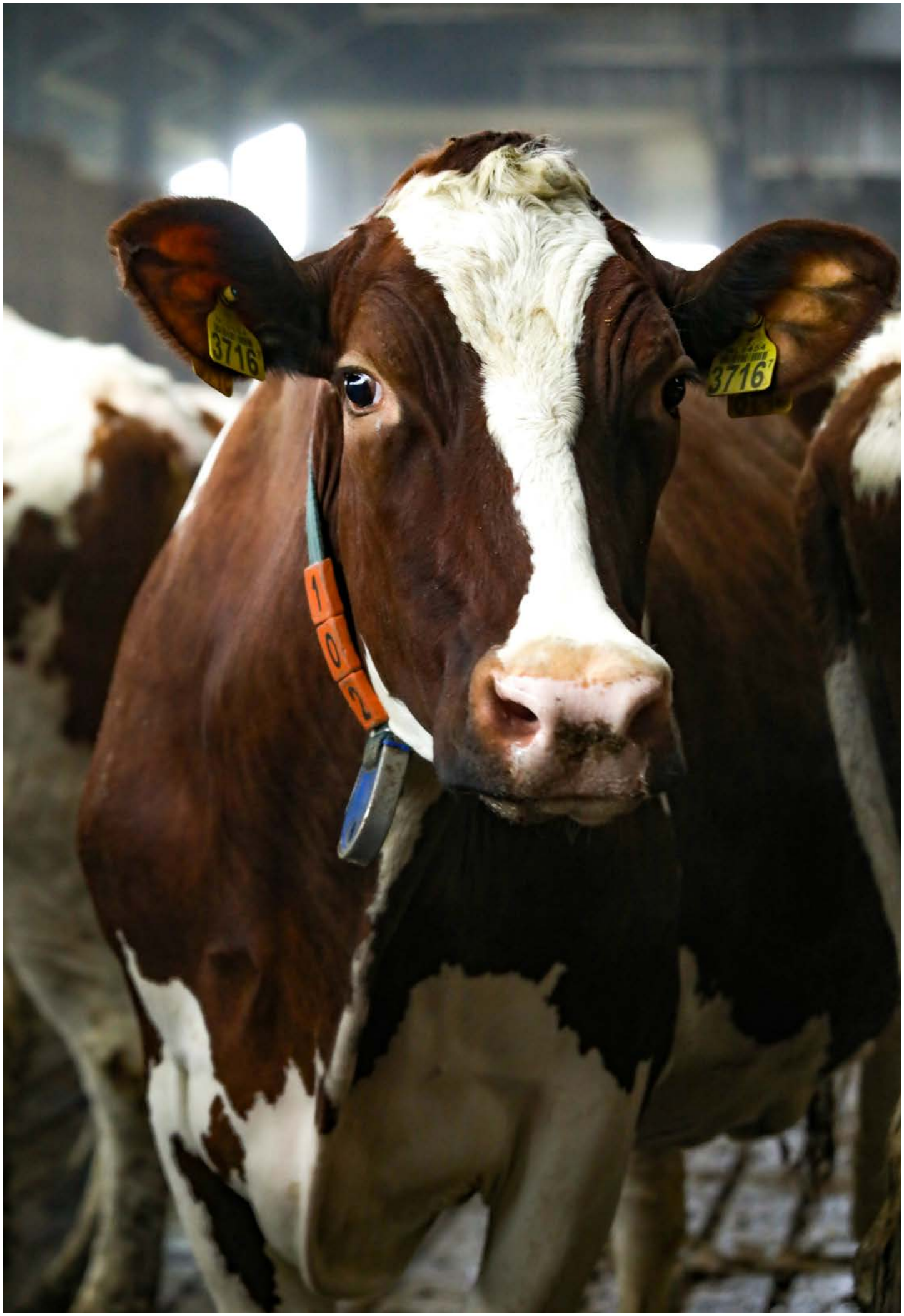
Selko LactiBute

For farmers who want to keep their livestock as healthy as possible

HEALTHYLIFE

trouw nutrition
a Nutreco company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Healthy gut, higher productivity

The importance of healthy livestock

The future of dairy farming is all about having a sustainable herd that provides returns for a longer period. Specifically, this means increasing lifetime daily yield. The goal here is to utilize the full production potential of each cow in conjunction with a longer life. An additional benefit is that emissions per kg of milk are reduced. Increasing lifetime daily yield contributes both to making dairy farming more sustainable and to improving the dairy farmer's income.

The importance of a healthy gut

The number of lactations during the cow's productive life has the greatest impact on lifetime daily yield. The challenge in increasing this number is the transition period; a period that can be associated with various metabolic disorders (including ketosis, milk fever). Now, new insights show that these conditions are related and that there is a common source that connects them: impaired gut health. Indeed, impaired gut health is a good predictor of the incidence and impact of these conditions.

For example, it was shown that cows with ketosis showed elevated inflammatory levels even days before calving[1,2,3] with a leaky gut emerging as a possible cause1. In addition, it has also been shown that stress factors resulting from varying dry matter intake[4], ration changes[5] heat[6] and calving[1] (Figure 1) lead to significantly higher inflammation levels. Another well-known example of a stressor is a high content of resistant starch.

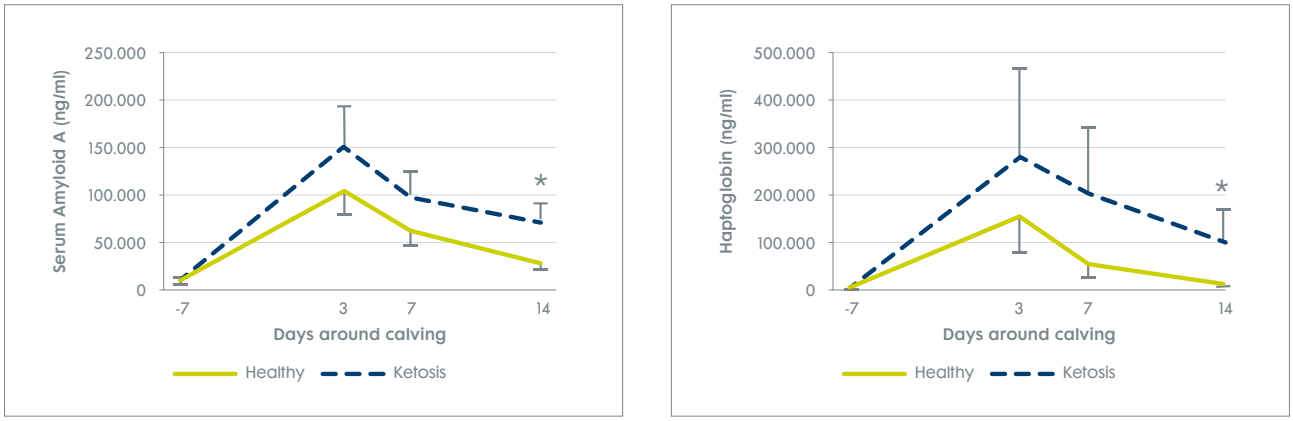

*Figure 1 Serum Amyloid A and Haptoglobin inflammation levels increase significantly after calving in both healthy cows and cows with ketosis (Abuajamieh et al., 2016). *There is a significant difference (P<0.05) between healthy and cows with ketosis.*

Acidification of rumen or intestine?

The cow's ration can also cause stress, affecting intestinal health. Indeed, signs typically attributed to (subacute) acidification of the rumen, such as runny and frothy manure or intestinal mucus in the manure (Figure 2), are indicative of acidification of the large intestine.

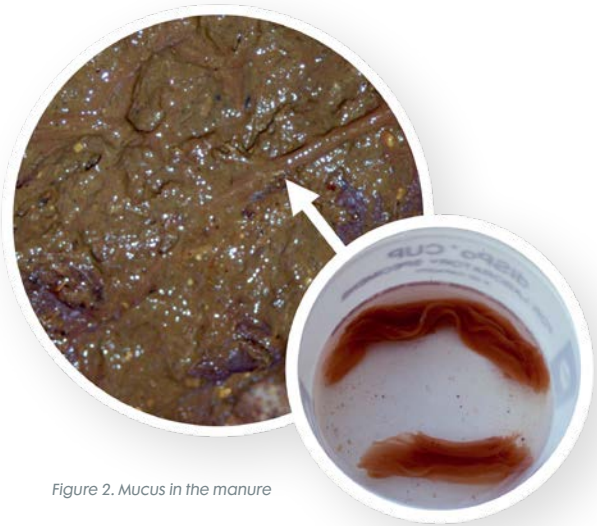

Figure 2. Mucus in the manure

The impact of a leaky gut on lifetime daily yield

Large intestine acidification negatively affects the intestinal wall barrier, resulting in a leaky gut. This results in inflammatory processes that require relatively large amounts of energy in the form of glucose, resulting in lower milk production[7] (Figure 3).

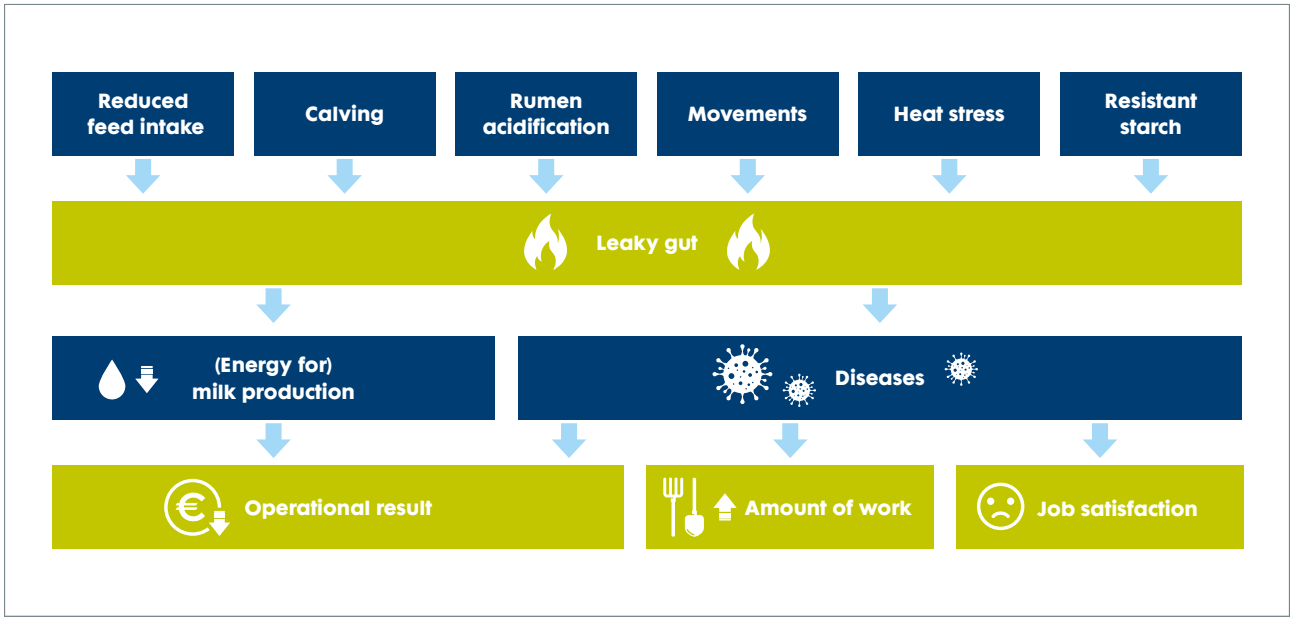

Figure 3.

Major cause of forced culling of cows

Inflammation therefore costs energy, but a leaky gut also causes higher forced culling of animals due to disease or fertility problems[8]. Moreover, a clear link has been found in ruminants between a leaky gut and the development of foot health problems[7]. A leaky gut is therefore a major indirect cause of forced culling of cows and thus a limiting factor to increase lifetime daily yield and farm profitability.

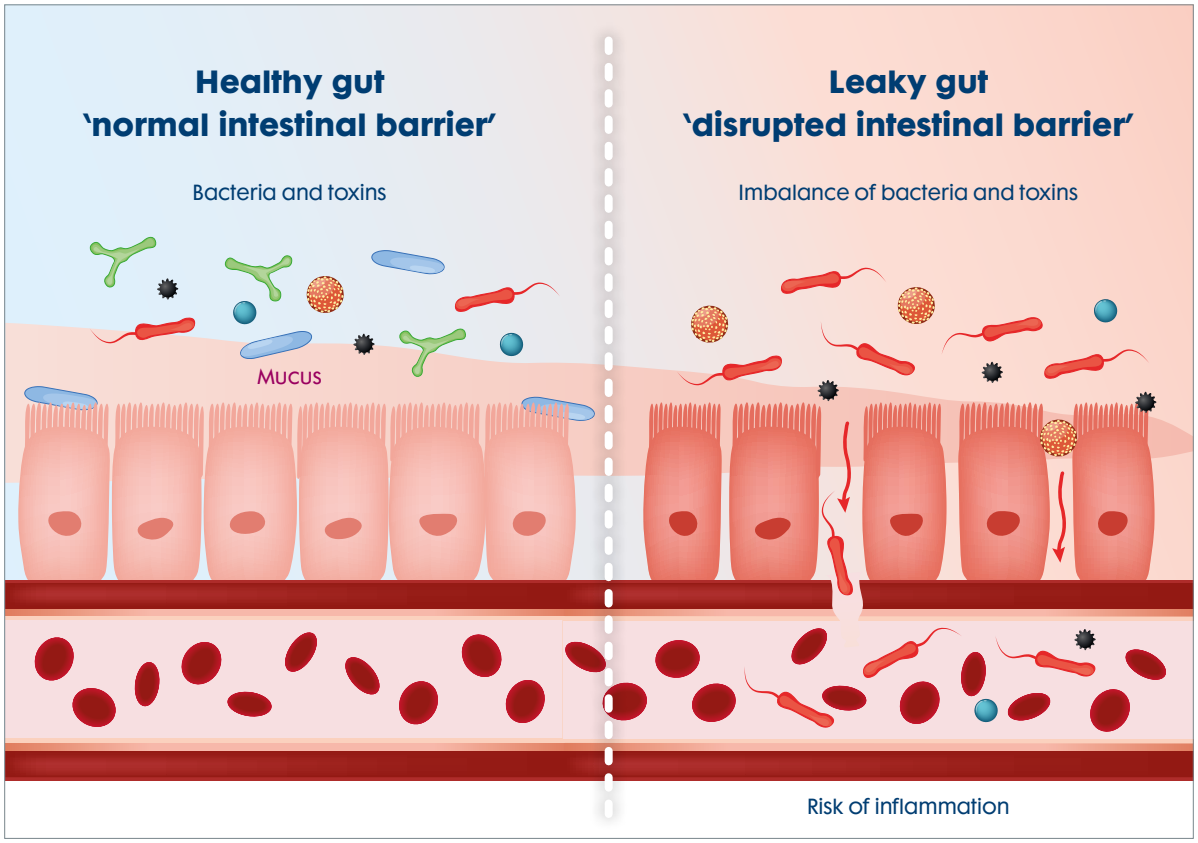

Figure 4.

Selko LactiBute

Selko Lactibute is a prebiotic aimed at improving intestinal health. Selko LactiBute is the result of years of extensive research[9,10,11,12,13]. It is a patented product with a unique mechanism of action[7]. Selko LactiBute improves fermentation in the large intestine and reduces the risk of leaky gut[7].

Selko Lactibute is a rumen-resistant gluconate. In several animal species, gluconate has been shown to promote the conversion of lactic acid to butyrate (butyric acid) by intestinal bacteria. A proper balance of lactic acid and butyrate in the large intestine is important because butyrate:

- Reinforces the intestinal barrier
- Reduces inflammation in the gut
- Inhibits pathogenic bacteria
- Is an energy source for intestinal cells

Increase milk production through better gut health!

A healthy gut is more efficient at absorbing nutrients from the ration, resulting in higher productivity. Adding Selko LactiBute to the ration increases milk production while also increasing fat and protein production. The average increase shown in international research is 0.9 kg of measured milk per cow per day, increasing feed balance.

Dosage

- Feed Selko LactiBute throughout the lactation and dry period at a dose of 16 grams/cow/day.
- For direct addition at the dairy farm, Maxcare LactiBute Topdress has been developed; a premix of 50 grams/cow/day, suitable for both dairy and dry rations.

Dairy farmer Anton Verhoeven from Sint Hubert (Belgium)

Number of dairy cattle: 130

"The cows held up better. The start-up also went more smoothly."

"Normally I don't use additives, but Trouw Nutrition is known as a reliable company that conducts professional research. Therefore, I thought it would be interesting to participate in a trial. A good choice, because I noticed an immediate difference between the control group and the group with additives in the feed. The group with additional additives produced an average of 0.6 kg more milk per cow. The cows held up better. The start-up also went more smoothly."

"In addition to more milk, I felt that animal health was improving. During the period, the somatic cell count was nice and low (hovering around 100), and I had fewer problems with the feet, the farrier had less work than normal. I am really excited; especially because of the increased milk production. I am now going to use Selko LactiBute on all my dairy cows."

Results in practice from The Netherlands

Because testing on a single dairy farm does not provide any predictive value, a practical validation test with a very thorough research design was chosen. The study was conducted for five months on six Dutch dairy farms, with 907 animals included in the analysis. The setup is shown in Figure 5.

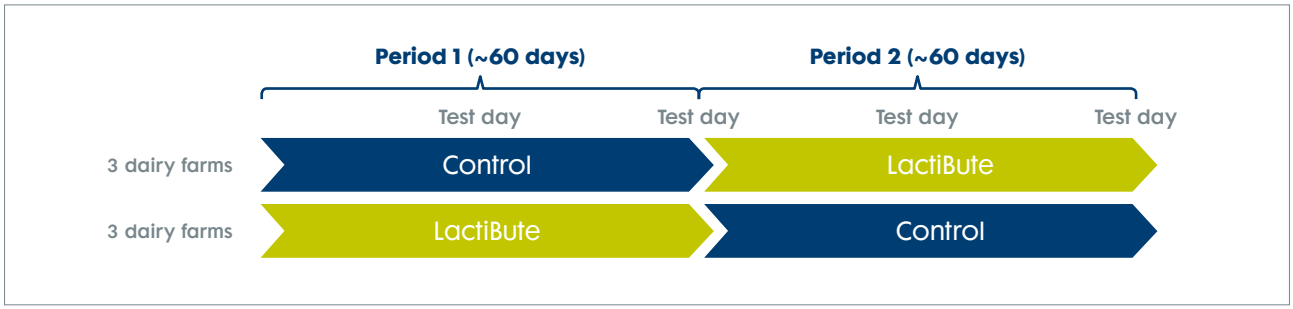

Figure 5.

Better gut health resulting in higher production

Milk volume, protein percentage and protein amount all increased significantly (see Table 1). Milk fat content remained high despite an increase in milk production.

	Day 30		Day 60		
	Control	Difference	Control	Selko LactiBute	Difference
Milk (kg)	30,4	31,7*	29,5	30,3†	**+1,1 kg***
Fat%	4,66	4,57†	4,67	4,64	-0,06%
Protein%	3,71	3,74*	3,75	3,80*	**+0,04%***
Fat (kg)	1,39	1,41	1,34	1,38	+30 g
Protein (kg)	1,10	1,16*	1,08	1,13*	**+55 g***
Measured milk (kg)	33,1	34,1†	32,1	33,0†	+1,0 kg†

Table 1.

** P-value <0.05 within test day (D30 or D60) or both test days (average difference)*
† P-value <0.15 within test day (D30 or D60) or both test days (average difference)

Dairy farmer Mark de Mol from Loosbroek (the Netherlands)

Number of dairy cattle: 110

"In addition to more milk protein, I also saw improvement in my animals' fertility"

"I was approached to participate in a blind test, which examined the effect of minerals. I had no problems on my farm at that time but was still curious about the product and the results. I quickly figured out which group had received Selko LactiBute. The manure of that group visibly changed after a few days; it was much more homogeneous. Even clearer was the positive effect on milk production of this group. In particular, milk protein increased."

"In addition to improved milk production, I noticed that the cows were more active. It was as if they literally had more energy. Detecting the rut was also easier. Before the trial, I had a fair number of cows that were in heat. At the end of the trial, the majority turned out to be pregnant. If you ask me, Selko LactiBute has a positive impact on the overall fertility of the animals!"

"All in all, I am very pleased with the result. Especially with raw materials becoming more and more expensive, any improvement in ration utilisation is a nice bonus. In this way, I can save on my feed concentrate or achieve a higher milk yield.

Selko LactiBute

Selko is a brand of Trouw Nutrition, a Nutreco company. Trouw Nutrition is a leading company specializing in innovative feed solutions. Quality, innovation and sustainability are the common thread running through all our activities, zfrom research and procurement of raw materials to production of high-tech and quality products and services.

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