

RINGKASAN

Lahan pasir pantai dapat digunakan sebagai alternatif pengembangan tanaman untuk mengatasi rendahnya produksi akibat penggunaan lahan pertanian produktif ke penggunaan non pertanian, seperti perumahan dan industri. Budidaya tanaman bawang merah di lahan pasir pantai dihadapkan pada kendala berupa kemampuan memegang dan menyimpan air yang rendah, infiltrasi dan evaporasi tinggi, kesuburan tanah dan efisiensi penggunaan air rendah. Pemberian pembenah tanah berupa tanah Vertisol dan pupuk kandang serta pupuk kimia dapat meningkatkan hasil bawang merah di lahan pasir pantai. Penelitian ini bertujuan untuk 1) menentukan interval fertigasi yang optimum bagi pertumbuhan dan hasil bawang merah di lahan pasir pantai, 2) menentukan frekuensi pemberian pembenah tanah yang terbaik bagi pertumbuhan dan hasil bawang merah di lahan pasir pantai, 3) menentukan takaran pembenah tanah yang optimum bagi pertumbuhan dan hasil bawang merah di lahan pasir pantai dan 4) menentukan kombinasi antara interval fertigasi dan frekuensi pemberian bahan pembenah tanah dengan takaran berbeda yang memberikan pengaruh terbaik bagi pertumbuhan dan hasil bawang merah di lahan pasir pantai.

Penelitian dilaksanakan di lahan pasir pantai Jetis, Desa Banjarsari, Kecamatan Nusawungu, Kabupaten Cilacap, pada bulan April sampai September 2017. Penelitian ini menggunakan rancangan percobaan RAKL dengan 3 faktor, 12 kombinasi perlakuan dan 3 ulangan. Faktor pertama adalah interval fertigasi terdiri $I_1= 7$ hari sekali, $I_2= 14$ hari sekali. Faktor kedua adalah frekuensi pemberian bahan pembenah tanah terdiri $M_1=$ setiap musim, $M_2=$ dua musim sekali. Faktor ketiga adalah takaran pemberian bahan pembenah tanah terdiri $D_1= 100\%$ takaran, $D_2= 200\%$ takaran, $D_3= 300\%$ takaran. Data dianalisis dengan cara Uji F, apabila berbeda nyata dilanjutkan dengan DMRT.

Hasil penelitian menunjukkan bahwa (1) interval fertigasi 14 hari sekali (I_2) memberikan pengaruh pertumbuhan terbaik pada bobot akar kering, (2) frekuensi pemberian bahan pembenah tanah setiap musim (M_1) memberikan pengaruh pertumbuhan terbaik pada jumlah akar, bobot daun segar, jumlah umbi, bobot umbi segar, bobot umbi kering dan menghasilkan potensi hasil umbi segar 11,17 ton/ha, (3) pemberian bahan pembenah tanah dengan takaran berbeda tidak berpengaruh nyata terhadap semua variabel pertumbuhan dan hasil bawang merah, (4) kombinasi interval fertigasi 7 hari sekali (I_1) dan frekuensi pemberian bahan pembenah tanah setiap musim (M_1) menunjukkan pengaruh terbaik pada variabel pertumbuhan, jumlah umbi dan bobot umbi kering tanaman.

SUMMARY

Coastal sandy soil farming can be used as an alternative of crop development to overcome the low production due to the use of productive agricultural land to non-agricultural uses, such as residential and industrial. Shallot cultivation on coastal sandy soil farming is confronted with constrain in the low ability of water holding capacity, high infiltration and evaporation and low of soil fertility and efficiency water use. Adding soil conditioner in the form of clay and mature as well as chemical fertilizer can increase the yield of shallot in coastal sandy soil farming. This research aimed to know 1) determine the optimum interval fertigation effect for crop growth and yield of shallot in coastal sandy land, 2) determine the best frequency of giving soil conditioner effect for growth and yield of shallot in coastal sandy land, 3) determine the optimum doses effect for crop growth and yield of shallot in coastal sandy land and 4) determine the optimum combination of fertigation intervals and frequency of giving soil conditioner with different doses that gives the best effect for crop growth and yield of shallot in coastal sandy land.

The research was conducted at Banjarsari Village, Nusawungu District, Cilacap Regency from April to September 2017. This research used Randomized Completely Block Design (RCBD) with 3 factors, 12 treatment combinations and 3 replications. The first factor is the interval fertigation consist $I_1 = 7$ days and $I_2 = 14$ days. The second factor is the frequency of the giving of soil conditioner consist $M_1 =$ every season and $M_2 =$ two seasons. The third factor is the doses of the giving of soil conditioner consist $D_1 = 100\%$ doses, $D_2 = 200\%$ doses and $D_3 = 300\%$ doses. Data were analyzed by F Test, if significantly effect, followed by DMRT at level 5% and 1%.

The result show that (1) fertigation intervals of chemical fertilizer 14 days once (I_2) give best crop growth effect on the weight of dry root, (2) the frequency of giving of soil conditioner every season (M_1) give best crop growth effect on number of roots, fresh weight of leaves, number of tubers, fresh and dry weight of bulk and have potentially on fresh tuber yield to 11.17 tonnes/ha, (3) the giving of soil conditioner with different doses give no significantly effect on all the crop growth variables and shallot yield and (4) combination of fertigation intervals 7 days once (I_1) and the frequency of giving of soil conditioner every season (M_1) showed the best effect on crop growth variable, number of tubers and the dry weight of bulk.