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PRODUCTIVITY OF BROCCOLI (*BRASSICA OLERACEAE* L.) UNDER ORGANIC SOIL AMENDMENTS

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ABSTRACT
The current strategy of using organic soil amendments as a sustainable means of soil fertility restoration and for increase in yields of broccoli (*Brassica oleraceae* var. Legacy) planted on marginal soils stimulated positive response in plant height, curd diameter, weight per curd, marketable and non-marketable yields, pH, organic matter, P, K levels and return on investment as observed under screen house in 2016 and 2017 seasons at the vegetable Crops nursery of the Institute of Crops Science University of the Philippines Los Banos, Laguna 4031. The treatments consisted of four organic soil amendments (composted chicken manure, mushroom compost, composted horse manure and vermicompost) applied at the rate of 6 tons/ha and a control. These were combined to give five treatments combination and laid out in a Randomized Complete Block Design replicated thrice. Results showed a significant effect of all the applied organic soil amendments in the two years of study on all the parameters recorded. However, composted chicken manure significantly gave the tallest height, heaviest curd, largest curd diameter, heaviest weight per curd, marketable and non-marketable yields, increased in pH, highest organic matter, P and K levels and highest return on investment of 179.42% higher than other treatments and the control in both years. It can be concluded based on this results that a clear proof of the compatible synergism of broccoli with the four organic soil amendments used had been established as a veritable means of sustainable broccoli production and marginal soil fertility restoration and management technique. It also recommends vegetable crop farmer to use decompose chicken manure level of 6 t/ha in combination with broccoli variety legacy in order to obtain higher broccoli yield, restore fertility of marginal soils for higher net profit and returns on investment in the study area.

Keywords: Fertility, Health, Potassium, pH, Phosphorus, Marginal soil, Sustainability, Yield.