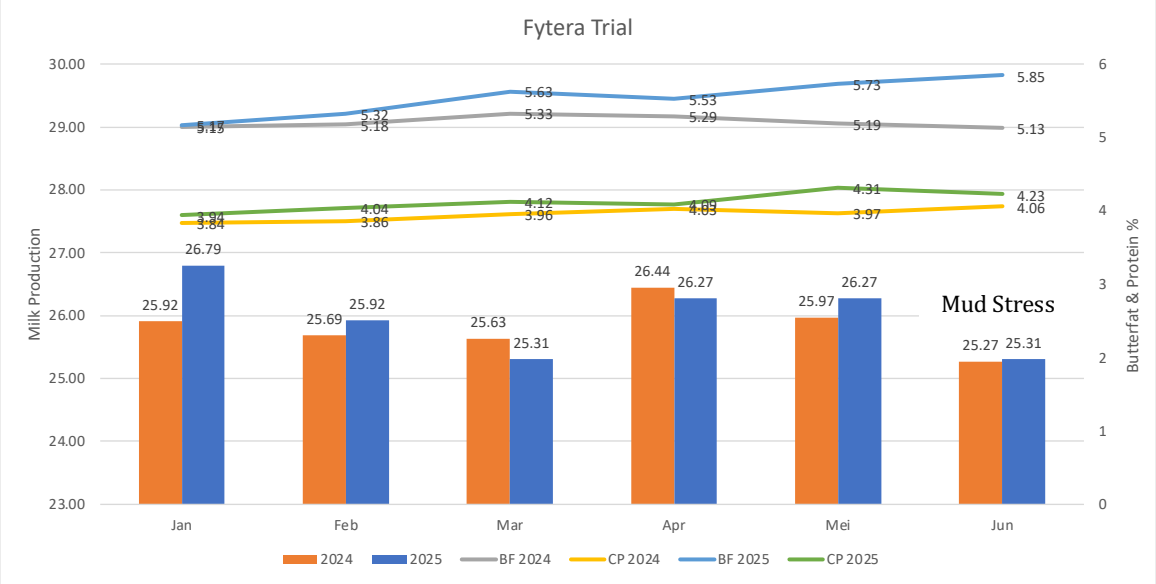
The nutrition on this farm follows a steam-up and fresh cow strategy coupled with the in-parlour fractionated feeding which is positive on health and reproduction. Again there was no evidence that the inclusion of Fytera™ Lacteco had any altered impact. This is probably an aspect that could be observed over a longer period AND the inclusion of Fytera™ Lacteco in the dry and steam-up phase.

Westside

Milk production

Although milk production increased with 1 litre on average after Fytera™ Lacteco was introduced, it followed the same trend as the previous year. This is predominantly due to cooler weather following very hot March temperatures, which has a bigger effect than the downside of declining daylight (autumn slump). As explained in discussions when the trial was planned, farm trials and even observations trials can be challenging. In this case the business decision to increase the herd size was challenged, with the introduction of a penalty for milk delivered above the milk quota, in April 2025. Approximately 90 000 litres per month (2.5 litres/cow/day) are produced above quota with significant financial penalties. Without compromising fresh cow and peak production the feeding regime is such not to push for production, which makes it more difficult to take the impact on milk production into account.

Milk production followed the same annual trend for all the phases with very small differences in averaged production from the previous year. Therefore, milk production is irrelevant regarding component concentration.



Milk Solids

As explained, maintaining or improving milk solids are the major objective and especially in this particular Jersey dairy herd where the milk price is significantly affected by milk solids %. In SA farmers are paid for components as a % of milk and not total component production. Therefore, it is very encouraging that a substantial improvement is observed from an already satisfactory butterfat an protein %.

Westside

Phase 1:

After the first phase with 50% Fytera™ Lacteco and 50% CPP butterfat averaged

- 5.53% vs 5.37% for the previous 3 months and
- 5.53% vs 5.29% for the same period in 2024.

Protein was much the same after the phase 1 and averaged

- 4.09% vs 4.03% for the previous 3 months and
- 4.09% vs 4.03% for the same period in 2024.

Phase 2:

<u>May milk quality report.</u>

During the second phase with 100% Fytera™ Lacteco, butterfat increased to an average of

- 5.73% vs 5.53% during Phase 1 and
- 5.73% vs 5.19% for the same period in 2024.

<u>June milk quality report.</u>

Butterfat further increased in June to an average of

- 5.85% vs 5.73 in May and
- 5.85% vs 5.13% for the same period in 2024.

The June milk quality report is predominantly the effect of the Phase 2, 600mg/cow/day Fytera™ Lacteco, because 700mg was only introduced on the 21st of June 2025. Butterfat therefore averaged 5.79% for May and June vs 5.53% for April and 5.16% for May and June 2024.

However, during the second phase with 100% Fytera™ Lacteco, protein increased to an average of

- 4.27% for May and June vs 4.09% during Phase 1 and
- 4.27% vs 4.02% for May and June in 2024.

Phase 3:

During Phase 3 with 700mg Fytera™ Lacteco/cow/day butterfat averaged

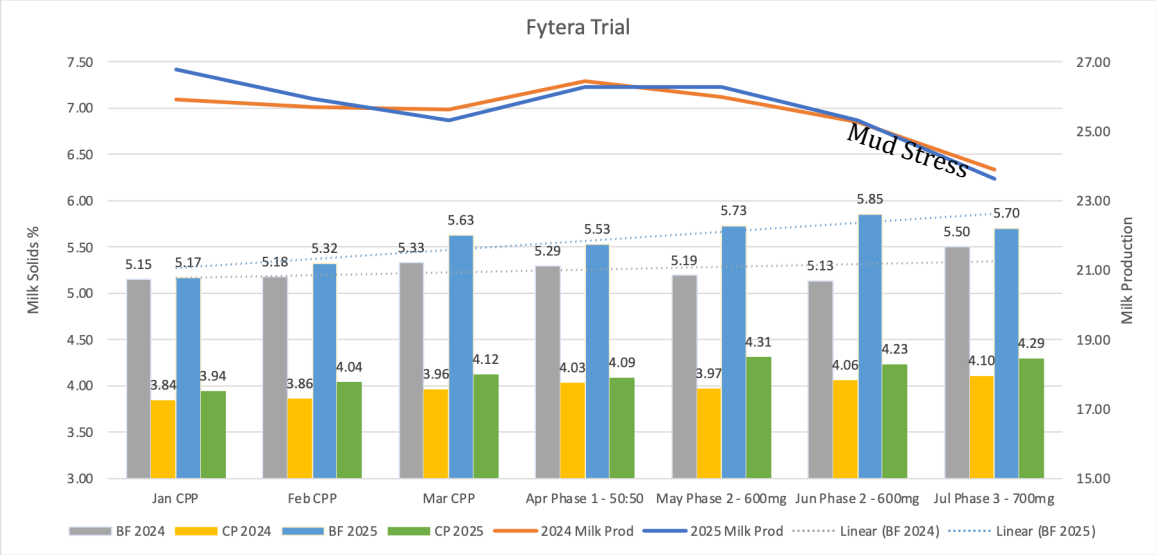
- 5.70% vs 5.85% in June and
- 5.70% vs 5.50% for the same period in 2024.

The increase in butterfat from 5.13% for June 24 to 5.50% for July 24 can be explained by a decrease of 1.4 litres in milk production due to mud and cold stress. However, although a decrease of 1.7 litres occurred for the same period during the trial, butterfat also decreased slightly from 5.85% to 5.70%. One would expect a similar increase for butterfat % than the previous year due to concentration.

Protein was much the same and averaged

- 4.29% vs 4.27% for Phase 2 and
- 4.29% vs 4.10% for the same period in 2024.

As mentioned, this phase was just to see if there is any effect by increasing the Fytera™ Lacteco level to breakeven cost compared to CPP. No additional response was observed and therefore it is not recommended to feed up to 700mg Fytera™ Lacteco/cow/day.



Side notes: This herd averaged 30+litres/cow/day on 3x milking with in-parlour fractionated feeding which included fresh cow pellets until 30 DIM. Management constraints led to the decision to move back to 2x milking/day with the aim of 27 to 28 litres average, which is about the sweet spot on 2x milking not to compromise health and reproduction. However, the decision to expand the herd leading to larger tail-end, pen overcrowding, shortage on silage and the discontinuing of in-parlour feeding of fresh cow pellets resulted in a closer to 26 litre/cow/day average. The decision to build cow housing and allocate more cash crop field to silage production will address these challenges and seasonal milk variations due to climate extremes.

Economic implications

Fytera™ Lacteco is much more concentrated than CPP (6g/cow/day CPP vs 500mg/cow/day Fytera™ Lacteco as per recommendation) and will have an impact on the cost of importation. If fed as per recommendation Fytera™ Lacteco is 70% of the cost of CPP. Feeding 600mg is 84% of the cost. In reality on this farm CPP was fed at 7g and therefore, Fytera™ Lacteco inclusion at 600mg is 72% of the cost of CPP.

Conclusion

From this observation trial it is concluded at this stage, that Selko Fytera™ Lacteco can successfully replace CPP and maintain dairy performance and even improve milk solids concentration. The results showed an improvement for butterfat at 5.70% for the trial period vs 5.27% for the same period the previous year and protein at 4.23% for the trial period vs 4.04% for the same period the previous year.

The recommended dosage of 500mg/cow/day could be adequate with upper limit of 600g/cow/day. Levels above 600mg will probably not be cost effective.

The inclusion of AOMix with the essential oils may be complimentary and part of the success.

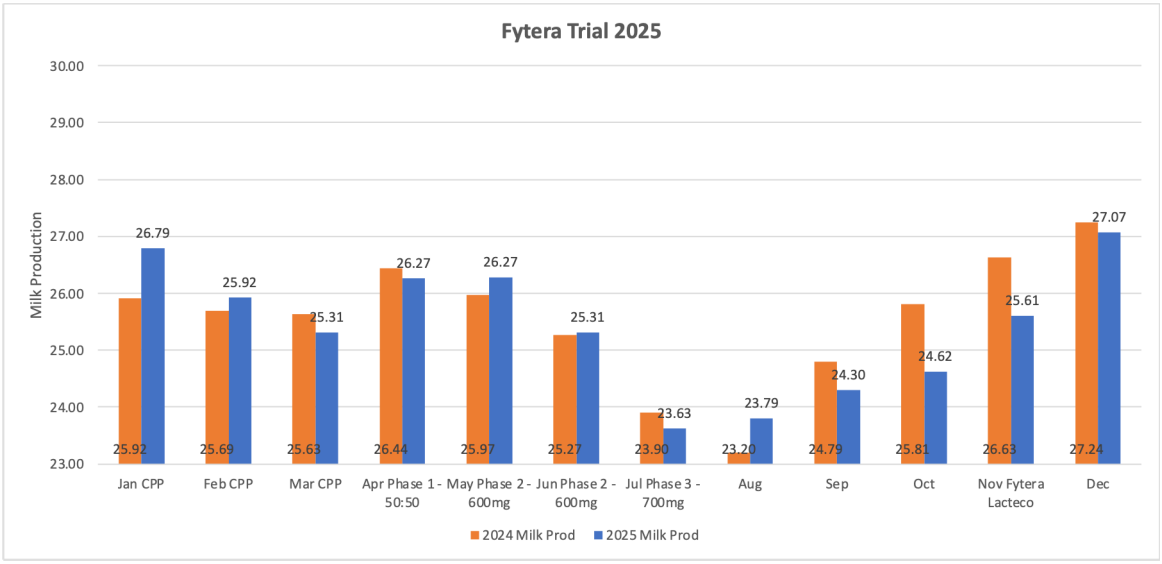
After trial observation period

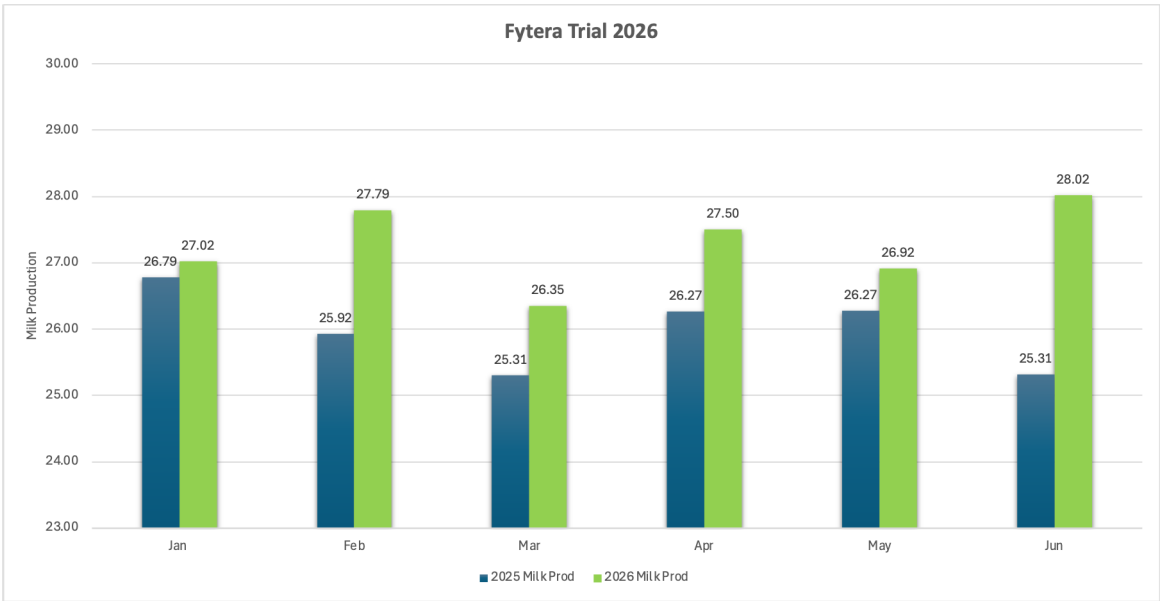
The observation trial ended 31 July followed by a period where CPP stock needed to be worked away. This was done on the same basis as for Phase 1 with 50:50 CPP and Fytera™ Lacteco until second week of November when the diet changed to 100% Fytera™ Lacteco.

For the period August 2025 to mid-June 2026 butterfat averaged 5.40% and protein 4.11% which confirms that Fytera™ Lacteco met the objectives of the trial and the continuous inclusion in the diet. Interesting however was that for September to November 2025 milk production gradually dropped to be about 1 litre lower than 2024 milk production and only recovered in December 2025 when the herd was on 100% Fytera™ Lacteco. Milk production continued to increase from January to April 2026 and averaged 27.17 litres for this period vs 26.07 litres for same period in 2025. April is included in the comparison because Phase 1 of the trial with 50% Fytera™ Lacteco only started at 11 April 2025. Milk production was 1.87 litres higher in February 2026 which narrowed to 1.04 litres in March 2026 because of extreme heat waves and the fact that the herd was FMD vaccinated. The gap further narrowed to 0.58 litres in May because of heavy rainfall over a 3 day period (130mm+ which is the most for May since 2020) and it is also compared to Phase 2 of the trial with 100% Fytera™ Lacteco which started in May 2025. With a fairly dry period until mid-June, milk production increased to a highest production of 28.6 litres and an average of 28.02 litres, which is 2.71 litres higher than June 2025 and an all-time record for June. Diet changes were minimal and only to the dairy meal fed outside in the basal PMR. Urea was dropped with 24g and Smartamine increased with 3g based on 12kg dairy meal intake for high producing cows. This was balanced with 2% Wheaten Bran.

Everything taken into account as described in the Background and Side notes a herd average milk production of 27 to 28 litres is more or less the sweet spot not to compromise health and reproduction. The fact that the herd maintains excellent health and reproduction and with the comparative production results it is evident that Fytera™ Lacteco can replace CPP successfully at a lower cost per animal per day.

Westside


Fytera Trial 2025
Milk Production
30.00
29.00
28.00
27.00
26.00
25.00
24.00
23.00
26.79
25.92
25.92
25.69
25.31
25.63
26.27
26.44
26.27
25.97
25.31
25.27
23.63
23.90
23.79
23.20
24.30
24.79
24.62
25.81
25.61
26.63
27.07
27.24
Jan CPP
Feb CPP
Mar CPP
Apr Phase 1 - 50:50
May Phase 2 - 600mg
Jun Phase 2 - 600mg
Jul Phase 3 - 700mg
Aug
Sep
Oct
Nov Fytera Lacteco
Dec
2024 Milk Prod
2025 Milk Prod


Fytera Trial 2026
Milk Production
30.00
29.00
28.00
27.00
26.00
25.00
24.00
23.00
26.79
27.02
25.92
27.79
25.31
26.35
26.27
27.50
26.27
26.92
25.31
28.02
Jan
Feb
Mar
Apr
May
Jun
2025 Milk Prod
2026 Milk Prod