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## Managing the quality of milk by means of mastitis monitoring

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On the basis of our previous experiments a mathematical model was created which enables to trace the influence of ill cows on the total milk quality of produced milk (Tongel and Mihina, 2000).

The model is represented with mathematical equation, which can model a situation when more cows with mastitis in various stage of illness are in the various herd size. For the purpose of the faster and easier evaluation of effect of ill cows on BTSCC a normogram was created .

At present we use the model for managing of produced milk quality on the farm where the model was experimentally tested in practice.

A herd of 423 dairy cows was monitored on mastitis by means of the electrical conductivity (EC) measurement of the milk (Tongel *et al.*, 1994) in our experiment . For this purpose we used the REM test (Rapid electronic mastitis test) (Tongel and Mihina, 1995). After all cows had been monitored for three times, we split them into two groups. In the first group there were placed all cows that did not show any signs of mastitis (the differences of EC between quarters were in tolerance). In the second one were cows that had some problems in one or more quarters. There were 167 cows in the first group and 256 in the second one.

When cows from the first group were milked only, the BTSCC was under 45 000 in average. Milking first and second group together resulted in BTSCC 653 000.

Because the farm needed to deliver milk in Q class quality (SCC less than 300 000) to cancel previous bad quality results we decided to discard milk from all cows with mastitis in two and more quarters. These cows were 35. After the discarding the resulting BTSCC was 427 000.

Because it was not enough for our purpose, another 30 cows with mastitis in one quarter of the udder were separated (they were cows which have the highest difference of EC in ill quarter opposite the quarter with the nearest value of EC of the examined cow). The resultant BTSCC after the separation was 275 000.

From previous experiment (Tongel and Mihina, 1999) we knew that it is uneconomical and not needed to separate all milk from cows with one mastitis quarter. That was why we tried to separate milk from ill quarters only. The result of this was SCC 293 000.

At the end it is possible to say that the model have shown to be a very effective one for managing of produced milk quality, but it must be mentioned that for the purpose of separation of milk from ill cows (quarters) it is very suitable to make us sure that the quarters with high EC have really high SSC because only about 80% of cows with the highest difference of EC have the highest SCC, too (Tongel and Mihina, 1998).

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## References

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