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ActiSaf

Effect of live yeast on milk production during a dietary forage change in dairy cows

Objective: To determine on-farm the effects of Actisaf® Sc 47 supplementation in high-producing lactating Holstein dairy cows on milk yield and composition during dietary forage change.

Trial design

Comparative field trial
Location: France,113-cow dairy farm

Species/life stage

Dairy cows in early lactation
Breed: Holstein

Main criteria

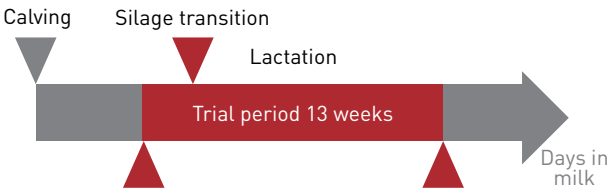
Milk yield, milk fat, milk protein.

Reference

Data on file – France, 2010.

Protocol

	Control	Actisaf®
Dairy cows	15	15
Days in milk	38.3	41.3

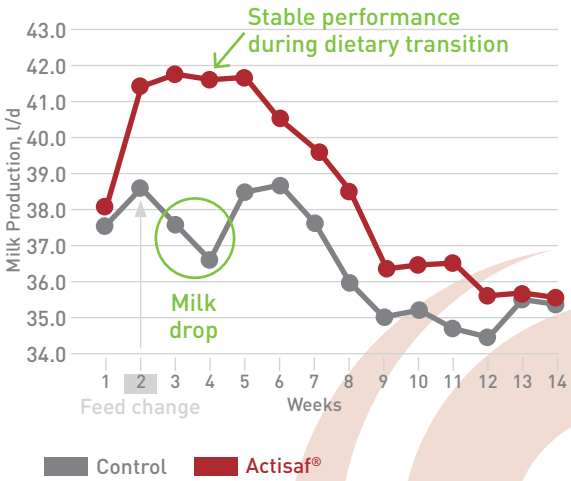


Main results

↑ Milk yield: + 1.3 kg/d

↓ Impact of feed transition

Milk lactation curve



Conclusion

This study demonstrates that dietary supplementation with 5g/cow/day of Actisaf® Sc 47 helps to maintain high levels of milk production (+1.3 kg/day) and reduce the negative impact of dietary forage changes, such as a change in grass silage, on production.

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Introduction

In order to investigate the effect of Actisaf® Sc 47 live yeast on dairy cow performance, a field trial was performed where parameters such as milk production and composition were measured, in a continuous 13-week lactation trial. During this trial, there was a change in the type of grass silage in the diet.

Materials and methods

30 early lactation Holstein cows were divided into two groups: a Control group and an Actisaf® group. The two groups were balanced for parity (1, 2 and 3), days in milk (DIM), milk production and composition (measured one week before the beginning of the trial) in order to design statistically non-significant groups. The treatments were as follows:

- **Control group**: cows were fed a basal total mixed ration (table 1).
- **Actisaf® group**: cows were fed the same basal diet (table 1), supplemented daily with 5g of Actisaf® Sc 47 per cow.

Both groups also received concentrate in the milking robot.

Table 1: Basal diet composition

Basal diet composition	% of dry matter
Ingredients	
Corn silage	59.8
Ryegrass silage	14.1
Soybean meal	8.7
Rapeseed meal	3.8
Hay	3.8
Wheat straw	3.8
Ground Corn	2.2
Triticale	2.2
Mineral-vitamin mix	1.5
Urea	0.2
Nutritional composition	
Crude protein	13.3
Crude Fibre	21.0
Neutral detergent fibre	46.0
Acid detergent fibre	25.0
Net energy for lactation (NEL), Mcal/kg DM	1.51

During the trial, the grass silage changed from one cut to another for the whole herd.

Results and discussion

At the beginning of the trial, milk production and composition were similar for the two groups. A plot of milk yield showed a higher production from day 7 and revealed a trend towards a more persistent milk curve when cows were supplemented with Actisaf® Sc 47. The change in grass silage caused a drop in milk production in the Control group but not in the Actisaf® Sc 47 group. This trial confirms under field conditions previous research showing that Actisaf® Sc 47 fed at a dose of 5g/cow/day has a stabilizing effect on rumen microbiota (Julien *et al.*, 2012). In this field trial, Actisaf® Sc 47 helped to reduce the inter-individual variability in rumen microbial populations between the cows.

During the experimental period, daily milk yield of the treated group was significantly increased (p=0.017) by 1.3 kg on average when the live yeast was added to the diet, while protein and fat content of milk were maintained.

Table 2: Effects on milk yield and composition

	Control	Actisaf®	SEM	p-value
Milk production, l/day	36.6	37.9	0.37	0.017
Protein, %	3.16	3.18	0.03	ns
Fat, %	3.91	3.93	0.08	ns

Conclusion

This trial showed that live yeast supplementation in dairy cows can help to maintain high, stable milk production during a feed transition.

Keywords Actisaf® Sc 47, milk yield, milk composition, dietary forage change.

Reference Data on file – France, 2010.

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