

Holstein International

‘We are Holstein breeders through and through.’

p.8

HI 379
JULY 2025



Unique: sire of sons selection at 50 AIs

Genetic correlations – remarkable changes – p.10

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ADVERTORIAL

Health through HOKOVIT Micronutrients = High production

Health means high production! Can a statement such as this be true? Is it not often the case that high producing cows are under stress and thereby become sick? For decades farmers around the world have been trying to minimize the stress on their cows. Cow comfort has been significantly improved, cows are cooled in times of heat stress, overcrowding is becoming much less frequent, feeding for production has been replaced by feeding the rumen, concentrate feed efficiency replaced by overall feed efficiency. All these measures have combined with positive genetic developments to greatly increase the milk production of our cows. In the 1990's 10,000L cows were a rarity, today they are found in almost every barn. And yet, stress continues to seemingly inhibit performance and seems to be responsible for poor health. And sick cows give little or no milk. If we have done so much, what is causing stress for the cows?

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Dr Michael Neumayer
Center of expertise for innovative dairy farming

ing heat stress more often as well, whereby heat combined with high humidity becomes a massive problem for cows.

WHAT HAPPENS WHEN COWS ARE STRESSED?

Stress leads to problems on two levels for ruminants. One is that the microbiome in the rumen and gut change dramatically. The other is that the gut becomes leaky.

The four stomachs of a dairy cow are the big difference between ruminants and all other mammals. In the rumen, a large diversity of microorganisms breaks down carbohydrates. Readily available carbohydrates like starch and sugar are primarily converted into propionic and lactic acid, while cell wall components like cellulose and hemicellulose are primarily converted into acetic acid. The production of butyric acid is often neglected and overseen because it is produced in rather small amounts when compared to the other volatile fatty acids. Today we know that the gut needs butyric acid to function well and absorb nutrients. In the rumen there is a large biodiversity of microbes. Many microorganisms occupy niches that feed other niches or maybe inhibit them. The ability of ruminants to survive off of thoroughly different diets is contingent on this large biodiversity of microbes. However, an important condition for this to work well is that the various niches are fed daily and evenly. Every change causes unrest in this biodiversity because the niches need to build up and compete all over again.

WHAT DOES STRESS IN THE GUT LEAD TO?

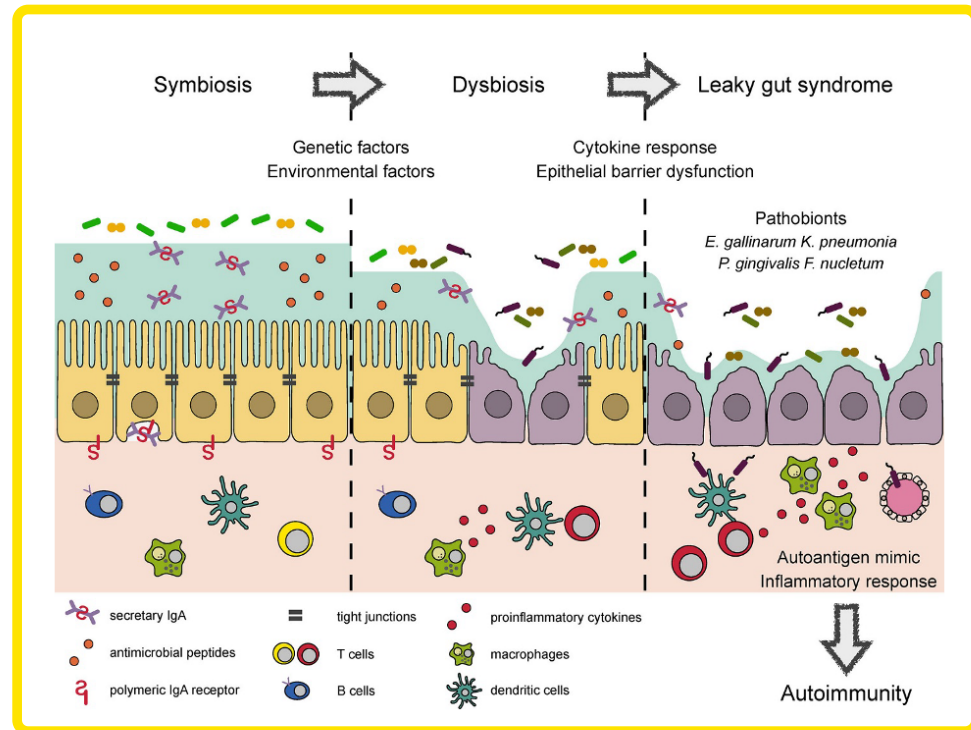
Stress in the gut leads to a change in the microbiota. For every kind of animal, and even for humans, one will hear about “leaky gut syndrome.” This exists for dairy cows as well. These

“HOKOVIT DAIRY PRO, higher milk production through less metabolic stress”

changes in the gut biodiversity are almost always tied to a decrease in the digestive ability of the gut. Stress makes the gut leaky! In this way, bacteria or toxins (formerly identified as endo- or entero-toxins, today they are grouped as lipopolysaccharides (LPS)) can penetrate from the gut into the circulatory system. Now, a sophisticated protection system is required. This is supplied by the immune system. It has everything required for good protection, a “security system” that looks for intruders, “alarm sirens” for when intruders are recognized, a “comprehensive database” to detail the danger of intruders and of those that can be accepted without being fought, “storm-troopers” that take up the battle and “cleanup crews” that repair the damaged infrastructure. These combat forces are not cheap and require large amounts of energy to work effectively.

WHAT DO THE STORM TROOPERS AND CLEANUP CREWS COST THE IMMUNE SYSTEM?

The majority of research suggests that it requires about 1kg of glucose in 12 hours for a “mild”



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immune response. 2kg of glucose per day need to be available. Metabolic processes require 70g of glucose to produce 1L of milk! When the gut becomes leaky and the microbiota need to be adapted, it costs feed efficiency. So, less milk is produced from 1kg of DM. Few farmers in Europe consider that their financial success is simply and solely determined by producing the most kg output (milk) per kg of input (DM). Healthy cows, healthy rumens with balanced microbial populations and a healthy, intact gut with balanced microbiota are the guarantees for high feed efficiency.

WITH HOKOVIT MICRONUTRIENTS ONE CANNOT COMPLETELY ELIMINATE STRESS, BUT IT CAN BE SIGNIFICANTLY REDUCED.

Unfortunately, stress cannot be completely eliminated; one cannot always feed the same way and one cannot (fortunately) influence the weather. As such, stabilizers and helpers are needed for high resiliency (to calm and stabilize a disturbed system as quickly as possible). HOKOVIT Micronutrients in DAIRY PRO fed in small and regular (!) quantities help the system achieve a higher stability and better resiliency. In the rumen and in the gut, they help stabilize the microbiota, and in the event of a stress they accelerate the reconstruction of the niches and support the weaker niches. HOKOVIT Micronutrients in HOKOVIT DAIRY PRO can also engage with gene expression. Thereby they promote apoptosis. Damaged gut cells are eliminated and used as nutrients. At the same time, the rate of cell division is increased and the reparation

process in the damaged gut is accelerated to achieve complete restoration of the gut. The regular use of HOKOVIT DAIRY PRO relieves the immune system, which now has more strength for the defence against intruders in the mammary system while simultaneously helping speed up the healing processes in the uterus after calving. Unfortunately, the immune system has a limited capacity. It reacts first where it is most important and that is always in the gut if it becomes leaky.

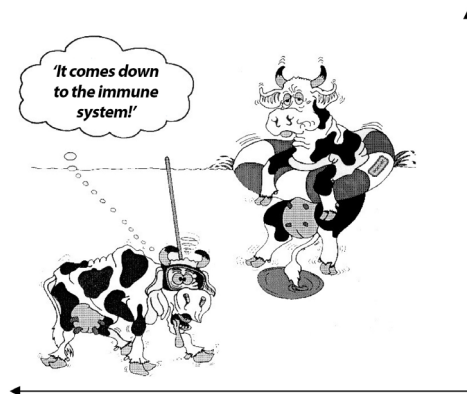
WHAT IS HOKOVIT DAIRY PRO?

HOKOVIT DAIRY PRO contains HOFMANN'S yeast metabolites (yeast metabolic products) that stimulate and stabilize both the immune system and digestion. They help establish and stabilize the biodiversity in the rumen and in the gut. At the same time the promote the growth and maintenance of rumen villi. The peptides, essential fatty acids and antioxidants in HOKOVIT DAIRY PRO increase the metabolic capacity and improve feed utilization (feed efficiency). At a stable level of dry matter intake, this leads to higher milk yield for the same amount of feed. One should not overlook that the fertility of cows is dependent on a balanced and quality nutrient supply and feed efficiency. As such, the regular use of the appropriate amount of HOKOVIT DAIRY PRO can improve fertility as well. The higher the stress, the higher the rate of inclusion needs to be. The trace minerals contained in HOKOVIT DAIRY PRO are chelated and thereby arrive more

quickly and efficiently there where they are required. The high quality clinoptilolite contained in the supplement can bind mycotoxins, which helps relieve the system when some spoiled feed ingredient makes its way into the ration.

THE ORCHESTRATION

The pioneer of natural micronutrients and manufacturer of HOKOVIT DAIRY PRO, Hofmann Nutrition AG, Switzerland has perfected this product for dairy cows over recent decades so well that individual active ingredients complement one another in an ideal way and work together. It is like a good orchestra: not one single instrument, but rather the harmonious cooperation of the entire orchestra makes the music wonderful. And it is just this way with HOKOVIT DAIRY PRO: the perfect symbiosis of all the contained active ingredients. In summary, the micronutrients in HOKOVIT DAIRY PRO help to control the primary profit killer in dairy farming: stress. The less stress, or the less consequences of stress that the immune system needs to fight, the more power it has for the protection against other “profit killers” in the production of milk. Udder infections, uterine diseases of every kind or the effects of too little immune strength, like acute outbreaks of digital dermatitis, can be avoided.



HOKOVIT DAIRY PRO IS THE “LIFE BUOY” FOR DAIRY COWS IN A “SEA OF STRESS.”

Modern herds with a lot of healthy cows, a low herd SCC and high fertility will generate high milk yields and make farmers profitable. This corresponds with the holistic view of HOKOVIT: healthy milk from healthy cows for healthy consumers in a healthy environment from (financially) healthy farmers. ●