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Application of MARS method in classification of inseminations of dairy cattle

S u m m a r y

In this study, classification of inseminations in cows using classification functions (CF) and MARS method is presented. The inseminations were divided into two categories: normal, resulting in conception after one or two services („GOOD”) and problematic, requiring more than two services for conception („POOR”). The quality of the prepared classifiers was good, both for sensitivity and specificity, and exceeded 80%. In prediction of the insemination class, the MARS method appeared to be more precise in predicting problematic inseminations (sensitivity) compared to predictions of CF and more conservative in predicting normal inseminations (specificity), which is significant from a breeding point of view. Among the variables determining insemination class, calving-to-conception interval and calving interval were the most significant for both classifiers. The condition at insemination and average condition of cows, protein content and fat yield in milk were repeated among the remaining variables. The obtained prognoses may be used to prepare cows appropriately for insemination.