

Effects of different mulching materials and planting distance on selected soil properties of organic farms planted with *Orthosiphon stamineus*

ABSTRACT

A field study was carried out to determine the impact of mulching and planting distance on the growth of *Orthosiphon stamineus*, soil properties and also to observe the changes in pH and EC of soil in response to mulching and planting distance. The experiment was carried out at Ladang 16, Faculty of Agriculture UPM. Factorial Randomized Complete Block Design (RCBD) was incorporated with four replicates for each of the four treatments. The four treatments consisted of mulching, non-mulching, planting distance of 30 cm × 30 cm and planting distance of 45 cm × 45 cm. After eight weeks of planting, the plants were harvested while soil pH and EC were measured on a weekly basis throughout the planting period. Results showed that application of biochar and usage of mulching materials and suitable planting distance does helps to maintain the soil pH and electrical conductivity (EC) at the suitable range for crop growth. The level of the acidity of the soil is in the range of 5.3 to 6.61 which is considered appropriate for *O. stamineus*. As for influence of planting distance, it is best to give longer time for *O. stamineus* grows. It is recommended that more planting distance and types of mulching materials to be used to grow *O. stamineus*.

Keyword: Organic farming; *Orthosiphon stamineus*; Planting distance; Mulching materials