

**USE OF VARIOUS TYPES OF ORGANIC MULCH AND APPLICATIONS  
COW MANURE ON GROWTH AND PRODUCTION OF GREEN BEANS  
(*Vigna radiata* L.)**

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**ABSTRACT**

*Demand for green beans in Indonesia continues to increase every year, but green bean production continues to decline. This is caused by the quality of soil fertility decreasing due to excessive use of chemical fertilizers causing the production of green beans to decrease. One alternative way to overcome this problem is to use organic mulch and cow dung fertilizer. The aim of this research is to analyze the effect of a combination of organic mulch treatment and cow dung fertilizer application on green bean production. This research was conducted from August to November 2023 at the Experimental Land Jl. Muktisari Jember Regency. This research was designed using Randomized Block Design (RBD) which consists of two factors and three replications. The first factor is organic rice straw mulch which consists of soybean pod mulch; corn mulch; and rice husk mulch. The second factor is cow manure which consists of control (without cow manure); 10 tons/ha; 20 tons/ha; and 30 tonnes/ha. The research results showed that 10 tons/ha of cow dung treatment showed a significantly different effect on plant height, stem diameter, and number of branches. The 20 ton/ha fertilizer treatment showed a significantly different effect on observations of dry pod weight and 30 ton/ha cow dung fertilizer on wet pod weight and dry seed weight. And there is an interaction that shows a significantly different effect on the variable observing wet pod weight. Providing rice husk mulch had a significantly different effect on wet pod weight. So the treatment of cow dung fertilizer and organic mulch can be an alternative to chemical fertilizers in cultivating green beans.*

**Keywords:** *legumes, compost and sustainable agriculture*