**Pengaruh Jarak Tanam dan Dosis Pupuk P terhadap Produksi dan Mutu Benih Edamame *(Glycine max (L.) Merril)*.** *The Effect of a spacing and Phosphorus Fertilizer Dose the Production and Quality Seed on Edamame (Glycine max* (L.) Merril. ***Advisor: Rahmat Ali Syaban and Moch. Bintoro.***

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## *ABSTRACT*

*One of the way to increase the edamame (Glycine max L. Merril) production and quality seed is using a dose of phosphorus fertilizer and plant spacing. This research was held for 3 months from September until Desember 2015 at production field of State Polytechnic of Jember with a height above ± 89 m asl and seed technology laboratory of State Polytechnic of Jember. The research was conducted using Randomized Block Design (RBD) with 2 factors and 4 replications. The first factor was phosphorus fertilizer dose that consisted of 200 kg/ha, 250 kg/ha, 300 kg/ha and they were given with 3 levels. The second factor was plant spacing that consisted of 40 cm x 40 cm and 40 cm x 20 cm. The result showed that phosphorus fertilizing doze treatment has significanlyt effect for vegetative plant height 21 and 35 day after planting, number of branches, number of seeds each pod 3, number of seeds each plant, each plot, each hectare, germination, germination equality and speed germination. The spacing treatment has significanlyt effect on number of seeds each pod, each plot, each hectare. The result showed that use of spacing 40 cm x 20 cm. There is a significant interaction between phosphorus fertilizer at a spacing on number of seeds each plants and germination, for number of seeds each plot and each hectare showed highly significant effect. Phosphorus fertilizing dose 250 Kg/Ha showed the best result of production with a spacing 40 cm x 20 cm.*

***Keywords:*** *Phosphorus Fertilizer Dose, spacing, Seed Production and Quality.*