

Effect of herd size and daily milk yield on somatic cell score
in Polish Holstein-Friesian cows Black-and-White variety

S u m m a r y

The aim of this study was to examine the influence of herd size and herd production level on SCC in Polish Holstein-Friesian cows Black-and-White variety. Data consisted of 12 568 753 test day records from the first three lactations of 871 921 cows calving between 1997 and 2006. Multifactorial analysis of variance was calculated for SCS. Among the factors included in the model, there were: parity, class of herd size, class of herd production level, and nonlinear regression on days in milk. Interaction between herd size and herd production level was also included. There were four classes of herd size (up to 10, 11-50, 51-99, 100 or more cows) and four classes of herd production level (up to 15 kg, 15-20 kg, 20-25 kg, over 25 kg milk). The GLM procedure was used for analysis (SAS 9.1). SCS increased with parity from 3.48 (in first) to 4.20 (in third) on average. All factors included in the model had a highly significant influence on SCS (P 0.01). The interaction between herd size and herd production level was also significant (P 0.01). Examination of least square means for SCS revealed that the higher the milk production level of herds, the lower the SCS in milk. SCS was highest in the largest herds (100 and more cows).