RINGKASAN

Kangkung darat (*Ipomoea reptans* poir) adalah tanaman semusim atau tahunan yang merupakan sayuran daun yang penting di kawasan Asia Tenggara dan Asia Selatan. Lahan pasir pantai merupakan salah satu lahan marjinal yang memiliki potensi tinggi untuk dikembangkan mengingat Indonesia adalah negara kepulauan yang 60% luas wilayahnya berupa perairan. Nitrogen berperan dalam mendukung pertumbuhan vegetatif yang lebat dan warna hijau daun yang gelap. Fertigasi merupakan singkatan dari *fertilizer* (pemupukan) dan *irrigation* (pengairan). Tujuan dari pelaksanaan penelitian adalah menentukan fertigasi yang terbaik terhadap pertumbuhan tanaman kangkung darat di lahan pasir pantai, mengetahui konsentrasi larutan pupuk nitrogen yang dapat memberikan hasil terbaik terhadap pertumbuhan dan hasil tanaman kangkung di lahan pasir pantai, menentukan interaksi antara sistem irigasi dan interval pemupukan terhadap pertumbuhan dan hasil tanaman kangkung darat di lahan pasir pantai.

Penelitian dilaksanakan di lahan pasir Pantai Jetis Desa Banjarsari, Kecamatan Nusawungu, Kabupaten Cilacap. Penelitian dilaksanakan selama empat bulan, yaitu pada bulan April sampai dengan Juli 2019. Bahan penelitian yang digunakan meliputi benih kangkung Bangkok Lp 1, pupuk N, P, dan K yang dipergunakan adalah ZA, urea, SP-36 dan KCl/ZK, tanah Vertisol serta pupuk kandang sapi. Alat yang digunakan antara lain ialah pipa paralon, tandon air, emiter irigasi sprinkle, selang, pompa, timbangan digital, oven, SPAD (*Soil Plant Analysis Development*). Dari Laboratorium Hortikultura, Agronomi dan Pemuliaan Tanaman dipergunakan untuk analisis tanaman. Penelitian menggunakan Rancangan Acak Kelompok Lengkap (RAKL) faktorial yang terdiri dari 2 faktor dan 5 ulangan. Faktor pertama yaitu Fertigasi yang terdiri dari 2 taraf yaitu Manual dan Otomatis. Faktor kedua yaitu Konsentrasi pupuk Nitrogen terdiri dari 3 taraf yaitu 1 g N/l, 5 g N/l dan 10 g N/l. Variabel yang diamati adalah kadar kehijauan daun, tinggi tanaman, jumlah daun, panjang daun, luas daun, panjang akar, jumlah akar, jumlah cabang, bukaan stomata, bobot akar segar, bobot akar kering, bobot tanaman kering, bobot daun kering, bobot batang kering, bobot tanaman segar, bobot daun segar, dan bobot batang segar.

Hasil penelitian ini adalah Aplikasi fertigasi cara manual (gembor) dan aplikasi fertigasi sprinkle memberikan pengaruh yang sama terhadap variabel kehijauan warna daun kangkung darat, menghasilkan tanaman segar 18,17 t/ha. Konsentrasi pupuk 1g N/l memberikan pengaruh sangat nyata terhadap variabel kehijauan warna daun kangkung darat dengan nilai 30,51 unit. Perlakuan konsentrasi pupuk N menghasilkan tanaman segar 18,17 ton/ha. Interaksi antara fertigasi sprinkle konsentrasi pupuk N 1gN/l memberikan pengaruh terbaik terhadap aplikasi fertigasi sprinkle konsentrasi pupuk 5 g N/l dan konsentrasi pupuk 10 g N/l variabel kehijauan warna daun bagi pertumbuhan dan hasil tanaman kangkung darat dengan nilai 30,66 unit. Interaksi Fertigasi dan Konsentrasi menghasilkan tanaman segar 18,17 t/ha.

SUMMARY

Kangkoong (Ipomoea reptans poir) is an annual or annual plant containing vegetables that are important in Southeast Asia and South Asia. Coastal sandy land is one of the marginal lands that has great potential to be developed considering that Indonesia is an archipelagic country whose 60% of its territory consists of water. Nitrogen plays a role in supporting vegetative growth that is dense and dark green leaves. Fertigation is an abbreviation of fertilizer (fertilization) and irrigation (irrigation). The purpose of this study was to determine the best growth on the growth of kangkoong in coastal sandy lands, determine the concentration of nitrogen fertilizer that can give the best results on the growth and yield of kangkoong in coastal sandy soils, determine the relationship between the plantation system and fertilizing intervals on plant growth and yield kangkoong on the coastal sandy land.

The study was carried out in the Jetis Coastal sandy land village of Banjarsari, Nusawungu District, Cilacap Regency. The study was conducted for four months, namely from April to July 2019. The research materials used included Bangkok Lp 1 kale seeds, N, P, and K fertilizers used were ZA, urea, SP-36 and KCl / ZK, vertisol soil cow manure. The tool used include pipe, water reservoirs, drip irrigation emitters, hoses, pumps, digital scales, ovens, SPAD (Soil Plant Analysis Development) from the Horticultural Laboratory, Agronomy and Plant Breeding used in soil and plant analysis. The study used a factorial Complete Randomized Block Design (RCBD) consisting of 2 factors and 5 replications. The first factor is Fertigation which consists of 2 levels, namely Manual and Automatic. The second factor is the concentration of Nitrogen fertilizer consisting of 3 levels, namely 1 g N / l, 5 g N / l and 10 g N / l. Observed variables was the level of greenness of the leaves. plant height, number of leaves, leaf length, leaf area, root length, number of roots, number of branches, stomata opening, fresh root weight, dry root weight, dry plant weight, dry leaf weight, dry stem weight, RGB, fresh plant weight, fresh leaf weights, and fresh stem weights.

The results of this study are the application of the manual fertilization method (spoiled) and the application of sprinkle fertigation have the same effect on the greenish color of the terrestrial kale leaves, producing fresh plants 18.17 t / ha. The concentration of 1g N / l fertilizer gives a very significant influence on the greenish color of land kale leaves with a value of 30.51 units. The concentration of N fertilizer produced 18.17 tonnes / ha of fresh plants. The interaction between fertilizer sprinkle concentration of N 1gN / l fertilizer gave the best effect on the application of fertilizer sprinkle concentration of 5 g N / l and fertilizer concentration of 10 g N / l variable green leaf color for growth and yield of ground kale plants with a value of 30.66 units. Fertigation and Concentration Interactions produce fresh plants 18.17 t / ha.