Effect of Yea-Sacc®1026 on the persistency of milk production in late lactation of healthy, high-producing dairy cattle on a high fiber diet

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Introduction & Objectives

The use of Yea-Sacc®1026 to improve ruminal function and thereby increase milk production or weight gain has been demonstrated many times in cattle fed diets posing a high risk of acidosis, ie., those containing large amounts of highly digestible starch and sugars and low amounts of fiber. This is attributed to stimulation of fiber-degrading and lactate-utilizing bacteria, which aids in stabilizing ruminal pH.

The objective of this trial was to evaluate the effect of Yea-Sacc®1026 on the milk curve of high producing dairy cattle fed diets high in structural fiber after milk peak production.

Materials and Methods

Animals and diets:

- Location: PVL Bocholt (agricultural school, demo farm)
- Period: February 16th – May 14th (90 days)
- Treatment groups:
  - Control: 17 cows
  - Treatment: 16 cows
- Treatment groups were balanced for number of lactations, DIM (Days in Milk), Total milk production in ongoing or preceeding lactations, milk fat and protein level, and SCC
- DIM at start of lactation was 132 days (control) and 137 d (Yea-Sacc®1026 group)
- The average number of lactations was Control: 2.8 lactations; Yea-Sacc®1026: 2.7 lactations.
- Cows were milked twice or three times a day using a Lely Milk robot.
- Animals of the treatment group received twice a day 25 g of Yea-Sacc® Farm Pak powder (i.e. 5 g Yea-Sacc®1026) with some concentrate in the parlor. Cows that were milked three times a day only received the Yea-Sacc® supplement twice.
- The ration was well balanced and contained a high amount of fibrous components (Table 1).

Measurements:

- Milk production was determined daily by the Lely milking robot.
- Official milk control was held 18 days before start of the trial, at day 17 and 51 during the trial and 35 days after the trial.
- Milk yield and composition were compared monthly by Students T-test.

Table 1: Basal feed composition formulated for peak production

Feed composition	Kg wet/day	Kg Dry/day
Sugar beet pulp	7	1.56
Beet pulp draf (fresh)	6	1.62
Soybean meal*	1.4	1.23
Rapeseed meal	0.6	0.53
Grass silage 2006 first cut	8.5	3.60
Triticale silage	1.5	1.15
Corn silage	25	9.13
Concentrate*	6	5.22
Total	56.0	24.0

* decreased individually based on DIM

Results

- Supplementation with Yea-Sacc®1026 reduced rate of milk yield decline as lactation advanced (Fig. 1).
- The difference between the average production of cows on Yea-Sacc®1026 increased as the trial proceeded (+ 0.8 kg from day 1-30, +1.6 kg/d from day 31-60 and +2.1 kg from day 61-90), yielding an average difference of +1.5 kg milk/day for the whole trial period ($p < 0.05$ at all times, Fig. 2).
- Data from the official milk control showed no significant differences in milk, protein and lactose composition although a tendency to higher fat levels was noted in the Yea-Sacc®1026 group (Table 2).
- The SCC numbers were very low (demonstrating a well-managed farm) and remained lower in the Yea-Sacc®1026 group during the trial.

Conclusions

1. Yea-Sacc®1026 at 10 g/cow/day increased milk production with an average of 1.5 kg/d
2. Yea-Sacc®1026 reduced the decline in milk production during the late production phase
3. This increase in milk production did not result in a lower amount of fat and protein in the milk
4. Taking into account a milk price of 0.27 €/liter, ROI of 6/1 to 8/1 was calculated.

Fig. 1: Average daily milk production during the trial

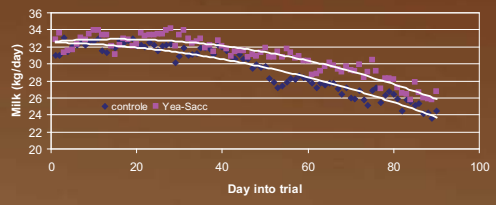

Fig. 2: Average monthly milk production and total milk production average

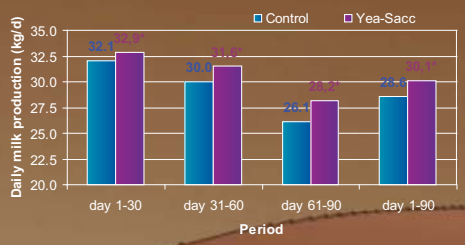

Table 2: Milk composition and SCC before, during and after ending the trial

Day	Fat (%)		Protein (%)		Lactose (%)		SCC (x 1000/ml)	
	Control	Yea-Sacc	Control	Yea-Sacc	Control	Yea-Sacc	Control	Yea-Sacc
18 d before start	4.09	4.00	3.54	3.42	4.70	4.71	91	92
17	4.20	4.32	3.68	3.69	4.99	5.04	121	85
51	4.14	4.34	3.53	3.49	4.75	4.75	137	94
35 d after end	4.25	4.25	3.40	3.52	4.73	4.69	122	126