

## **ABSTRACT**

### **HERITABILITY AND GENETIC PROGRESS OF RESISTANT CHARACTER IN SOYBEAN SECOND GENERATION (F<sub>2</sub>) TANGGAMUS AND B<sub>3570</sub> CROSSING INFECTED BY SOYBEAN MOSAIC VIRUS**

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The need of soybean (*Glycine max* [L.] Merrill) in Indonesia increases in line with the growth of population. However, the need of soybean in Indonesia has not been fulfilled yet, due to the lack of soybean yield. One of the reasons is an infection caused by *soybean mosaic virus* (SMV). The aim of this study was to determine (1) the estimation of broad sense heritability for disease severity and agronomy characters, (2) predictive value of genetic advanced for disease severity and agronomy characters, (3) expectation numbers of genotype which are resistant to SMV and high yield. The study was conducted in September 2013 until January 2014 at the Integrated Field Laboratory of the College of Agriculture and Seed and Plant Breeding Laboratory, University of Lampung. The seed which was used in this study from Tanggamus and B<sub>3570</sub> crossing (F<sub>2</sub>). Each plant was inoculated by SMV, and disease severity and agronomy characters were observed in this study. The design used in this study was experimental design without

replications . The results indicated that (1) the estimation of broad-sense heritability were high for disease severity character , plant height , number of pods , number of filled pods , the number of seeds , the percentage of healthy seeds , the percentage of diseased seeds, seed weight per plant , and day of harvesting, (2) predictive value of high genetic progress were high for disease severity character , plant height , number of pods , number of filled pods , number of seeds , the percentage of healthy seeds , and seed weight per plant , (3) there were 19 selected genotypes which were resistant and tolerans to SMV and high yield.

**Key words:** soybean, heritability and genetic progress, resistance of *soybean mosaic virus* (SMV).