Effect of year, season and age of calving on somatic cell score in Polish Holstein-Friesian cows of Black-and-White variety

Summary
Data were collected for 871,921 cows with 5,950,403; 4,115,429 and 2,502,921 test day (TD) SCC in the first, second and third lactations, respectively. Cows calved between 1997 and 2006. Four classes of calving age and four seasons of calving were defined within each parity. The TD SCC were log-transformed to somatic cell scores (SCS). The GLM procedure was used to fit the linear model, which included the fixed effects of calving year, calving season, age at calving, and linear regressions on different functions of days in milk (DIM), separately for each of three parities. The objective of this study was to determine the effects of year, season and age of calving on somatic cell score (SCS) in PHF cows of Black-and-White variety. Average SCS was 3.48, 3.92 and 4.20 in the first, second and third lactations, respectively. Somatic cell score showed seasonal variation within each of the first three lactations, with the highest values of SCS between April and June and the lowest from October to December. Significant differences between calving years were also found, and SCS increased with age of calving. It was concluded that cows calving during the last season of the year (October-December) were at a lower risk of having elevated SCC.