

CDR FoodLab

The Importance of the Chemical Analysis of MUN

Milk Urea Nitrogen (MUN) is strongly influenced by the ratio between the digestible raw proteins and the energy of foodstuffs. Consequently, its content can constitute the basis for evaluating the suitability of a determined diet for dairy cattle for the purpose of obtaining a good quality product with high protein content.

Considering the low correlation that exists between the urea content in milk and the animal's characteristics, such as breed and age, it is possible to develop a monitoring system that uses MUN as an indicator of the efficiency of the feeding programs on dairy cattle farms^{1, 2, 3, 4}.

The test of MUN is thus of considerable importance for dairy farms, dairy industry research laboratories and regulatory bodies. Following a change in the requirements of consumers, who more and more prefer the protein component of milk with respect to the fat component, a price system has been developed that has reduced the economic weight of the fat component in favour of the proteic one.

The analysis of the protein content of milk is carried out by measuring the nitrogen present in the sample. However, high concentrations of urea in milk create an increase in this parameter, which can mistakenly be considered proteic nitrogen. The analysis of the MUN makes it possible to distinguish the urea content from the true protein content in the milk.

Therefore, an analyzer capable of carrying out the chemical analysis of milk urea nitrogen is of great interest to companies that deal with the transformation and packaging of milk and its by-products.

Many studies have shown that high concentrations of MUN have negative effects on cheese making processes. In particular, high concentrations of urea are the direct or indirect cause of numerous problems, such as an increase in coagulation time, the formation of a more fragile and less structured curd, premature development of irregular fermentations, and a more intense proteolysis. With the analysis of MUN it is possible to

avoid potential problems in the cheese making processes^{5, 6, 7, 8, 9}.

An analyzer like CDR FoodLab, capable of carrying out the urea test on milk, can produce a significant increase in profit in dairies.

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References

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