Genetic and phenotypic parameters of plane racing performance in Purebred Arabian horses in Poland

Summary

The aim of this study was to estimate genetic and phenotypic parameters of Polish Purebred Arabian horses based on their racing results from 2000-2006. The data include 14,086 performances of 1,560 horses descended from 241 sires and 739 dams. To analyse the performance we applied two criteria: log of earnings per race and ranking value in a race. Genetic and phenotypic parameters were estimated by DFREML [7]. Decreasing number of Purebred Arabian horses participating in races was observed during analyzed years. Heritability for log of earnings per start was 0.20 (±0.03) and for rank was 0.35 (±0.04). Repeatability equaled to 0.29 (±0.04) and 0.5 (±0.05), respectively. The genetic correlation of the two criteria was 0.99 (±0.01) and the phenotypic correlation was 0.38 (±0.02). The genetic trends for both traits were positive: 0.033 and 0.031, respectively. Ranking value seems to be the appropriate criterion to be taken into account in genetic improvement of racing ability of Polish Purebred Arabian horses.