A191

PLANT VIGOR VARIABILITY IN TWO SPONTANEOUS POPULATIONS OF *Stapfochloa berroi* (ARECHAV.) P.M. PETERSON FROM LA PAMPA DEPRIMIDA

Porto N, Andrade NA, Entio LJ, Lissarrague MI, Bezus R
Cátedra Mejoramiento Genético, Facultad de Ciencias Agrarias y Forestales - UNLP, La Plata, Argentina. E-mail: lisandro@agro.unlp.edu.ar

Stapfochloa berroi is a perennial grass of spring-summer growth that in Argentina is native and is found in grasslands important for animal production in several provinces. In the halophyte steppes of the Pampa Deprimida, *S. berroi* is an important resource due to its good forage value and its adaptation to these restrictive environments (sodium soils, low organic matter content, waterlogging, drought) for other forage species. Reincorporation of selected native germplasm would be important both to increase livestock productivity and to maintain biodiversity. Thus, it is key to study characters related to implantation control such as plant vigor. The objective was to analyze variability in plant vigor and associated characteristics and their correlations in two spontaneous populations of Sb from steppes of halophytes of the Depressed Pampa growing in substrate without limitations. Caryopsis with their covers (lemma and palea) of two spontaneous populations of *S. berroi* (P1, P2) were collected in Magdalena and Punta Indio municipalities (Buenos Aires prov.), respectively. Then, the caryopsis were individually weight (PC) and sown (10 October 2019) in plastic trays (with cells of 180 cm^3) filled with typical Argiudol soil as substrate in a greenhouse. Fifty-two days after sowing 80 plants of each population were retired and washed softly in a stream of tap water on a sieve. It was determined: aerial length (LA), radical length (LR), total length (LT), longest adventitious root length (Ladv), number of adventitious roots longer than 3 cm (n° adv), number of green leaves totally unfold (n° hoj) and tiller number (n° mac). Then, each plant was dissected at the root neck height, were put in a stove at 60°C and aerial (PSA) and radical dry weight (PSR) were determined, and the total dry weight (PST) was calculated. PSA/PSR and LA/LR ratios were calculated. Variability within populations was analyzed by means the following parameters: average, standard deviation, range, and coefficient of variation (%). Variability between populations was analyzed by means the t test. Besides, phenotypic correlations (Pearson's coefficient) between PST and the other studied characteristics were analyzed. Significant differences ($P \leq 0.05$) were observed between populations for all the evaluated characteristics, except for Ladv and PSA/PSR. In both populations there were significant ($P \leq 0.05$) and positive correlations between PST and LA, LT, LA/LR, n° adv, n° mac, and n° hoj. The variability found within and between *S. berroi* populations for the studied traits would be promising for genetic improvement of implantation. Furthermore, the associations found between characteristics linked to plant vigor would be useful for its possible application in indirect selection.