

INTISARI

Penelitian ini bertujuan untuk menentukan metode seleksi yang sesuai untuk populasi jagung manis ungu koleksi Fakultas Pertanian Universitas Gadjah Mada UGM) generasi seleksi ketiga melalui perbandingan kemajuan genetik harapan antara seleksi individu dan seleksi famili. Penelitian dilaksanakan menggunakan 30 nomor aksesori yang berasal dari populasi jagung manis ungu generasi seleksi ketiga koleksi Fakultas Pertanian UGM. Evaluasi dilakukan terhadap karakter-karakter agronomi penting yang meliputi umur keluar malai, umur keluar rambut tongkol, tinggi tanaman, tinggi posisi tongkol, panjang tongkol berkelebot, panjang tangkai tongkol, panjang tongkol, diameter tongkol, jumlah baris biji dalam tongkol, jumlah biji per tongkol, serta bobot 1000 biji. Seleksi dilakukan dengan persentase seleksi sebesar 6,67% terhadap individu-individu dan famili-famili dengan karakter panjang tongkol terpanjang dan panjang tangkai tongkol ideal. Kemajuan genetik harapan pada seleksi individu menunjukkan nilai yang lebih tinggi dibandingkan dengan seleksi famili pada karakter tinggi tanaman, tinggi posisi tongkol, panjang tongkol berkelebot, panjang tongkol, serta bobot 1000 biji. Karakter panjang tangkai tongkol menunjukkan nilai kemajuan genetik yang lebih baik pada seleksi individu dibandingkan dengan pada seleksi famili meskipun memiliki nilai kemajuan genetik negatif. Karakter jumlah baris biji dalam tongkol menunjukkan nilai kemajuan genetik harapan yang lebih baik pada seleksi famili dibandingkan dengan pada seleksi individu. Baik seleksi individu maupun seleksi famili tidak dapat dilakukan terhadap karakter umur keluar malai, umur keluar rambut tongkol, diameter tongkol, dan jumlah biji per tongkol karena memiliki nilai duga heritabilitas negatif. Seleksi individu merupakan metode seleksi yang lebih tepat pada populasi ini.

Kata kunci: jagung manis ungu, kemajuan genetik, seleksi famili, seleksi individu

ABSTRACT

This study discusses to determine the appropriate selection method for the Universitas Gadjah Mada (UGM), Faculty of Agriculture's purple sweet corn collection from the 3rd generation of selection through comparing genetic advance between individual selection and family selection. The study was conducted using 30 accession numbers derived from the 3rd generation of selection of purple sweet corn collection from the Faculty of Agriculture, UGM. Evaluation was carried out on the important agronomic characteristics including days to tasseling, days to anthesis, plant height, ear height, length of ear with husk, length of ear rod, ear length, ear diameter, number of kernel rows per ear, number of kernels per ear, and weight of 1000 kernels. Selection is carried out with a selection percentage of 6.67% on individuals and families with the best of ear length characters and ideal length of ear rod characters. The estimated value of genetic progress in individual selection was higher compared to family selection in plant height, ear height, length of ear with husk, ear length and weight of 1000 kernels. Length of ear rod character showed genetic advance value that is better on individual selection rather than on family selection although it has a negative value of genetic advance. The number of kernel rows per ear character showed genetic advance value that is better on family selection rather than on individual selection. Neither individual selection nor family selection can be performed on the characteristics of days to tasseling, days to anthesis, ear diameter, and number of kernels per ear due to their negative values on the estimated heritability. Individual selection is a more appropriate selection method in this population.

Key words: purple sweet corn, genetic advance, family selection, individual selection