EKSPLORASI, KARAKTERISASI, EVALUASI GENOTIPE PADI LOKAL KUANTAN SINGINGI SERTA RESPONNYA TERHADAP CEKAMAN BIOTIK DAN ABIOTIK

DISERTASI

Oleh

CHAIRIL EZWARD
NPM. 19 31 61 2005

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ABSTRAK

Sumber plasma nutfah akan meningkat nilainya jika memiliki informasi data yang lengkap. Tujuan penelitian yaitu untuk mengetahui informasi dari genotipe padi lokal Kuantan Singingi melalui tahapan kegiatan eksplorasi, karakterisasi, evaluasi serta responnya terhadap Cekaman Biotik dan Abiotik. Hasil kegiatan eksplorasi diperoleh 26 genotipe padi, yang terdiri atas 19 genotipe padi beras dan 7 genotipe padi ketan. Pada saat karakterisasi dan evaluasi 2 genotipe tidak tumbuh, sehingga pada penelitian selanjutnya hanya terdapat 24 genotipe. Hasil Karakterisasi kualitatif pada 24 genotipe padi asal Kabupaten Kuantan Singingi menunjukan adanya tingkat keragaman pada genotipe Pulut Hitam, Beras Singgaro Merah, Beras Limbayang dan Pulut Kari. Sedangkan hasil karakterisasi kuantitatif menunjukan adanya tingkat keragaman genetik yang cukup tinggi pada genotipe Beras Saronda Merah, Pulut Hitam, Pulut Benai dan Beras Kuning. Hasil pengamatan karakterisasi morfologi pada tingkat kemiripan 49% diperoleh 10 kluster. Sedangkan berdasarkan karakterisasi molekuler pada tingkat kemiripan 75% diperoleh 2 kluster. Diperoleh 3 genotipe padi lokal yang sangat resisten penyakit blas daun dan 3 genotipe yang resisten penyakit blas malai. Diperoleh 2 genotipe yang agak resisten terhadap penyakit Hawar Daun Bakteri. Diperoleh 12 genotipe yang resisten hama Wereng Batang Cokelat. Diperoleh 8 genotipe yang toleran terhadap cekaman besi. Diperoleh 2 genotipe yang toleran terhadap cekaman Aluminium. Diperoleh 4 genotipe yang toleran terhadap cekaman kekeringan. Menemukan 2 genotipe (genotipe beras samo putiah dan genotipe beras limbayang) yang respon dengan teknologi sistem tanam (SRI dan Jarwo 2:1) dapat digunakan sebagai bahan dasar genetik untuk dikembangkan menjadi varietas unggul lokal maupun varietas unggul baru. Genotipe beras kuning umur panjang dan genotipe beras singgam putih dapat direkomendasikan untuk menjadi genotipe unggul lokal, karena memiliki ketahanan terhadap penyakit blas dan wereng batang cokelat.

Kata kunci : *Cekaman, Genotipe, Padi Lokal, Respon.*

EXPLORATION, CHARACTERIZATION, EVALUATION OF KUANTAN SINGINGI LOCAL RICE GENOTYPES AND THEIR RESPONSE TO BIOTIC AND ABIOTIC STRESSES

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ABSTRACT

Germplasm sources will increase in value if they have complete data information. The aim of the research is to find out information about the local rice genotypes of Kuantan Singingi through the stages of exploration, characterization, evaluation and response to Biotic and Abiotic Stress. The results of exploration activities obtained 26 rice genotypes, consisting of 19 rice genotypes and 7 sticky rice genotypes. During characterization and evaluation, 2 genotypes did not grow, so in subsequent research there were only 24 genotypes. The results of qualitative characterization of 24 rice genotypes from Kuantan Singingi Regency show that there is a level of diversity in the genotypes of Black Pulut, Red Singgaro Rice, Limshadow Rice and Kari Pulut. Meanwhile, the quantitative characterization results showed that there was a fairly high level of genetic diversity in the genotypes of Red Saronda Rice, Black Pulut, Benai Pulut and Yellow Rice. The results of observations of morphological characterization at a similarity level of 49% obtained 10 clusters. Meanwhile, based on molecular characterization at a similarity level of 75%, 2 clusters were obtained. Three local rice genotypes were obtained that were highly resistant to leaf blast disease and 3 genotypes that were resistant to panicle blast disease. Two genotypes were obtained which were somewhat resistant to Bacterial Leaf Blight. 12 genotypes were obtained that were resistant to the Brown Planthopper pest. 8 genotypes were obtained that were tolerant to iron stress. Two genotypes were obtained that were tolerant to aluminum stress. Four genotypes were obtained that were tolerant to drought stress. Found 2 genotypes (Samo Putiah rice genotype and Limshadow rice genotype) that respond to planting system technology (SRI and Jarwo 2:1) that can be used as basic genetic material to be developed into local superior varieties or new superior varieties. The long-life yellow rice genotype and the white singgam rice genotype can be recommended as local superior genotypes, because they have resistance to blast disease and brown planthoppers.

Keywords: *Stress, Genotype, Local Rice, Response.*