

RINGKASAN

Ketahanan pangan merupakan salah satu tujuan pembangunan nasional, yang diupayakan melalui peningkatan produksi beras nasional. Peningkatan produksi beras dapat dilakukan dengan pemanfaatan lahan kering untuk budidaya padi gogo. Umumnya lahan kering memiliki tingkat kesuburan yang rendah sehingga diperlukan suatu input teknologi seperti pemupukan. Organisme pengganggu tanaman juga menjadi faktor kendala dalam peningkatan produksi beras nasional. Salah satu upaya dalam mengendalikan organisme pengganggu tanaman dengan menggunakan ekstrak sereh yang ramah lingkungan. Latar belakang tersebut memberikan kesempatan untuk dilakukan penelitian tentang aplikasi ekstrak sereh dalam menekan serangan hama dan penyakit serta populasi gulma, dengan efisiensi penggunaan pupuk N,P,K sintetik pada dosis rendah di pertanaman padi gogo. Penelitian ini bertujuan untuk mengetahui: (1) pengaruh aplikasi ekstrak sereh terhadap tingkat serangan hama, penyakit, pertumbuhan gulma, dan hasil padi gogo (2) pengaruh pemberian pupuk N, P, K rendah terhadap tingkat serangan hama, penyakit, pertumbuhan gulma, dan hasil padi gogo, (3) pengaruh aplikasi ekstrak sereh dan pupuk N, P, K rendah yang mampu menekan tingkat serangan hama, penyakit, pertumbuhan gulma, dan hasil padi gogo.

Penelitian dilaksanakan selama bulan April hingga Juli 2017 di Kebun Balai Benih Palawija Kalicacing. Penelitian menggunakan rancangan petak terbagi (split plot) dengan petak utama pupuk N, P, K dan anak petak ekstrak sereh. Penelitian menggunakan tiga ulangan dengan perlakuan sebanyak 12 kombinasi yaitu 50% pupuk rekomendasi dan tanpa ekstrak sereh, 50% pupuk rekomendasi dan 5% ekstrak sereh, 50% pupuk rekomendasi dan 2,5% ekstrak sereh, 50% pupuk rekomendasi dan 1,67% ekstrak sereh, 50% pupuk rekomendasi dan 1,25% ekstrak sereh, 50% pupuk rekomendasi dan 1% ekstrak sereh, 100% pupuk rekomendasi dan tanpa ekstrak sereh, 100% pupuk rekomendasi dan 5% ekstrak sereh, 100% pupuk rekomendasi dan 2,5% ekstrak sereh, 100% pupuk rekomendasi dan 1,67% ekstrak sereh, 100% pupuk rekomendasi dan 1,25% ekstrak sereh, 100% pupuk rekomendasi dan 1% ekstrak sereh.

Variabel yang diamati antara lain vegetasi gulma, intensitas serangan hama dan penyakit (%) serta komponen hasil meliputi jumlah malai, jumlah gabah per rumpun, persentase gabah isi per rumpun, bobot gabah per rumpun (gram), bobot 1000 biji (gram), bobot gabah petak efektif (kg) dan bobot gabah per hektar (ton). Hasil penelitian menunjukkan gulma yang dominan tumbuh adalah *Portulaca oleracea*, *Cynodon dactylon*, dan *Cyperus rotundus*. Aplikasi ekstrak sereh dan pupuk N, P, K dengan dosis rendah belum mampu menekan intensitas serangan hama dan penyakit, pertumbuhan gulma, dan belum mampu meningkatkan komponen hasil, namun mampu meningkatkan persentase gabah isi per rumpun.

SUMMARY

Food security is one of the national development goals, which is pursued through an increase in national rice production. Increased rice production can be done with the use of dry land for cultivation of upland rice. Generally dry land has a low fertility rate so it needs a technology input such as fertilization. Plant pest organism is also a constraint factor in increasing the national rice production. One of the efforts in controlling pests by using environmentally for example lemongrass extract. The background provides an opportunity for research on the application of lemongrass extract in suppressing pest and disease attacks and weed populations, with efficient use of chemical fertilizer like N, P, K at low doses in upland rice cultivation. The aims of this research is to know: (1) the effect of the application of lemongrass extract to the level of pest, disease, weed growth, and yield of upland rice (2) the effect of the application of fertilizer N, P, K low level attacks to the level of pest, disease, weed growth, and yield of upland rice (3) the effect of the application Lemongrass extract and application of fertilizer N, P, K, low was able to suppress the level of pests, diseases, weeds, growth and yield of upland rice..

The study was conducted April to Juni 2017 at Balai Benih Palawija Kalicacing. The study used split plot design with main plot of N, P, K fertilizer and sub plot of lemongrass extract. The study used three replications with 12 combinations of treatment ie 50% fertilizer recommendation and without lemongrass extract, 50% recommendation fertilizer and 5% lemongrass extract, 50% recommendation fertilizer and 2,5% lemongrass extract, 50% fertilizer recommendation and 1,67% lemongrass extract, 50% fertilizer recommendation and 1,25% lemongrass extract, 50% fertilizer recommendation and 1% lemongrass extract, 100% fertilizer recommendation and no lemongrass extract, 100% recommendation fertilizer and 5% lemongrass extract, 100% fertilizer recommendation and 2,5% lemongrass extract, 100% fertilizer recommendation and 1,67% lemongrass extract, 100% recommended fertilizer and 1,25% lemongrass extract, 100% fertilizer recommendation and 1% lemongrass extract.

*The variables observed include weed vegetation, pest and disease intensity (%) and yield component including the number of panicles, the number of grains per hill, the percentage of grain of contents per hill, the weight of grain per clump (gram), weight of 1000 seeds (gram), weight grain of effective plot (kg) and weight of grain per hectare (ton). The results showed the dominant weeds were *Portulaca oleracea*, *Cynodon dactylon*, and *Cyperus rotundus*. Lemongrass extract and application of fertilizer N, P, K with low dose had not been able to suppress the intensity of attacks of pests and disease, weed growth, and haven't been able to improve the results, but the component is able to increase the percentage of grain contents per hill.*