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Monitoring and registration of the Caspian horse populations

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Abstract

Iran is a rich source of genetic diversity in livestock species. Indigenous breeds are among the genetic resources of the country because of their unique characteristics, and their understanding of their genetic structure will help to preserve and preserve them as well as formulate breeding programs. The monitoring, identification and registration of indigenous populations is an indispensable necessity in each country. The registration and monitoring of the Caspian horse population were studied with the aim of preserving the genetic resources and restoring native breeds in the country. A total of 100 Caspian horses from both sexes were evaluated in 7 age-appropriate physically fit groups. 40 parameters were measured in these horses. To do this research, the centres and locations of Caspian breed of horse rearing in the Guilan province were identified and after referring to these units and identifying the latitude and longitude of each centre, the questionnaire designed for biometrical traits completed for each horse. The data were analyzed using the SAS statistical program. Blood samples were collected from 100 horses and sent to the Animal Science Research Institute for DNA extraction and storage at the gene bank. The results showed that the total least squares mean of the two-eye distance, jaw width, head length, muzzle environment, distance between left eye to mouth, left eye to jaw and length of left ear were 14.66, 9.50, 40.57, 46.97, 23.37, 16.77, and 11.58 cm. The total least squares mean for horizontal length of neck, diagonal length of neck, upper circumference of neck, and lower circumference of neck were 64.43, 85.74, 58.89 and 85.13, respectively. Also, the total least squares mean of traits withers height, croup height, dock-tail height, tail length, straight length of back and loin, curvature length of back and loin, diagonal croup length, chest width, thoracic circumference and waist circumference were 114.81, 116.08, 107.73, 34.01, 61.50, 64.08, 26.77, 22.70, 132.43 and 146.05 cm. For the anterior motional limb, the total least squares mean were 33.09, 22.34, 14.68, 9.20, 14.60, 25.76 and 6.24 cm, respectively, for the length of the left arm, the length of the forearm, circumference of left forearm, length of left hand pastern, circumference of left hand pastern, circumference of left hand hoof and left hand hoof length. The total least squares mean for the traits of the posterior motional limb were 43.24, 32.64, 15.91, 8.37, 15.70, 25.76 and 6.36 cm, respectively for the left gaskin length, length of the left cannon bone, Left cannon bone circumference, left leg pastern length, circumference of left leg pastern, circumference of left leg hoof and left leg hoof length. The results of the basic parameters were compared in different age groups and sexes. Accordingly, the differences were significant in different age groups at two-eye distance, jaw width, horizontal and diagonal length of neck, upper circumference of neck, dock-tail height, straight and curvature length of back and loin, thoracic circumference, , circumference of forearm,

pastern and hoof of left hand and foot and left arm and leg hoof length. There were also significant differences in head length, upper circumference of neck, diagonal croup length, chest width, thoracic circumference, circumference of left hand pastern and length of the left cannon bone in both sexes. According to the results of biometrical traits of Caspian horse breed in this research, these data can be used as an indicator for identification of the Caspian breed of horses in both males and females and different ages.

Key words: Biometrical traits, Monitoring, Registration, Caspian, Horse