

The Effect of Cow Reproductive Traits on Lifetime Productivity and Longevity

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Abstract : The age of first calving (AFC) is one of the most important factors that have a significant impact on cow productivity in different lactations and its whole life. A belated AFC leads to reduced reproductive performance and it is one of the main reasons for reduced longevity. Cows that calved in time period from 2001-2007 and in this time finished at least four lactations were included in the database. Data were obtained from 68841 crossbred Holstein Black and White (HM), crossbred Latvian Brown (LB), and Latvian Brown genetic resources (LBGR) cows. Cows were distributed in four groups depending on age at first calving. The longest lifespan was conducted for LBGR cows, but they were also characterized with lowest lifetime milk yield and life day milk yield. HM breed cows had the shortest lifespan, but in the lifespan of 2862.2 days was obtained in average 37916.4 kg milk accordingly 13.2 kg milk in one life day. HM breed cows were also characterized with longer calving intervals (CI) in first four lactations, but LBGR cows had the shortest CI in the study group. Age at first calving significantly affected the length of CI in different lactations ($p < 0.05$). HM cows that first time calved > 30 months old in the fourth lactation had the longest CI in all study groups (421.4 days). The LBGR cows were characterized with the shortest CI, but there was slight increase in second and third lactation. Age at first calving had a significant impact on cows' age in each calving time. In the analysis, cow group was conducted that cows with age at first calving < 24 months or in average 580.5 days at the time of fifth calving were 2156.7 days (5.9 years) old, but cows with age at first calving > 30 months (932.6 days) at the time of fifth calving were 2560.9 days (7.3 years) old.

Keywords : age at first calving, calving interval, longevity, milk yield

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