

ABSTRACT

SEED VIABILITY EVALUATION OF FIVE SOYBEAN (*Glycine max* [L.] Merr.) VARIETIES AT FIVE OSMOTIC STRESS LEVELS

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Seed quality evaluation can be performed by using a PEG 6000 are known to retain water in the germination media so that the water is not available for seeds. This study aimed to: (1) Determine the soybean varieties that are resistant to high osmotic stress of the five soybean varieties were tested in air-PEG media with increasing concentrations, (2) Determine the effect of increasing PEG 6000 concentrations are given in five varieties of soybean seed viability; (3) Knowing the response of the five soybean varieties were tested against different concentrations of PEG 6000.

This research was conducted at the Seed and Plant Breeding Laboratory Faculty of Agriculture, University of Lampung from August 2011 to October 2011. The treatment arranged in 5x5 factorial at randomized complete block design with three groups. The first factor is five varieties of soybean that is Argomulyo (V1), Burangrang (V2), Grobogan (V3), Kaba (V4), and Tanggamus (V5), whereas the second factor is five osmotikum stress level is 0% (P0), 4% (P1), 8% (P2), 12% (P3), and 16% (P4).

Data were analyzed using Bartlett's test for homogeneity range seen between treatments and Tukey test to see models of increased data. If the assumptions are met diversity analysis, data processing followed by separation of the midpoint between treatments by using power regression and class comparison test.

The results showed that: (1) Of the five varieties tested, the varieties of Kaba, Tanggamus, Argomulyo, and Burangrang have a value that is different and is resistant to high osmotic stress, while Variety Grobogan is not, (2) Increasing the concentration of PEG 6000 which can be lowered viability and vigor five varieties of soybean due to the decreasing availability of water on germination media as

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bound by the compound PEG 6000, (3) the five varieties showed different responses and have a different rate of decline in each of the given concentration of PEG 6000. Kaba varieties have the highest value followed by a variety Tanggamus, Argomulyo, Burangrang, and Grobogan.

Key word: soybean, seed viability, PEG 6000, osmotic stress.