RELATIONSHIPS BETWEEN MILK YIELD AND SUSCEPTIBILITY TO DISEASE IN DAIRY COWS

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Breeding for high milk yield is often blamed for increasing the susceptibility to disease and shortening productive life. However, the results of previous studies are contradictory. If, in fact, such a correlation really does exist it would have considerable consequences, according to German and European law, up to and including a ban of the practice of breeding to increase milk production.

The aim of these investigations was to examine the extent to which the level of milk yield and other factors (husbandry conditions, feeding, management) affect animal health, including immunocompetence, as well as the productive life. The investigations were carried out in 16 randomly selected German Holstein herds, 8 of them with high milk yield (10,421±1,111 kg/year, herd size 83–264 cows) and 8 herds with lower milk yield (8.298±701 kg/year, herd size 71–208 cows). In addition to clinical and laboratory diagnostic tests, the cows were vaccinated with a live vaccine against BVD (*Bovela®*, *Boehringer Ingelheim Vetmedica GmbH*, Ingelheim am Rhein, Germany) for the determination of immunocompetence.

Despite significantly different milk production, there were no differences in the prevalence of subclinical ketoses or other diseases between the two groups. The same applied to the cortisol concentration in feces and the formation of neutralizing BVD antibodies after vaccination. Age of leaving the herd averaged 64.2 months in the high-performance group (medium performance group: 66.0 months), the average culling rate in this group was 23.1 % (lower performance group: 28.0 %) and the average productive lifetime 35.8 months (lower performance group: 37.4 months). There was no significant correlation between the level of milk yield and the parameters mentioned above. The same was true for the cell content in milk. However, there were significant group differences in milk yield per day of life (high performance group: 15.7±2.5 kg, low performance group: 13.0±1.4 kg) and lifetime production (31.047±8.247 vs. 26.093±4.185 kg).

The relationships between high production, reduced fertility and susceptibility to diseases are much more complex than are considered in current discussions and must therefore be viewed in a more differentiated manner. The health of dairy herds is not primarily dependent upon the milk yield, but is rather related to management including feeding, housing conditions and disease prevention. If these underlying conditions are all right it is possible to achieve very high milk production without negative effects on animal health.

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