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## **Managing of mastitis in the herd of dairy cows**

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Managing of mastitis in the herd of dairy cows consists of:

- Prevention
- Monitoring
- Treating.

Mastitis prevention is crucial. Mastitis monitoring is important for seeing of results of prevention measures. Treating is mainly for correcting of prevention failings.

The prevention of mastitis is going never to be perfect and that is why we will ever need to monitor the mastitis spreading in the herd. Current monitoring is done by SCC. But the method is expensive, laborious and unpractical for daily monitoring. The same is with CMT monitoring. We can say these two methods are suitable for mastitis indication only, not for daily monitoring of the whole herd of dairy cows. The electronics is the future for many industrial branches. The same we can see in milk production. Robots for milking of dairy cows are spreading throughout Europe. Electronics helps to automate many other processes in dairying. The monitoring of mastitis at milking robots is very important to know about cows with inflamed udders. Currently only one method for this is milk electrical conductivity measurement. But the on-line measurement is less sensitive than off-line because of some technical problems like milk turbulence, air bubbles in milk and dirtying of the electrodes. The monitoring of clinical mastitis is discussable too, because of slow reaction at establishing of infection (delay 48 hours). Mastitis monitoring by means of milk electrical conductivity measurement is good enough for subclinical mastitis monitoring only. For this purpose we have developed REM test (Rapid electronic mastitis test) in our Institute. The REM test is electronic equipment for mastitis monitoring in the herd during whole lactation period. It is a hand-held apparatus for daily use. Milker takes samples of milk from each quarter of the udder before milkings and puts them into the apparatus to subsistent chambers for analysis. The data are evaluated immediately for the purpose of milker's alerting and stored in the apparatus memory for further use. After each series of measurement (60 or 250 cows) the apparatus must be carried to the PC where data are

transmitted through communication channel to computer memory. The stored data are processed for further decision process of mastitis management. The data could be used for separation of ill cows from the herd, for treating in time of lactation period, or for separate treating during dry cow period. Sensitivity and specificity of the method is highly dependent on criteria we use for mastitis indication. For treating mastitis during lactation we use lower sensitivity and higher specificity. In the case of treating in time of dry period are used opposite criteria (high specificity and low sensitivity). It means that in the herd with low mastitis incidence (SCC 150 000) it is needed to treat less than 30% of cows during dry period only. In crisis management when mastitis has very high incidence (SCC>400 000) separation of ill cows is a must. Than we treat the most serious cases of mastitis in the group but the further analysis for treating are needed. We recommend monitoring of individual cow in common herds at least once a week. Daily monitoring we recommend at first lactating cows in the herd with high incidence of mastitis.



*Figure 1. Measurement with REM test.*