

## **ABSTRACT**

### **VARIABILITY AND HERITABILITY OF AGRONOMIC CHARACTERS OF SOYBEAN (*Glycine max* (L) Merrill) F<sub>2</sub> GENERATION FROM CROSSES BETWEEN WILLIS X MALANG 2521**

**By**

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Soybean consumption in Indonesia is increasing but it is not accompanied by increased production. An effort to improve the quality and quantity of soy is through plant breeding programs by establishing a new high yielding varieties. Assembly of high yielding varieties can be done by performing a cross between the two elders who have their respective advantages. This research study using F<sub>2</sub> populations from crosses between Wilis and Malang 2521. Wilis varieties have high yield but susceptible to disease Cowpea Mild Mottle Virus (CPMMV) and Soybean Stunt Virus (SSV), while Malang 2521 has a resistant to disease character but low-yielding. The purposes of this research are for know the value of diversity, heritability in the broad sense, and the numbers of hope contained in the F<sub>2</sub> generation cross between Wilis and Malang 2521.

This research was conducted at the experimental farm of Agriculture Faculty, University of Lampung, from November 2011 to February 2012. This research

was done by experimental design without repetition. Soybean seeds are planted about 80 seeds  $F_2$ , 40 seeds Willis and 40 seeds Malang 2521. Each seed that can grow as much as 57 seeds  $F_2$ , 25 seeds Willis and 30 seeds Malang 2521. Observations were made on all plants tested.

The results showed almost all the characters were observed have a wide variability of values, but the character of the productive branches and weighs 100 grains have a narrow value of diversity. A wide variability of values values showed more genetic factors play a role in shaping the character of the plant. Magnitude of the heritability of agronomic character of soybean is high for all the variables observed . Selection of the numbers of hope are based on characters of plants that have a wide variability of values, a large median value, high heritability that are the number of pods per plant and seed weight per plant. The numbers of hope were selected in  $F_2$  generation from crosses between Willis and Malang 2521 are the numbers 7, 46, 72, 31, 62, 58, 23, 10, 13, 70, 74, and 36.