

RINGKASAN

Penelitian ini bertujuan untuk 1) mengetahui pengaruh komposisi media tanam terhadap pertumbuhan dan hasil tanaman kailan, 2) mengetahui pengaruh dosis pupuk nitrogen terhadap pertumbuhan dan hasil tanaman kailan, 3) mengetahui pengaruh kombinasi komposisi media tanam dan dosis pupuk nitrogen terhadap pertumbuhan dan hasil tanaman kailan.

Penelitian ini dilaksanakan di *screen house* Fakultas Pertanian Universitas Jenderal Soedirman, Karangwangkal, Purwokerto dengan ketinggian 110 m di atas permukaan laut pada bulan Januari sampai Februari 2016. Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok (RAK) pola faktorial dengan 2 faktor perlakuan dengan 3 ulangan. Faktor pertama adalah komposisi media tanam yaitu tanah : *cocopeat* : arang sekam (1:1:1) (M1), tanah : *cocopeat* : arang sekam (2:1:1) (M2), tanah : *cocopeat* : arang sekam (1:2:1) (M3), tanah : *cocopeat* : arang sekam (1:1:2) (M4). Faktor kedua adalah dosis pupuk nitrogen, yaitu 0 kg N/ha (N0), 100 kg N/ha (N1), 200 kg N/ha (N2), dan 300 kg N/ha (N3). Variabel yang diamati adalah tinggi tanaman, jumlah daun, luas daun, bobot tanaman segar, bobot tajuk segar, bobot tajuk kering, bobot akar segar, dan bobot akar kering. Data hasil pengamatan dianalisis dengan menggunakan uji F dengan taraf kesalahan 5%, apabila terdapat pengaruh perlakuan dilanjutkan dengan DMRT (*Duncan's Multiple Range Test*) pada taraf kesalahan 5%.

Hasil penelitian menunjukkan bahwa komposisi media tanam meningkatkan tinggi tanaman, jumlah daun, luas daun, bobot tanaman segar dan bobot tajuk segar. Komposisi media tanam terbaik adalah media tanah, *cocopeat* dan arang sekam dengan perbandingan 2:1:1 (M2). Dosis pupuk nitrogen meningkatkan tinggi tanaman, jumlah daun, luas daun, bobot tanaman segar, bobot tajuk segar, bobot tajuk kering, bobot akar segar, dan bobot akar kering. Dosis pupuk nitrogen yang tepat adalah 100 kg N/ha (N1). Kombinasi komposisi media tanam dan dosis pupuk nitrogen meningkatkan tinggi tanaman dan jumlah daun. Kombinasi yang tepat terdapat pada komposisi media tanam tanah, *cocopeat* dan arang sekam dengan perbandingan 2:1:1 dan dosis pupuk nitrogen 100 kg/ha (M2N1).

SUMMARY

This research aims to 1) know the effect of the composition of growing media on growth and yields of chinese kale, 2) know the effect of dosage of nitrogen fertilizer on growth and yields of chinese kale, 3) know the effect of combination between composition of growing media and dosage of nitrogen fertilizer on growth and yields of chinese kale.

Research had been conducted in screen house the Faculty of Agriculture, University of Jenderal Soedirman, Karangwangkal, Purwokerto with altitude 110 metres above sea level from January to February 2016. The design used was Randomized Block Design (RBD) with two treatment factors and three replications. The first factor were composition of growing media consisted of soil : cocopeat : chaff charcoal (1:1:1) (M1), soil : cocopeat : chaff charcoal (2:1:1) (M2), soil : cocopeat : chaff charcoal (1:2:1) (M3), soil : cocopeat : chaff charcoal (1:1:2) (M4). The second factor were dosages of nitrogen fertilizer consisted of 0 kg N/ha (N0), 100 kg N/ha (N1), 200 kg N/ha (N2), and 300 kg N/ha (N3). The observed variables were plant height, number of leaves, leaf area, fresh plant weight, fresh canopy weight, dry canopy weight, fresh root weight, and dry root weight. Data obtained were tabulated and analyzed using F test with 5 % standard error, when the result was significant continued with the DMRT test with 5 % standard error.

The results of research showed that composition of growing media increased plant height, number of leaves, leaf area, fresh plant weight, fresh canopy weight. The best media composition was in the type of soil, cocopeat and chaff charcoal in the ratio 2:1:1 (M2). Dosage of nitrogen fertilizer increased plant height, number of leaves, leaf area, fresh plant weight, fresh canopy weight, dry canopy weight, fresh root weight, and dry root weight. The accurate dosage of nitrogen fertilizer was 100 kg N/ha. Combination between of composition media and dosage of nitrogen fertilizer increased plant height and number of leaves. The accurate combination between of composition of growing media and dosage of nitrogen contained soil, cocopeat and chaff charcoal in the ratio 2:1: and dosage of nitrogen fertilizer was 100 kg/ha (M2N1).