EVALUATION OF YIELD AND YIELD RELATED CHARACTERISTICS OF SELECTED FINGER MILLET (*Eluecena coracana l.*) ACCESSIONS.

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Abstract

Field Crops Research and Development Institute Mahailluppallama has already officially released two finger millet varieties, Oshada and Rawana. These varieties are not performing well in both *Yala* and *Maha* seasons. An experiment was conducted to identify finger millet accessions that performed well under the Maha season's environmental conditions. The trial was designed in randomized complete block design with three replicates and established in Field Crops Research & Development Institute, Mahailluppalama. Thirty selected finger millet accessions were tested along with two check varieties as Oshadha and Rawana. Yield and yield-related characteristics were evaluated and especially the harvest index was tested in the experiment.

Statical analysis was done using analysis of variance (ANOVA) using SAS 9.2 2001 statistical package. The mean separation was done with Duncan's Multiple Range Test (DMRT). Pearson's correlation analysis was performed for yield and yield-related traits to estimate the phenotypic coefficient of correlations.

The analysis of variance showed that there were significant ($P<0.05$) differences among accessions for all agronomic characters measured. The ACC 12269 recorded maximum plant height, number of leaves per plant, ear dry weight per plant, grain yield per plant and number of seeds per plant, than Oshadha. The ACC 7112, ACC 12269 were recorded significant differences compared with Oshadha. Maximum total biomass was recorded in ACC 405, but there was no significant differences found between ACC 405 (19.81) and ACC 12269 (19.72). Compared with Oshadha, ACC 405 and ACC 12269 were recorded highest significant difference in total biomass. And

also, compared with Oshadha as a control check, ACC 405 (807g), ACC 6586 (758g), and ACC 12269 (749.3g) recorded significant difference in total yield.

Furthermore, ACC 405 recorded maximum plant dry weight, ear dry weight per total plant, total yield, total biomass and harvesting index.

And also, there was a significant strong and positive relationship observed between the number of ears and Plant height. Ear dry weight strongly and positively correlated with total biomass, number of seeds, and seed weight. Meanwhile, plant dry weight recorded a high positive correlation with the harvesting index. Total biomass strongly and positively correlated with seed weight, plant dry weight, and ear dry weight.

Therefore, based on quantitatively measured agronomic characteristics, Accessions ACC 12269 and ACC 405 are recommended with their full packages.

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