Yield Trial of 12 Sweet Corn (Zea mays L. var. saccharata) Promising Hybrids at Maros, South Sulawesi

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ABSTRACT

The objective of this research was to evaluate yield potential of 12 sweet corn promising hybrids from Plant Breeding Program (Bogor Agricultural University) and Indonesian Cereals Research Institute selection. The hypothesis was there are differences between the promising hybrids and commercial varieties about the yield, quality, and vigorness. This research was conducted at experimental field Indonesian Cereals Research Institute, in Maros, South Sulawesi, from June to August 2011. The genotypes used were: IM-12, IM-13, IM-14, IM-15, IM-16, IM-23, IM-24, IM-25, IM-34, IM-35, IM-45, IM-55, and three commerical varieties Super Sweet Corn, Sweet Boy, and Talenta. The design of this research was Randomized Complete Block Design with four replications. Data was alayzed with F-test then continued with Dunnett test (α=5%). Furthermore, selection index was used for choosing the best genotype. Interaction between two factors, genotype and year, was analyzed with Bartlett-test then continued with F-test using primary data from this year research and last year research (was done from April to June 2010). Broad heritability was estimated from this two-factors analysis. The result from this research was the main character in sweet corn, the productivity, was not affected by genotype, but there was interaction between genotype and year. The other main character, total soluble solid, was affected by genotype, but there was no interaction between genotype and year. From selection index was gotten that IM-16 promising hybrid has the highest value and can be developed into newest commercial variety. The variable character that has highest board heritability estimation was total soluble solid.

Key words: yield trial, sweet corn hybrid, selection index, board heritability