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Dynamics Of Several Morphological Traits In Shagya Arabian Broodmares

Claudia Pânzaru, Marius Gheorghe Doliș, Răzvan Mihail Radu-Rusu, Mădălina Alexandra Davidescu

Faculty of Food and Animal Sciences, Iasi University of Life Sciences, Romania

Abstract: *The study aimed to present the dynamics of the height at withers, heart girth, and cannon girth of Shagya Arabian broodmares included in the Rădăuți stud's broodstock between 1989 and 2018. The purpose was to observe the population's evolution over time, considering that the breeding objectives included increasing the average values of these measurements, which were followed in ranking activities. The average height values ranged between 154.3 ± 0.261 cm and 154.80 ± 0.258 cm. The minimum average value of the cannon girth had limits between 176.2 ± 0.885 cm and 177.1 ± 0.777 cm. The average values of the cannon girth ranged between 18.7 ± 0.19 cm and 18.9 ± 0.70 cm. Comparing the results with the breeding objectives (height at withers of 156 cm, heart girth of 176 cm, and cannon girth of 19.5 cm), it was observed that only the heart girth had the targeted value. This highlights the importance of continuing the breeding process to achieve all the desired objectives.*

• Introduction

The horses' physical characteristics are assessed using measurements such as height at withers, thoracic circumference, and cannon girth. A National Commission evaluates these dimensions during ranking activities to determine which individuals are suitable for breeding, aligning with established breeding objectives.

• Material and method

The studied material consisted in the broodstock registered between 1989-2018, regarding the analyzed dimensions. To ensure the accuracy of the results, the horses undergo a detailed examination, involving the observation of each body region and a comprehensive synthesis examination. Data obtained from the stud's registers were analyzed by calculating descriptive statistics for the entire stock within each year of the period. This study was conducted using GraphPad Prism 9.4.1 software.

• Results and discussions

Regarding the average height at withers of the Shagya Arabian broodmares in the breeding stock, calculated for each year of the period, it was observed that the values ranged between 154.30 ± 0.261 cm and 154.80 ± 0.258 cm.

The average values of heart girth ranged between 176.2 ± 0.885 cm and 177.1 ± 0.787 cm.

The minimum average value for cannon girth was 18.7 ± 0.19 cm and the maximum was 18.9 ± 0.70 cm.

• Conclusions

- the average values of height indicated that the breeding objective of increasing the height to 156 cm was not achieved.
- the average values of heart girth indicated that the desired breeding objectives were reached (176 cm).
- the average values of cannon girth showed that the breeding objective of achieving 19.5 cm was not met during the breeding process.