# RELATIONSHIPS BETWEEN REPRODUCTION PARAMETERS IN DAIRY COWS

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The main goal of the reproductive management of dairy farms is to keep low the days in milk (DIM). Milk production can be profitable only in that case. Calvings make only low DIM. From the economic point of view, to evaluate the amount of the calving is not easy because in many cases the insemination and the calving are not in the same year. We wanted to find a reproduction parameter, which is easy to record, available real time, and corrrelate well with other parameters. Our hypothesis is that the number of the pregnant cows (correlated to the average number of cows) correlate with the other reproduction parameters thus may be this parameter represents the reproductive performance of the farms accurately. Moreover, the pregnancies assumably have an economical benefit, because pregnancies will become calvings which will keep the DIM low.

We collected reproduction data from 21 farms from 2016. All these farms use RISKA farm system. Average numbers of cows, number of the ai (artificial insemination) in cows, number of cows pregnancies, open days (OD), service period (SP), time of first ai (TFAI), conception rate of first ai (CRFAI), conception rate of all ai (CRSAI) were collected. The number of the pregnant cows were grouped, pregancies under 120 days after calving -U120- and pregnancies above 200 -A200- days after calving. Correlation between reproduction parameters were evaluated by SPSS statistical software package.

The economical effect of open days (origin of calving interval -CI) are well-known. OD correlated with the rate of the pregnancies under 120 days after calving ($r = -0.802$; $P \leq 0.001$). The open days correlated with the rate of the pregnancis above 200 days after calving ($r = 0.889$; $P \leq 0.001$). If the rate of U120 is high, the rate of preganant cows (ROPC) will be high too ($r = 0.611$; $P = 0.003$). A200 is in negative relation with ROPC ($r = -0.525$; $P = 0.015$). OD

correlated with TFAI ($r = 0.562$; $P = 0.008$). ROPC correlated with TFAI ($r = -0.457$; $P = 0.037$). OD correlated with SP ($r = 0.778$; $P \leq 0.001$). SP is in negative correlation with CRFAI and CRSAI ($r = -0.577$, $P = 0.006$; $r = -0.773$, $P \leq 0.001$). SP correlated with U120 and A200 ($r = -0.572$, $P = 0.007$; $r = 0.788$ $P \leq 0.001$).

Our study shows that the rate of the pregnant cows are stasistically correlated with many important reproduction parameters. The measurement of the number of pregnant cows is easy, available real time and it has important economical effect on milk production. In summary, the number of pregnant cows is a useful parameter to evaluate the reproductive performance and current status of the farms.