RINGKASAN

Sawi hijau merupakan salah satu sayuran yang banyak digunakan dalam olahan makanan karena kandungan gizinya yang cukup tinggi. Selain itu, harganya yang relatif murah sehingga mudah dijangkau oleh seluruh lapisan masyarakat. Produksi sawi hijau tidak stabil dalam setiap tahunnya dan terjadi penurunan di tahun 2015. Penurunan produksi sawi hijau disebabkan karena teknik bercocok tanam yang belum intensif cepat menurun dan berubahnya kadar N dalam tanah yang menyebabkan pertumbuhan tanaman sawi menjadi tidak maksimal. Berdasarkan uraian tersebut telah dilakukan penelitian dengan tujuan mengetahui formula pupuk N *slow release* yang tepat untuk memperoleh pertumbuhan dan hasil tanaman sawi hijau yang maksimal, serta mengetahui besarnya serapan N sawi hijau pada setiap formula pupuk N *slow release*.

Penelitian ini dilaksanakan di lahan penelitian Fakultas Pertanian, Universitas Jenderal Soedirman, Kelurahan Karangwangkal, Kecamatan Purwokerto Utara dan Laboratorium Ilmu Tanah Fakultas Pertanian UNSOED, Purwokerto. Penelitian ini berlangsung selama kurang lebih 3 bulan, yaitu pada bulan Januari sampai dengan Maret 2019. Penelitian dilaksanakan dengan 5 tahapan yaitu : (i) persiapan Pupuk Formula N Slow Release, (ii) persemaian, (iii) persiapan media tanam, (iv) pindah tanam, dan (v) pemeliharaan. Rancangan yang digunakan dalam penelitian ini adalah Rancangan Acak Kelompok Lengkap (RAKL) dengan satu faktor, yaitu pupuk N slow release sebanyak lima taraf dan satu kontrol, yaitu F0 = Kontrol ; F1 = pupuk N slow release formula I ; F2 = pupuk N slow release formula II; F3 = pupuk N slow release formula III; F4 = pupuk N slow release formula IV; F5 = pupuk N slow release formula V. Variabel yang diamati yaitu tinggi tanaman, jumlah daun, luas daun, bobot segar tajuk, bobot kering tajuk, bobot tanaman segar, bobot tanaman kering, bobot akar segar, bobot akar kering, serapan N, dan SPAD / Kehijauan daun.

Hasil penelitian menunjukkan bahwa pemberian pupuk formula N *slow release* memberikan pengaruh yang nyata pada variabel tinggi tanaman, luas daun, dan serapan N dengan formula terbaik yaitu F5, serta besarnya serapan N pada setiap formula yaitu F0 0,77%, F1 1,17%, F2 1,24%, F3 1,20%, F4 1,13%, dan F5 1,35%. Aplikasi pupuk formula N *slow release* yang paling sesuai untuk pertumbuhan dan hasil tanaman sawi hijau yaitu F1 (pupuk N *slow release* dengan komposisi 6 urea : 1 *Azolla microphylla* : 1 montmorillonite : 1 gondorukem : 1 asam humat).

SUMMARY

. Green mustard is one of the vegetables that is widely used in food preparations because of its high nutritional content. In addition, the price is relatively cheap so it is easily accessible by all levels of society. Green mustard production is unstable every year and there was a decline in 2015. The decline in mustard production is due to farming techniques that are not yet intensive rapidly decreasing and changing levels of N in the soil causing the growth of mustard plants to be not optimal. Based on this description, research has been conducted with the aim of knowing the exact formula of N slow release fertilizer to obtain maximum growth and yield of mustard greens, and to find out the amount of N mustard absorption in each formula of N slow release fertilizer.

This research was carried out in the Faculty of Agriculture research field, Jenderal Soedirman University, Karangwangkal Sub-District, North Purwokerto Subdistrict and the UNSOED Faculty of Agriculture Soil Science Laboratory, Purwokerto. This research lasted for approximately 3 months, namely from January to March 2019. The research was carried out in 5 stages, namely: (i) preparation of Formula N Slow Release Fertilizer, (ii) seedbed, (iii) preparation of planting media, (iv) transplanting, and (v) maintenance. The design used in this study was a Complete Randomized Block Design (RCBD) with one factor, namely five levels of N slow release fertilizer and one control, namely F0 = Control; F1 = fertilizer N slow release formula I; F2 = fertilizer N slow release formula II; F3 = fertilizer N slow release formula III; F4 = fertilizer N slow release formula IV; F5 = N fertilizer release formula V. Variables observed were plant height, number of leaves, leaf area, canopy fresh weight, canopy dry weight, fresh plant weight, dry plant weight, fresh root weight, dry root weight, N uptake, and SPAD / Greenish leaves.

The results showed that the application of slow release N formula fertilizer had a significant effect on plant height, leaf area, and N absorption with the best formula, F5, and the amount of N uptake in each formula was 0.77% F0, F1 1.17% , F2 1.24%, F3 1.20%, F4 1.13%, and F5 1.35%. The application of the formula N slow release fertilizer that is most suitable for the growth and yield of mustard greens is F1 (slow release N fertilizer with a composition of 6 urea: 1 Azolla microphylla: 1 montmorillonite: 1 gum rosses: 1 humic acid).