

Ria Ghufron Effendi. Effect of Chicken Manure & Phosphate Fertilizer Dose on Growth and Yield of Sweet Sorghum plants (*Sorghum bicolor* L. Moench). Under Guidance Ir. Supono BS., MP and Ir. Wahyu Widodo, MP

ABSTRACT

Sorghum (Sorghum bicolor L. Moench) is one of the important food crops in the world. Most of the production is used as food, animal feed, industrial interests and sources of energy. Sorghum is a source of carbohydrates and alternative food crops that highly productive, has good potential to be developed further. The purpose of this study was a). To determine the dose of chicken manure that most appropriate for the growth and yield of sorghum, b). To determine the dose of fertilizer P that most appropriate for the growth and yield of sorghum, c). To determine the interaction between chicken manure with P fertilizer on growth and yield in sorghum. The study was conducted at the experimental farm of the Faculty of Agriculture, Universitas Pembangunan Nasional "Veteran" Yogyakarta, Wedomartani Village, Ngemplak District, Sleman, Yogyakarta. Altitude is about 114 meters above sea level with the soil type regosol. The study was conducted in May 2014 to August 2014. The data were analyzed using analysis of variance with 5% significance level. Duncan's Multiple Range Test (DMRT) used to know the real difference between treatments, whereas the Contrast Orthogonal Test used to know treatment and control. The results showed that chicken manure treatment 30 tonnes / ha doze is higher in heigh parameter in 3, 4, 5, 6 week and higher in amount of leaf at age 3 and 4 week, compared with 10 tons / ha and 20 tons / ha at the same age. Treatment of phosphate fertilizer at dose of 150 kg / ha showed the highest results compared to 50 kg / ha and 100 kg / ha dose, for the number of leaf age parameter of 4 weeks, the fresh weight of stover per plot, and the weight of 100 seeds. There is interaction between doses of chicken manure and phosphate fertilizer on seed sugar level parameters. It showed higher yiled at 30 tons / ha chicken manure (K3) with 100 kg / ha (P2) and 150 kg / ha (P3) of phosphate fertilizer showed a higher yield than 50 kg / ha (P1) doze of phosphate fertilizer, whereas 150 kg / ha (P3) dose of phosphate fertilizer with 30 tonnes / ha (K3) and 20 ton / ha (K2) of chicken manure showed a higher yield than the dose of 10 tonnes / ha (K1) of chicken manure.

Keywords: Sweet Sorghum, Chicken Manure, Phosphate Fertilizer.