RINGKASAN

Tanaman kailan (*Brassica oleracea* L.) atau dikenal sebagai *Chinese kale* merupakan salah satu komoditas sayuran dari keluaga kubis. Tanaman kailan termasuk jenis sayuran baru di Indonesia yang tergolong cukup komersil dan dapat dipertimbangkan sebagai salah satu usaha dalam meningkatkan pendapatan di bidang pertanian. Tingkat kesadaran masyarakat yang semakin tinggi akan kesehatan semakin meningkatkan jumlah konsumsi sayuran kalian, sehingga diperlukan lahan pertanian yang semakin luas. Minimnya lahan pertanian dapat diatasi dengan memanfaatkan lahan marginal. Lahan marginal yang digunakan adalah tanah inceptisol. Tanah inceptisol merupakan tanah yang memiliki tingkat kesuburan yang cukup rendah, oleh karena itu diperlukan penanganan lebih lanjut yaitu pemupukan. Pemupukan dilakukan dengan menggunakan pupuk organik cair (POC) batang pisang. Penelitian tersebut bertujuan untuk mengetahui 1) pengaruh konsentrasi pemberian pupuk organik cair batang pisang terhadap pertumbuhan dan hasil tanaman kailan, 2) pengaruh frekuensi pemberian pupuk organik cair batang pisang terhadap pertumbuhan dan hasil tanaman kailan, 3) kombinasi antara konsentrasi dan frekuensi pemberian pupuk organik cair batang pisang yang dapat memberikan hasil terbaik terhadap pertumbuhan dan hasil tanaman kailan.

Penelitian ini dilakukan pada *Screen House* Fakultas Pertanian Universitas Jenderal Soedirman dari bulan Februari hingga April 2020. Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok (RAKL) dengan 3 kali ulangan. Perlakuan yang dicobakan meliputi dua faktor yaitu kosentrasi dengan taraf 0%, 5%, 10%, dan 15%. Faktor kedua adalah frekuensi dengan taraf 1 kali, 2 kali dan 3 kali pemberian. Variabel pengamatan meliputi tinggi tanaman (cm), jumlah daun (helai), bobot segar (g), klorofil (unit), luas daun (cm/daun), panjang akar (cm), bobot akar segar (g), intensitas cahaya (lux/m^2), suhu udara (^oC) dan kelembaban (%).

Hasil penelitian menunjukkan pemberian konsentrasi POC batang pisang 5% meningkatkan tinggi tanaman sebesar 1,07 %, jumlah daun sebesar 1,03%, panjang akar sebesar 1,13% dan kandungan klorofil daun sebesar 1,05%. Pemberian frekuensi POC batang pisang 3 kali memberikan pengaruh yang lebih baik daripada frekuensi 1 dan 2 kali pada variabel panjang akar dan luas daun tanaman kailan. Kombinasi antara konsentrasi 5% dan frekuensi 3 kali pemberian POC batang pisang meningkatkan panjang akar sebesar 1,39% dan kombinasi antara konsentrasi 5% dan frekuensi 2 kali pemberian POC batang pisang meningkatkan klorofil daun sebesar 1,12%.

SUMMARY

Kailan (Brassica oleracea L.) or known as Chinese kale is a vegetable commodity from the cabbage family. Kailan is a new type of vegetable in Indonesia which is quite commercial and can be considered as an effort to increase income in agriculture. The higher the level of public awareness of health, the more you consume your vegetables, so that more extensive agricultural land is needed. The lack of agricultural land can be overcome by utilizing marginal land. The marginal land used is inceptisol land. Inceptisol soil is a soil that has a fairly low fertility rate, therefore further treatment is needed that is fertilizing. Fertilization is done by using liquid organic fertilizer (LOF) banana stems. This study aimed to determine 1) the effect of the concentration of liquid organic fertilizer on banana stems on the growth and yield of kailan plants, 2) the effect of the frequency of application of liquid organic fertilizer on banana stems on the growth and yield of kailan plants, 3 the combination of concentration and frequency of application of liquid organic fertilizer for banana stems.

This research was conducted at the Screen House of the Faculty of Agriculture, Jenderal Soedirman University from February to April 2020. The experimental design used was a randomized block design (RCBD) with 3 replications. The treatments that were tried included two factors, namely the concentration with a level of 0%, 5%, 10%, and 15%. The second factor was the frequency with the level of 1 time, 2 times and 3 times of giving. The observation variables included plant height (cm), number of leaves (strands), fresh weight (g), chlorophyll (unit), leaf area (cm / leaf), root length (cm), fresh root weight (g), light intensity (lux / m2), air temperature (oC) and humidity (%).

The results of the study were giving LOF concentration of banana stems. Giving LOF concentration of 5% banana stems increased plant height by 1.07%, number of leaves by 1.03%, root length of 1.13% and leaf chlorophyll content of 1.05% in kailan plants. . Giving frequency of banana stem LOF 3 times had a better effect than frequency 1 and 2 times on the variable root length and leaf area of kailan plants. The combination of the 5% concentration and the frequency of 3 times of giving banana stem LOF increased the root length by 1.39% and the combination of 5% concentration and the frequency of 2 times of giving banana stem LOF increased leaf chlorophyll by 1.12% in kailan plants.