SURVIVAL ANALYSIS TO EVALUATE THE LIFETIME PRODUCTION IN HOLSTEIN COWS FROM PARANÁ STATE

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The lifetime production is the key factor of milk production economic efficiency mainly of high-yielding cows and can be defined as the ability for a cow to delay involuntary culling or to survive until third calving. Holstein cows may to present a lifespan between 2.5 to 3 years, because in this period the cow produces the maximum milk yield and, consequently, it can return the investment to farmer. The aim of this study was to evaluate the influence of milk yield on 305 days (MY305) and lactation length (LL) in the first lactation on the lifetime production by survival analysis in Holstein cows localized on Arapoti, Paraná. Data from 18.420 calved cows between 2010 and 2017 with lactation records until third calving belonging to "Associação Paranaense de Criadores de Bovinos da Raça Holandesa" (APCBRH) were used in the analysis. The survival analysis was realized by the proceeding LIFETEST (SAS\STAT 9.4), which used the Kaplan-Meier estimator to identify the probability of cows reached the third lactation. The results showed that cows with high milk yield on 305 days (more than 9.069,80 kg) had more risk of premature culling (75%). Cows with LL greater than 305 days the risk of premature culling increases quickly. When the LL was greater than 427 days the risk of failure reached 75%. High-yielding cows with greater lactation length in the first calve had more risk to be culling before the third calving, this result could be associated to the reproductive fails.

Keywords: Stayability, Premature Culling, Dairy Cows