

ABSTRAK

Penelitian dilaksanakan pada bulan Maret hingga September 2024 dengan lokasi berada di lahan *Experimental Farm* Fakultas Peternakan, Universitas Jenderal Soedirman. Pelaksanaan penelitian bertujuan untuk mengetahui penerapan sistem tanam *mixed cropping* dan umur panen berbeda terhadap parameter jumlah daun dan diameter batang varietas rumput pakchong (*Pennisetum purpureum* cv. *Thailand*) yang ditanam bersama dengan legum Gamal (*Gliricidia sepium*). Materi yang digunakan yaitu rumput pakchong (*Pennisetum purpureum* cv. *Thailand*) yang telah melalui proses *trimming* pada umur 90 hari. Pemberian pupuk dilakukan untuk mendukung kualitas tanah pada lahan penelitian yang terdiri dari pupuk organik sebanyak 15 ton/ha dan pupuk NPK sebanyak 100kg/ha. Lahan yang digunakan yaitu seluas 230,4 m² dengan ukuran setiap petak 3 x 3,2 m dan jarak tanam 0,8 x 0,6 m. Metode penelitian menggunakan Split Plot Design (SPD) berbasis Rancangan Acak Kelompok (RAK) dengan pola 2 x 3 yang terbagi menjadi 4 kelompok sehingga terdapat 24 unit percobaan. Perlakuan faktor yang pertama (*main plot*) yaitu sistem tanam (T) yang terdiri dari sistem tanam monokultur dan sistem tanam *mixed cropping*. Perlakuan faktor kedua (*sub plot*) yaitu umur panen (P) 42; 56; dan 70 hari setelah tanam (HST). Uji lanjut menggunakan uji DMRT (*Duncan's multiple range test*) dengan taraf nilai 0,05 pada setiap faktor perlakuan. Penerapan sistem *mixed cropping* memberikan pengaruh yang nyata ($P < 0,05$) terhadap jumlah daun dan diameter batang rumput pakchong. Jumlah daun pada perlakuan sistem *mixed cropping* sebesar 12,82 helai/batang dan perlakuan sistem monokultur sebesar 12,04 helai/batang sedangkan diameter batang pada perlakuan sistem *mixed cropping* yaitu sebesar 21,51 mm dan perlakuan sistem monokultur sebesar 20,60 mm. Faktor umur panen 42, 56, dan 70 HST memberikan pengaruh sangat nyata ($P < 0,01$) terhadap jumlah daun dan diameter batang rumput pakchong. Jumlah daun secara berurutan yaitu 10,79; 12,46; dan 14,05 helai/batang sedangkan diameter Batang pada umur panen 42, 56, dan 70 HST secara berurutan yaitu sebesar 18,91; 20,97; dan 23,30 mm. Berdasarkan hasil penelitian, disimpulkan bahwa sistem *mixed cropping* meningkatkan pertumbuhan agronomi rumput pakchong melalui penyediaan nitrogen oleh legum.

Kata kunci : rumput pakchong, *mixed cropping*, monokultur, jumlah daun, diameter batang.

ABSTRACT

The research was carried out from March to September 2024 with the location on the land of the Experimental Farm of the Faculty of Animal Husbandry, Jenderal Soedirman University. The purpose of the research was to determine the application of mixed cropping planting systems and different harvest ages to the parameters of the number of leaves and stem diameter of the Pakchong grass variety (*Pennisetum purpureum* cv. Thailand), which is grown together with Gamal legumes (*Gliricidia sepium*). The material used is Pakchong grass (*Pennisetum purpureum* cv. Thailand) that has gone through the trimming process at the age of 90 days. The application of fertilizer was carried out to support the quality of the soil on the research land consisting of organic fertilizer as much as 15 tons/ha and NPK fertilizer as much as 100kg/ha. The land used is 230.4 m² with a size of 3 x 3.2 m and a planting distance of 0.8 x 0.6 m. The research method used was Split Plot Design (SPD) based on Randomized Complete Block Design (RCBD) with a 2 x 3 pattern which was divided into 4 groups so that there were 24 experimental units. The first factor treatment (main plot) is the planting system (T) which consists of a monoculture planting system and a mixed cropping planting system. The treatment of the second factor (sub-plot) is the harvest age (P) 42; 56; and 70 days after planting (HST). The further test used the DMRT (Duncan's multiple range test) with a value of 0.05 for each treatment factor. The application of the mixed cropping system has a significant effect ($P < 0.05$) on the number of leaves and the diameter of Pakchong grass stems. The number of leaves in the mixed cropping system treatment was 12.82 sheets/stem and the monoculture system treatment was 12.04 sheets/stem, while the stem diameter in the mixed cropping system treatment was 21.51 mm and the monoculture system treatment was 20.60 mm. The harvest age factors of 42, 56, and 70 HST exerted a very noticeable influence ($P < 0.01$) on the number of leaves and the diameter of Pakchong grass stems. The number of leaves in order is 10.79; 12.46; and 14.05 sheets/stem, while the diameter of the stem at harvest age 42, 56, and 70 HST respectively is 18.91; 20.97; and 23.30 mm. Based on the results of the study, it was concluded that the mixed cropping system increases the agronomic growth of Pakchong grass through the provision of nitrogen by legumes.

Keywords: Pakchong grass, mixed cropping, monoculture, number of leaves, stem diameter.