

ABSTRAK

Santi Rosniawaty. 2011. Respons Jarak Pagar (*Jatropha curcas* L.) terhadap Pupuk Organik, Nitrogen, Fosfor Di Dua Lokasi Berbeda. Disertasi Ilmu Pertanian, Program Pascasarjana Universitas Padjadjaran, dibawah bimbingan Ukun Sastraprawira, Mahfud Arifin dan Nani Hermiati.

Jarak pagar merupakan salah satu alternatif sumber bahan bakar nabati. Potensinya tinggi karena mempunyai banyak manfaat dan tidak dapat dikonsumsi, sehingga tidak akan bersaing dengan kebutuhan manusia. Respons bibit jarak pagar terhadap pemberian berbagai jenis dan dosis pupuk organik, telah dilaksanakan mulai bulan April 2010 sampai dengan bulan Mei 2010 dan respons tanaman jarak pagar terhadap nitrogen-fosfor berbeda dosis, mulai bulan Agustus 2010 sampai bulan Maret 2011. Kedua percobaan dilaksanakan di dua lokasi yang berbeda, yaitu di Kebun BPBHAT Jatinangor dan Kebun petani di Plered. Jenis tanah di Jatinangor dan Plered adalah Inceptisol. Tipe iklim di Jatinangor adalah C sedangkan di Plered adalah D menurut klasifikasi iklim Schmidt-Ferguson (1951). Rancangan percobaan yang digunakan adalah Rancangan Acak Kelompok (RAK) baik di pembibitan maupun di lapangan. Perlakuan di Pembibitan adalah pupuk organik kotoran sapi; kotoran domba; kotoran ayam; kascing dan dosisnya yaitu 0 kg polibeg⁻¹, 0,5 kg polibeg⁻¹, 0,67 kg polibeg⁻¹, dan 1 kg polibeg⁻¹. Perlakuan di lapangan adalah berbagai dosis N P yaitu N (0 kg ha⁻¹, 50 kg ha⁻¹, 100 kg ha⁻¹ dan 150 kg ha⁻¹) dan P (0 kg ha⁻¹, 15 kg ha⁻¹, 30 kg ha⁻¹ dan 45 kg ha⁻¹.) Percobaan masing-masing diulang 2 kali sehingga pada masing-masing lokasi, pada setiap tahap percobaan terdapat 32 satuan percobaan. Hasil percobaan menunjukkan bahwa di Jatinangor dan Plered bibit jarak pagar mempunyai respons yang baik terhadap pemberian pupuk organik berupa kotoran domba dengan dosis 0,5 kg polibeg⁻¹, kotoran ayam dan kascing dengan dosis 0,67 kg polibeg⁻¹. Di Jatinangor terdapat pengaruh dosis nitrogen-fosfor (100 dan 15 kg ha⁻¹) terhadap hasil tanaman jarak pagar panen pertama, tahun pertama yaitu 101,12 g tanaman⁻¹ (252,8 kg ha⁻¹) dan di Plered dosis nitrogen-fosfor (100 dan 45 kg ha⁻¹) yaitu 192,72 g tanaman⁻¹ (486,8 kg/ha). Rendemen minyak terbanyak di Jatinangor dan di Plered diperoleh pada dosis N 50 kg ha⁻¹ dan dosis P = 45 kg ha⁻¹, yaitu 48,55 % dan 43,93 % .

Kata kunci : pupuk organik, dosis N, dosis P, jarak pagar

ABSTRACT

Santi Rosniawaty. 2011. Response of Physic nut (Jatropha curcas L.) to Organic Fertilizer, Nitrogen and Phosphorus in Two Different Locations . Dissertation of Agricultural Sciences, Graduate Program University of Padjadjaran, under the guidance of Ukun Sastraprawira, Mahfud Arifin and Nani Hermiati.

Physic nut is an alternative source of biofuel. The potential is high because it have many benefits and can not be consumed, so it will not compete with human needs. Response of physic nut (Jatropha curcas L.) seedlings to organic fertilizer has been studied from April 2010 until May 2010 and the response of Jatropha plant to different doses of nitrogen-phosphorus, from August 2010 until March 2011. Both experiments were carried out in two different locations, in the field experiment of BPBHAT Jatinangor and farmer gardens in Plered. Soil types in Jatinangor and Plered was Inceptisol. Type of climate in Jatinangor was C while in Plered was D according to Schmidt-Ferguson (1951). Experimental design used was Randomized Block Design (RBD) in both the nursery and in the field. Treatment in the Nursery was organic fertilizer with cow dung; sheep dung; chicken dung; kascing and the dose were 0 kg polybag⁻¹, 0,5 kg polybag⁻¹, 0,67 kg polybag⁻¹, and 1 kg polybag⁻¹. Treatment in the field was different doses of NP consisted of N (0 kg ha⁻¹, 50 kg ha⁻¹, 100 kg ha⁻¹ and 150 kg ha⁻¹) and P (0 kg ha⁻¹, 15 kg ha⁻¹, 30 kg ha⁻¹ and 45 kg ha⁻¹). All treatments combinations in both locations were replicated two times. Total experimental unit of both locations were 32.. The experimental results showed that in Jatinangor and Plered Jatropha seedlings had a good response to the application of organic fertilizer in the form of sheep dung with a dose of 0,5 kg polybag⁻¹, chicken dung and kascing with a dose of 0,67 kg polybag⁻¹. In Jatinangor there was the influence of nitrogen-phosphorus doses (100 and 15 kg ha⁻¹) on the results of the first harvest Jatropha plant, in the first year 101,12 g plant⁻¹ or 252,8 kg ha⁻¹ and in Plered dose of nitrogen- phosphorus (100 and 45 kg ha⁻¹) was 192,72 g plant⁻¹ or 486,8 kg ha⁻¹. The highest yield of oil in Jatinangor Plered obtained at doses of 50 kg N ha⁻¹ and P 45 kg ha⁻¹, that were 48,55% and 43,93% respectively.

Key words: organic fertilizer, the dose of N, P dose, physic nut