

RINGKASAN

Pepaya (*Carica papaya* L.) merupakan buah bergizi tinggi, terutama vitamin A dan C. Salah satu varietas pepaya yang digemari yaitu varietas Calina atau yang sering disebut pepaya California. Saat ini dalam membudidayakannya, petani kurang memperhatikan kondisi kesuburan tanah. Penggunaan pupuk anorganik (NPK) dapat berakibat pada kerusakan pada tanah. Penggunaan pupuk organik harus diterapkan petani agar tanah tidak mengalami kerusakan dalam jangka panjang. Salah satu pupuk organik yang ramah lingkungan yaitu pupuk Petroganik. Berdasarkan hal tersebut, penelitian ini bertujuan untuk mengetahui 1) pengaruh pemberian pupuk NPK dan Petroganik terhadap pertumbuhan bibit papaya varietas Calina, 2) pemberian pupuk paling baik yang digunakan dalam penelitian, dan 3) jumlah bakteri, jamur, cacing, dan pH tanah.

Penelitian ini dilaksanakan di Desa Karangdawa, Kecamatan Margasari, Kabupaten Tegal dan Laboratorium Perlindungan Tanaman, Fakultas Pertanian, Universitas Jenderal Soedirman. Penelitian dilaksanakan dari bulan Juli sampai Desember 2018. Penelitian ini adalah percobaan non-faktor yang disusun berdasarkan Rancangan Acak Kelompok Lengkap (RAKL). Percobaan terdiri atas tiga perlakuan yaitu M0 tanpa pemberian pupuk NPK dan Petroganik, M1 dengan pemberian pupuk NPK sebanyak 80 g/tanaman, dan M2 dengan pemberian pupuk Petroganik sebanyak 98,5 g/tanaman dengan delapan ulangan sehingga terdapat 24 unit percobaan.

Hasil penelitian menunjukkan bahwa pemberian pupuk NPK dan Petroganik berpengaruh meningkatkan tinggi tanaman, diameter batang, jumlah daun, luas daun, panjang daun, dan jumlah buah. Pemberian pupuk paling baik yang digunakan dalam penelitian ini adalah pupuk Petroganik sebanyak 98,5 g/tanaman. Jumlah bakteri tanah perlakuan M0, M1, dan M2 yaitu 93,54%, 116,13%, dan 144,35% berbeda dari jumlah bakteri sebelum tanam, jumlah jamur tanah perlakuan M0, M1, dan M2 berbeda yaitu 75,00%, 116,67%, dan 137,09% berbeda dari jumlah jamur sebelum tanam, jumlah cacing tanah perlakuan M0, M1, dan M2 sebanyak 1,4 ekor/kg, 2,14 ekor/kg, dan 2,5 ekor/kg, dan pH tanah perlakuan M0, M1, dan M2 yaitu 115,38%, 121,15%, dan 119,23% berbeda dari pH tanah sebelum tanam.

SUMMARY

Papaya (Carica papaya L.) is highly nutritious fruit, especially vitamins A and C. One of the popular varieties of papaya is the Calina variety or often called California papaya. Nowadays when cultivating it, the farmers are giving less attention to the condition of soil fertility. The use of inorganic fertilizer (NPK) can damage the soil. The organic fertilizer must be applied by farmers for preventing damage of soil in the long term. One of the environmentally friendly organic fertilizer is Petroganic. Based on these problems, this research aimed to determine 1) the effect of NPK and Petroganic fertilizers on the growth of Calina papaya varieties seedlings, 2) the best fertilizer application on this research, and 3) the number of bacteria, fungi, worm, and soil pH.

This research was conducted in Karangdawa Village, Margasari District, Tegal Regency and Plant Protection Laboratory, Faculty of Agriculture, the Jenderal Soedirman University. The research was carried out from July until December 2018. This was a non-factorial experiment. It was arranged in a Randomized Completed Block Design (RCBD). There were three treatments ie without NPK and Petroganic fertilizers (M0), 80 g NPK fertilizer/plant (M1), and 98.5 g Petroganic fertilizer/plant (M2) with eight replications, so there were 24 experimental units.

Results showed that application of NPK and Petroganic fertilizers increased the plant height, stem diameter, number of leaves, leaf area, leaf length, and the number of fruits. The best fertilizer application on this research was 98.5 g Petroganic fertilizer/plant. The number of bacteria in soil treated by M0, M1, and M2 were 93,54%, 116,13%, and 144,35% respectively of that of before planting, the number of fungi in soil treated by M0, M1, and M2 were 75,00%, 116,67%, and 137,09% respectively of that of before planting, the number of worm in soil treated by M0, M1, and M2 were 1.4 tails/kg, 2.14 tails/kg, and 2.5 tails/kg, and soil pH in soil treated by M0, M1, and M2 were 115,38%, 121,15%, and 119,23% respectively of that of before planting.