

Association between temperament and reproductive performance of Girolando bulls

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The aim of this study was to assess the association between temperament and reproductive performance of Girolando bulls. The temperament of one hundred and three bulls (participants of the pre-progeny test conducted by the Brazilian Girolando Breeders Association and Embrapa) were assessed during weighing procedures. Two temperament traits were measured: 1) the temperament index (TINDEX), composed by the sum of the measurements obtained with the application of five tests, the entrance time (measuring the time that each bull spent walking through the crush until entry into the squeeze chute, in seconds), movement test, scoring (from 1 to 5) the cattle movements when they were kept inside the squeeze chute, crush test, scoring (from 1 to 5) the cattle tension when they were kept inside the squeeze chute; and the flight speed test (FS, in m/s), measuring the speed of the animals just after exiting the squeeze chute. The reproductive performances of the bulls were assessed by measuring their scrotal perimeters (SP) and assessing the semen quality, considering the measurements of sperm mobility (percentage of motile sperms, MO), total defects (percentage of sperm defects, TD), and scoring sperm vigor (from 1 to 5, VG) and gross motility (from 1 to 5, GM). The andrologic evaluation by points (PAC) was also used. A Principal Components Analysis was performed to identify the relations among the variables assessed. The first three components, together, explained 69.05% of the variation in the data set. The component principal 1 explained 32.40% of variation, with higher positive loadings for MO (0.48), VG (0.44) and GM (0.41) and negative for TD (-0.44), reflexing a relationship between the reproductive variables. The component principal 2 reflected an association between temperament and reproduction, with higher positive loadings for FS (0.36) and TINDEX (0.31) and negative loadings for SP (-0.52), body weight (-0.42) and PAC (-0.33). The component principal 3 had higher positive loadings for TINDEX (0.63), FS (0.58) and PAC (0.37). These results indicate an association between the temperament traits and potential reproductive performance of Girolando bulls. Further studies are required to increase knowledge about the mechanisms at which the bulls' temperament can affect their reproduction.

Key Words: Andrologic evaluation by points, flight speed, semen quality.