

Comparison of Phynotypic Traits of Three Arabian Horse Strains

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Abstract : Due to its history, occurrence in different ecosystems and diverse using, the modern horse (*Equus caballus*) shows large variability in size, appearance, behavior and habits. At all times, breeders try to create groups (breeds, strains) representing high homology but showing clear differences in comparison to other groups. A great interest of analyzing phenotypic and genetic traits looking for real diversity and genetic uniqueness existents for Arabian horses in Syria. 90 Arabian horses from governmental research center of Arabian horses in Damascus were included. The horses represent three strains (Kahlawi, Saklawi, Hamdani) originated from different geographical zones. They were raised on the same farm, under stable conditions. Twelve phenotypic traits were measured: wither height (WH), croup width (CW), croup height (CH), neck girth (NG), thorax girth (TG), chest girth (ChG), chest depth (ChD), chest width (ChW), back line length (BLL), body length (BL), fore cannon length (FCL) and hind cannon length (HCL). The horses were divided into groups according to age (less than 2 years, 2-4 years, 4-9 years, over 9 years) and to sex (male, female). The statistical analyzes show that age has significant influence of WH while the strain has only a very limited effect. On CW, NG, BLL, FCL and HCL, there is only a significant influence of sex. Age has significant effect on CH and BL. All sources of classes have a significant effect on TG, ChG, ChD and ChW. Strain has a significant effect on the BL. These results provide first information for real biodiversity in and between the strains and can be used to develop the breeding work in the Arabian horse breed.

Keywords : Arabian horse, phenotypic traits, strains, Syria

Conference Title : ICAFAS 2015 : International Conference on Agricultural, Food and Animal Sciences

Conference Location : Zurich, Switzerland

Conference Dates : July 29-30, 2015