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Alternated milk recording – Recalculation, results and conclusion for future test planning

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Alternating test methods have been offered as an alternative to the standard method for more than 20 years in germany. The periodic review of correction factors for milk yield is unproblematic through the use of electronic devices in the standard method and storage of both milk volumes per day. It is more difficult to check the correction factors for the ingredients fat and protein. The separate sampling of single milk volumes means considerable extra effort. However, a review of the correction factors was needed, as not only the milk yield but also the ingredients have changed significantly in recent years. In addition to the breeding development, it was foreseeable that the changed dairy herd structure also had an influence on the results. At the time of data collection, which resulted in the currently applied correction factors, the mean herd size of the test farms was less than 50 cows. Today, the average herd size in member organizations is 138 cows (75 - 402). This development has also affected the milking interval. In the original correction method according to Liu et al. it was assumed that 4 classes (from <13 hours to >14 hours) are sufficient for the interval from the evening to the morning milking. This was certainly due to the experimental material. As so often, it depends on the selection of the farmers for practical experiments. Only dedicated farmers, but then have normal milking times participate voluntarily in experiments. Due to electronic devices, the milking times are recorded even during the standard method, and so a completely different picture emerges. Milking times are much farther apart and the average milking interval between evening and morning milking is no longer 13.5 hours today but rather has shifted towards 12 hours. Another problem related to the milking interval is the fact that in practice one always relies on the indication of the previous milking time and has no possibility of verification. For the correct derivation of new factors one gains security in which one takes samples not on one day but on two consecutive days and thus for 3 milkings the exact milking interval are available. These developments and considerations are to be considered in the experimental design. Accordingly, for the determination of new factors, a distribution of the milking interval was first determined. Thereafter, the farms were divided into herd size classes. Out of these farmers were invited to participate in the experiment. After the data was available, it was split randomly. Two-thirds of the data was used to estimate new factors. The remaining material was used to validate the new factors. After introducing the new factors, the critical voices have become quieter. The systematic underestimation and overestimation still require the change of milking time. The calculation of correct lactations exclusively from morning or evening milk is not possible. Farmers need to be clearly told that an alternating test procedure is an estimation method that can never achieve the accuracy of the standard method.