

Preliminary results for the length of productive life of Holstein cows in Croatia

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The length of productive life (LPL) is a trait of considerable importance in dairy husbandry which could be seen as a composite of production, health, and reproduction within specific environmental and farming conditions. Herd structure differs among regions, with small and medium sized herds in the central and large herds in the eastern part of Croatia, having consequently different management. The objective of this study was to investigate the effect of herd size on the LPL of the registered Holstein cows in Croatia. Data included 200,634 records for 87,620 cows calved from 2002 to 2017. Analyses were performed using Proc Lifetest in SAS statistical package. Data were divided in 6 strata by herd size (1 = 1-5 cows, 2 = 6-10, 3 = 11-30, 4 = 31-100, 5 = 101-500, and 6 = >500 cows). This division was justified by the average milk production per group, where lowest average production had group 1 (LS mean 5,632.37) and the production increased linearly to group 6 (LS mean 8,290.18). The following null hypothesis was tested in Proc Lifetest: there are no differences in the overall mean LPL of cows reared in the herds of different size. Differences between curves for LPL were tested using Kaplan-Meier estimator and the log-rank test. Significance was set at $P < 0.05$. Herd size influenced LPL and average survival was from 42.35 months (group 6) to 50.88 months of age (group 1). These preliminary results demonstrate the effect of farming conditions on LPL.