AGRONOMIC PERFORMANCE AND GENETIC VARIABILITY OF Panicum maximum ACCESIONS IN THE CERRADO
OF FEDERAL DISTRICT, BRAZIL

F.D. Fernandes¹, G.B. Martha Jr², F.G. Faleiro³, A.K.B. Ramos¹, R.P. Andrade¹, C.T. Karia³, L. Vilela¹ and L. Jank³

¹Embrapa Cerrados, C.P. 08223, 73301-970, Planaltina-DF; Brazil
²Embrapa Gado de Corte, C.P. 154/155, 79002-970, Campo Grande-MS; Brazil
* e-mail: duarte@cpac.embrapa.br

Objective

Evaluate the agronomic performance and the genetic variability of P. maximum accessions in the Brazilian Cerrado.

Results

The overall LDMY and SDMY means were 11266 kg/ha (LSD = 3683 kg/ha) and 3763 kg/ha (LSD = 2081 kg/ha), respectively (Table 1). The accessions PM31, PM33 and PM34 were the most promising in the first evaluation year, because of highest leaf production (mean ± 1 standard deviation) and lowest stem production (mean ± 1 standard deviation) (Figure 3). CP, IVOMD and NDF contents for accessions and cultivars varied similarly throughout the cuts. CP and IVOMD decreased (P< 0.05) in the fourth cut while NDF remained fairly constant during the experiment. The genetic distances between the 24 accessions ranged from 0.054 to 0.415 (Table 2). The lowest genetic distances occurred between accessions PM39 and PM40 (0.054), PM31 and Massai (0.110), and PM42 and Tanzânia (0.132). Cultivars Mombaça, Milênio, Vencedor and Aruana are genetically distinct and are not related to the remaining collection. The dendrogram and dispersion analysis evidence the genetic variability of the 24 accessions of Panicum maximum (Figure 4).

Conclusions

There were no differences in LDMY and SDMY between the means of cultivars and accessions, however, there were differences among the accessions, thus permitting the identification of promising accessions on the basis of forage production components. Molecular characterisation was an efficient tool to show the variability among the accessions and cultivars.