

ABSTRACT

THE EFFECT OF ORGANIC FERTILIZER ON THE SEED VIGOR OF TWO VARIETIES OF RICE (*Oryza sativa* L.) AFTER BEING STORED AT CERTAIN PERIOD

By

I Made Adhitya Ardhana

Efforts to increase rice production can be done through the use of vigorous seed. Seed vigor can be enhanced by the provision of fertilizers on crops. Organic fertilizers are known to improve physical properties, chemical and biological soil, so the provision of organic fertilizer can improve plant growth well and produces high quality seed. This study aims to determine the effect of organic fertilizer to increase the vigor of seeds of two varieties of rice Mayang and Mira-1.

Research was conducted at the Laboratory of Seed and Plant Breeding Faculty of Agriculture, Lampung University from December 2009 to August 2010. The treatments arranged in a factorial (2x2) in a split plot design (split plot) consisted of three replications. Organic fertilizer was as the main plot with level 0 ton/ha and 2 tons/ha. Variety as subplot were Mayang and Mira-1. The data were analyzed with Bartlett's test, Tukey test, F-test, analysis of variance and test of Honestly Significant Difference at 5% significant level.

Organic fertilizer as much as 2 tons/ha resulted in seeds with higher vigor than that of without organic fertilizer. This was indicated by the variables of normal

I Made Adhitya Ardhana

germination of seeds stored for 0, 2, 4, 6, and 8 months; the rate of germination of seeds stored for 0, 2, 4, 6, and 8 months; strong normal germination of seeds stored for 6 and 8 months; primary root length of seed stored of 2 and 6 months; normal seedling length of stored for 6 months; the length of canopy of seedling understored for 8 months, and electrical conductivity after a period of seed save 2 months. Mayang showed higher vigor than Mira-1 indicated by the variable electrical conductivity of seeds stored for 0, 2, 4, 6, and 8 months, the length of canopy of seedling understored for 2, 6, and 8 months; normal germination of seeds of stored for of 2 months; and normal seedling length of seeds stored for 6 months.

Without organic fertilizer, Mayang varieties showed higher seed vigor than of Mira-1, whereas if given organic manure 2 tons/ha there were no differences between Mayang vigor and the Mira-1. On the varieties of Mira-1, the addition of organic fertilizer as much as 2 tons/ha increased the vigor of seeds, while for variety Mayang, the addition of organic fertilizer as much as 2 tons /ha did not improve seed vigor indicated by the variable electrical conductivity of seeds stored for 6 and 8 months.