Keragaman Genetik Inbrida Jagung QPM dan Normal Berbasis Marka Mikrosatelit dan Hubungannya dengan Penampilan Hibrida

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Abstrak

Information on genetic divergence of inbred lines and performance of the hybrids developed from the lines is a great value in maize hybrid program. A study was conducted to evaluate genetic diversity of six QPM and five normal maize inbred lines, to determine the relationship between genetic distance based on SSR markers and the grain yield of single cross hybrid, and to get information promising hybrid from the single cross of QPM hybrid. Twenty four polymorphic primers that covered the 10 maize chromosomes were used to fingerprint the lines, detecting in 94 alleles (average of 3.9 and a range of 2-6 alleles per locus). Genetic divergences were determined using the Jaccard’s similarity coefficient, and a dendrogram was constructed using the UPGMA. Cluster analysis divided the inbreds into two clusters that were confirmed by principal coordinate analysis. Two promising QPM hybrids that are crossed from different heterotic group were found. The estimated value of simple correlations (r) of GDs with the gain yield of single cross hybrid was negatif (-0.07). There is a need to conduct more field trials to obtain more accurate correlations, particularly in a practical utility for predicting maize hybrid performance for grain yield.