ADDA – Advancement of Dairying in Austria
Programme: COMET – Competence Centers for Excellent Technologies
Programme line: K-Projekt
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Bacteriological milk testing in the RDV

Within the K-project, ADDA, the foundations have been laid to process the results of bacteriological milk tests of cows with mastitis in the central online database „Rinderdatenverbund RDV“. By taking these results into account for the health breeding value, the udder health of Austrian dairy cattle is being improved and any losses due to udder diseases are being minimised. The analysis of the microbiological milk test results also allows the evaluation of antibiotic use connected to the treatment of mastitis.

**Bacteriological milk tests are important for the dairy farm**

Infections of the mammary gland are the most common disease in dairy cattle and mastitis causes great economical losses. The milk yield of affected cows decreases, the milk cannot be marketed and treatment costs reduce the farmer’s overall income. The necessity to prematurely remove chronically diseased cows from the herd increases the replacement costs of the dairy farm.

Mastitis is primarily caused by bacterial agents. The detection of these pathogens allows a targeted therapy and can, thus, increase the chances of treatment success. Based on microbiological results, it is also possible to make the decision to remove a cow with mastitis from the herd at an early stage, if there is no prospect of recovery.

The results of bacteriological milk tests are also of importance when looking for the cause of an increased occurrence of udder diseases in the herd.

The bacteriological examination of milk samples in Austria is performed by several private and public decentralised laboratories. Until now, the results were delivered directly to the sender of the milk samples (i.e. farmers and veterinarians) as hardcopy or electronically. A further national processing of the results did not occur.

In the central online database „Rinderdatenverbund“, which is operated by the „Zentrale Arbeitsgemeinschaft österreichischer Rinderzüchter“ and its member organisations, data on performance testing, information on diseases, and additional material that is relevant for the animal health are recorded. These data are used to calculate the breeding value. The information on diseases is used for the genetic analysis of resistance against diseases; the data on udder diseases, in particular, to calculate the breeding value for udder health.

**Potential to improve udder health**

To be able to improve the genetic analysis of resistance of domestic cows against mastitis, data from the microbiological analyses of milk must be available and be processable in standardized form.

Within the framework of the K-project ADDA – Advancement of Dairying in Austria - a standardized method for the bacteriological investigation of milk samples has been defined in collaboration with the milk laboratories...
working in Austria. At the same time, a standardized diagnostic code was defined.

An interface, which allows a simple automated uptake of the data provided by the milk laboratories, has been implemented to transmit these data to the central online database „Rinderdatenverbund RDV“.

This permitted the option of using microbiological diagnoses for the calculation of performance indicators for the occurrence of udder infections at both herd and population level. These microbiological diagnoses can be included in the genetic analysis of breeding for resistance to udder infections. As a result, the calculation of the breeding value for udder health can be rendered more precisely.

By processing the microbiological results in the central online database „Rinderdatenverbund RDV“ it is possible to better calculate the breeding values for udder health. The frequency of mastitis decreases when a breeding line is chosen that is resistant to udder infections. The long-term improvement of udder health by genetic selection increases the farmer’s overall income.

Udder infections are usually treated with antibiotics. Less mastitis means less antibiotic use. Simultaneously, the risk of the occurrence of microorganisms resistant to antibiotics, which are a potential threat to humans and animals, decreases. The national analysis of the results of microbiological milk tests in this context also permits an evaluation of which antibiotics are used for the therapy of udder diseases and at what level.

**Impact and effects**

By processing the microbiological results in the central online database, „Rinderdatenverbund RDV“ they can be used effectively by the farmer to make economic decisions and by the veterinarian for farm-specific consultations.

**contact und informationen**

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