

INTISARI

Penelitian ini bertujuan untuk 1) mengetahui respon pertumbuhan dan hasil tanaman padi gogo dan kedelai di berbagai proporsi populasi pada sistem tumpangsari padi gogo + kedelai di lahan pasir pantai, 2) mengetahui perubahan komposisi gulma di berbagai proporsi populasi pada sistem tumpangsari padi gogo + kedelai di lahan pasir pantai, dan 3) Untuk mengetahui nisbah kesetaraan lahan (NKL), agresivitas, dan nilai ekonomi sistem tumpangsari padi gogo + kedelai di lahan pasir pantai. Penelitian ini di susun dengan Rancangan Acak Kelompok Lengkap (RAKL) faktor tunggal dengan 3 blok sebagai ulangan. Perlakuan yang di uji adalah pengaturan proporsi populasi padi gogo dan kedelai, terdiri dari 6 taraf yaitu: 100:0, 80:20, 60:40, 40:60, 20:80, 0:100. Pengamatan yang dilakukan berupa pengamatan variabel lingkungan, komposisi gulma, aktivitas fisiologis tanaman, pertumbuhan tanaman, komponen hasil dan hasil tanaman, analisis tumpangsari dan analisis usaha tani. Data yang di peroleh dianalisis menggunakan metode analisis varian (ANOVA) pada tingkat kesalahan 5%, jika hasil uji ANOVA menunjukkan perbedaan yang nyata antar perlakuan maka dilanjutkan dengan uji lanjut Beda Nyata Terkecil (BNT). Hasil penelitian memberikan informasi bahwa proporsi populasi 60:40, 40:60, 20:80, dan 0:100 (monokultur kedelai) memiliki komposisi gulma yang didominasi oleh gulma daun lebar golongan C3 sedangkan proporsi populasi 100:0 (monokultur padi gogo) dan 80:20 yang didominasi oleh gulma rumputan golongan C4. Proporsi populasi 60:40, 40:60, 20:80, dan 0:100 mampu menurunkan bobot kering gulma dibandingkan pada proporsi populasi 100:0 (monokultur padi gogo) dan 80:20. Pengaturan proporsi populasi 60:40 mampu meningkatkan laju fotosintesis tanaman padi gogo maupun kedelai sehingga tanaman padi gogo dan kedelai pada perlakuan tersebut memiliki bobot kering total tanaman yang lebih baik dibandingkan dengan perlakuan lainnya. Hasil padi gogo pada proporsi 60:40 mampu memberikan hasil produksi yang sama dengan sistem monokulturnya (100:0). Hasil perhitungan nisbah kesetaraan lahan menunjukkan bahwa pada proporsi 60:40 menunjukkan produktivitas lahan tertinggi yaitu 1,60 dengan tingkat kompetisi antar tanaman penyusun yang relatif sama yaitu dengan nilai indeks agresivitas padi gogo dan kedelai masing-masing sebesar -0,01 dan 0,01 serta mampu memberikan keuntungan 1,82 kali lipat (R/C rasio) dari total biaya produksi yang dikeluarkan.

Kata kunci : gulma, lahan pasir pantai, nisbah kesetaraan lahan, tumpangsari

ABSTRACT

This research aimed to 1) know the growth and yield of upland rice and soybean in various crops proportion in the system of intercropping of upland rice + soybean in coastal sandy area, 2) know the change of weeds composition in various crops proportion in intercropping system of upland rice + soybean in coastal sandy area (3) find out the land equity ratio (LER), aggressiveness, and economic value of the intercropping system of upland rice + soybean in coastal sandy area. This research was arranged with Randomized Complete Block Design (RCBD) single factor with 3 blocks as replication. The treatment was the crops proportion of upland rice and soybeans, consisting of 6 levels namely: 100: 0, 80:20, 60:40, 40:60, 20:80, 0: 100. Observations made in the form of environmental observation, weed composition, crop physiological activities, crop growth, yield components and crop yields, intercropping analysis and farming analysis. The data obtained were analyzed using variance analysis method (ANOVA) with $\alpha=5\%$, if the ANOVA test result showed significantly then continued with the Least Significant Different Test (LSD). The results provided information that the crop proportions were able to change the composition of weeds and suppress weed growth. The crops proportion of 60:40, 40:60, 20:80, and 0: 100 (soybean monocultures) were weed compositions dominated by broadleaf weeds of C3 at the same time the crops proportion was 100: 0 (monoculture of upland rice) and 80:20 dominated by grass weeds of C4. The crops proportion of 60:40, 40:60, 20:80, and 0: 100 were able to decrease dry weight of weed compared to the crops proportion of 100: 0 (upland rice monoculture) and 80:20. The crop proportion of 60:40 induced the photosynthesis rate of upland rice and soybean so that it had better total dry weight of the crops compared with other treatments. The crop proportions were able to increase the yield of upland rice and soybean per crop, but the crops proportion caused the decreased of population number of each crop so that decreased yield of upland rice and soybean. The yield of upland rice between the crop proportion of 60:40 and monoculture system (100: 0) was same. The land equity ratio (LER) showed that in the crop proportion of 60:40 had the highest that was 1.60, with the level of competition between the constituent crops were relatively the same with the value of aggressive index of upland rice and soybeans as -0.01 and 0.01, respectively and was able to give 1.82 profit (R/C ratio) of total production cost incurred.

Keywords: coastal sandy area, intercropping, land equity ratio, weeds.