

Benefits of live yeast on milk yield, milk composition and somatic cell count on dairy cows fed a grass-based diet

Objective: Evaluate the effect of Actisaf® Sc 47 supplementation on milk production and quality of dairy cows fed under a grazing system.

Trial design

Comparative field trial
Location: Australia, Victoria
800 cow dairy farm.

Species/life stage

Dairy cows in early lactation
Breed: Holstein Friesian.

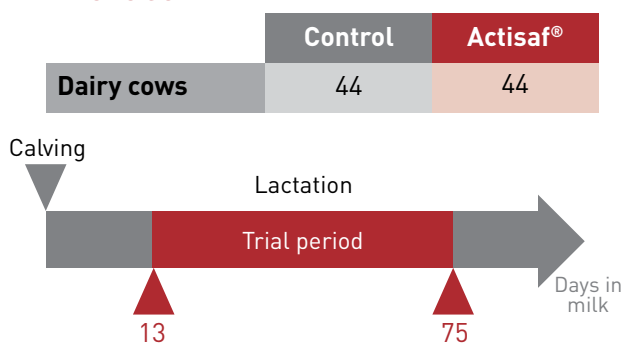
Main criteria

Milk yield, milk solids, milk fat, somatic cell count (SCC).

Reference

Data on file – Australia, 2013.

Protocol

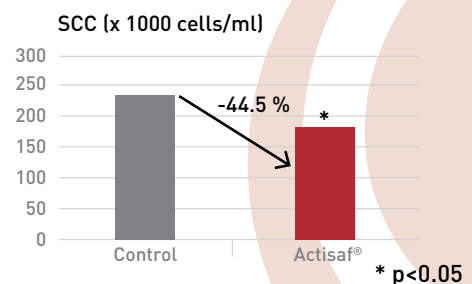
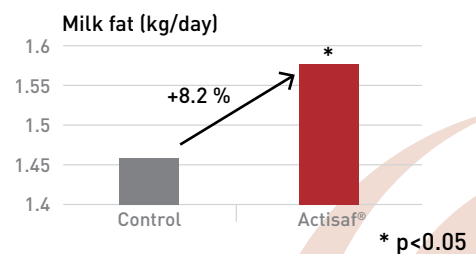
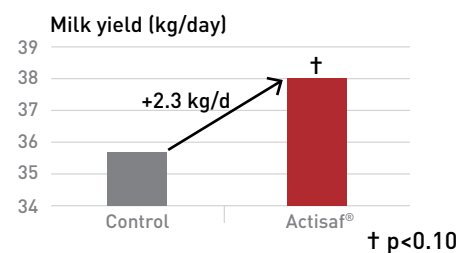


Conclusion

Actisaf® Sc 47 incorporated in a grass-based diet in early lactation helps to increase milk yield and to improve milk composition, especially fat. Cows supplemented with Actisaf® Sc 47 also show significantly lower somatic cell count in comparison with Control group.

Main results

- ↑ Milk yield: +2.3 kg/d
- ↑ Milk fat: +8.2 %
- ↑ Milk solids: +4.8 %
- ↓ SCC: -44.5 %





Introduction

High producing cows face many challenges, among which feed ingredient changes and heat stress are certainly the most frequent. At certain periods of the year, grass can be an important factor in milk production variation as the quality and quantity available are different from week to week. Highly digestible grass has high energy and sugar levels which can cause a deregulation of the rumen microbiota.

Materials and methods

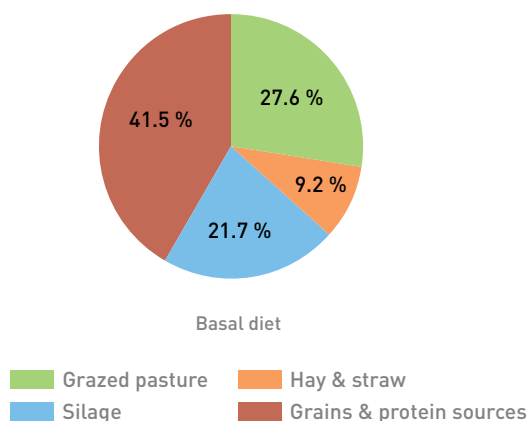
The trial was conducted on a commercial farm of 800 Holstein cows. The cows were grazing and receiving a partial mixed ration (PMR) in a covered feed pad. The feed intake per cow per day was 21.7 kg at 31.9% of dry matter on average.

Among the herd, 88 cows (average 13 days after calving date) were paired blocked based on parity, calving order and milk yield during the past lactation, and assigned to one of two treatments for three months.

The treatments were as follows:

- **Control group:** cows were fed a basal diet
- **Actisaf® group:** cows were fed the basal diet and supplemented daily with 5 g of Actisaf® Sc 47 added in the premix.

The PMR was composed of grass silage, hay, straw, wheat, canola meal, and black cake (by-product of starch extraction from maize grains) with the following distribution, expressed on a dry matter basis.



Results and discussion

- Yeast supplementation increased milk yield by 2.3 kg/d and milk solids by 0.13 kg/d. The high positive response in milk fat (+8%) was most probably driven by improved fibre digestion, a more balanced rumen ecosystem and increased lactose production.

Indicator	Control	Actisaf®	p
Milk, kg/d	35.7	38.0	0.10
Fat, kg/d	1.46	1.58	0.03
Protein, kg/d	1.15	1.20	0.28
Solids, kg/d	2.71	2.84	0.072
SCC, (x 1000 cells/ml)	238	132	0.05

- Somatic cell count was significantly lower in cows supplemented with live yeast, and was consistent for the duration of the trial.

Indeed, by optimising rumen ecosystem balance, live yeast supplementation helps to improve cows' overall condition and immunopotential, which may lead to a lower SCC level in the milk.

- The return on investment based on the milk price per kg and milk solids was 8 to 1.

Conclusion

This trial showed that supplementing dairy cows fed a grass-based diet with Actisaf® Sc 47 can help to increase milk yield, but also to improve the composition and the quality of the milk.

Keywords Actisaf® Sc 47, grass, early lactation, milk yield, somatic cell count.

Reference Data on file – Australia, 2013.