



Section B

201/B

Performance of Horse gram (*Macrotyloma uniflorum* (Lam.) Verdc.) accessions under southern dry zone conditions

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Horse gram (*Macrotyloma uniflorum* (Lam.) Verdc.) is an underutilized grain legume with a diversity of uses and is well adapted to marginal soil conditions. It was an important crop component of traditional farming systems, but rapidly disappeared with modern agricultural practices. With the objective of identification of better performing accessions to produce high yielding horse gram varieties suitable for dry zone conditions, 18 locally collected germplasm accessions from the Plant Genetic Resource Center were evaluated at the Grain Legumes and Oil Crops Research and Development Center, Angunakolapellassa. Since the landraces were heterogeneous in nature, three subsequent generation selections were carried out to obtain phenotypic uniformity. The selected uniform and better performing eight lines were tested with Randomized Complete Block design during 2010 *Yala* and 2010/11 *Maha* seasons. Although there was no significant difference at $p \leq 0.05$ level in yield performance among the tested accessions, Ac 7055, Ac 1367, and Ac 2943 performed better with higher seed yields of 635, 406 and 398 kilograms per hectare respectively. Significant differences at $p \leq 0.05$ level were observed for dry matter percentage of root and shoot during the *Yala* season and shoot dry matter percentage in the *Maha* season. Ac 1367 and Ac 0754 did not exhibit any virus disease symptoms throughout the evaluation period. *Maha* was the major pod bearing season with a considerable yield under dry zone conditions. All the tested lines were indeterminate in growth habit and produced a considerable amount of biomass during both *Yala* and *Maha* seasons, an important characteristic as a source of fodder and a green manure. Among the tested accessions, Ac 1367 and Ac 0754 can be used as germplasm resources for future varietal improvement of horse gram since these were free of virus disease symptoms throughout the evaluation period and performed with better seed yields.