EVALUATION OF MAIZE INBRED TWELVE SELF GENERATION FROM CARGILL AND SRIKANDI PEDIGREE AT HIGH POPULATION DENSITY

By

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Maintenance of inbred is important to maintain genetic purity of inbred and conserve the germplasm. This can be done by planting the seeds of inbred and selfing. To multiply the resulting inbred seed, the planting can be done with a closer spacing. Spacing causes the plant to be meeting more, so the plant population density is higher. It is expected to increase the number of seeds produced per unit area. However, high density also cause to higher competition between plants. Superior inbred will be able to grow well in this conditions. This inbred is expected to continue producing the functional seed so it can be used as further planting material.

This study aims to (1) study the vegetative and generative performance four inbred lines grown at high density; (2) study the genetic diversity and *broad-sense* heritability (h^2bs) four inbred lines grown at high density .

The research were arranged in randomized complete design with three replications. Plant material tested were inbred line of twelve self generation; UL2.02 (Universitas Lampung UL2.02), UL2.03, UL2.07, and UL4.01. Data

were tested following Bartlett and Levene for homogeneity variance, then data were analized following Analysis of variance. All of variables observed in comparison with standard inbred using boxplot analysis.

The results showed (1) the four inbred lines planted at high density has decreased vegetative and generative performance compared to the normal density. The decline was caused by high densities rather than genetic factors; (2) the four inbred lines planted at high density has decreased σ^2g and h^2bs compared to the normal density.

Key words: maize inbred, high population density, genetic diversity, heritability broad-sense