Efektivitas Sistem Intercropping Tanaman Bunga Matahari dan Tomat terhadap Produktivitas Tanaman dan Pengendalian Gulma = The Effectiveness of Sunflower and Tomato Intercropping Systems on Plant Productivity and Weed Control

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Abstrak

Sistem intercropping merupakan sistem budidaya tanaman yang dilakukan dengan menanam lebih dari satu jenis tanaman secara bersamaan pada areal lahan yang sama. Sistem intercropping dinilai mampu meningkatkan hasil pendapatan dan mengurangi resiko kerugian akibat gagal panen pada salah satu tanaman produksi. Penanaman bersama tanaman bunga matahari dan tomat merupakan salah satu contoh sistem budidaya tanaman menggunakan sistem intercropping. Namun, penelitian yang mengkaji tentang sistem intercropping tanaman bunga matahari dan tomat dalam upaya meningkatkan hasil panen masih sangat terbatas. Oleh karena itu, tujuan dari penelitian ini yaitu untuk mengevaluasi
efektivitas sistem intercropping bunga matahari dan tomat terhadap pengendalian gulma, produktivitas dan pertumbuhan tanaman produksi. Tanaman bunga matahari dan tanaman tomat ditanam dalam waktu yang bersamaan dengan pola yang berselang seling selama 13 pekan dengan rasio 1:1 sebanyak dua kali pengulangan. Berdasarkan evaluasi hasil panen, sistem intercropping bunga matahari dan tomat menyebabkan hasil panen buah tomat dan yield bunga matahari menurun (LER= 0,652<1). Hal tersebut disebabkan oleh persaingan
interspesifik yang didominasi oleh tanaman tomat (A= +0,165, CR=1,677). Berdasarkan uji Mann Whitney, berat yield bunga matahari/individu tanaman pada sistem intercroppping lebih rendah dibandingkan dengan sistem monocropping sehingga memiliki perbedaan yang signifikan (P<0,05). Oleh karena itu, penggunaan tanaman bunga matahari sebagai tanaman pendamping pada sistem intercropping tomat dinilai kurang tepat apabila transplantasi dilakukan secara bersamaan. Meskipun demikian, sistem intercropping bunga matahari dan
tomat memiliki efektivitas yang lebih baik dibandingkan dengan sistem monocropping dalam menghambat pertumbuhan gulma dan infeksi hama serta menurunkan peristiwa retak buah tomat. Penelitian ini diharapkan dapat memberikan evaluasi terkait waktu dan rasio yang tepat dalam pengaplikasian tanaman bunga matahari sebagai tanaman pendamping pada sistem intercropping tomat.
.....The intercropping system was a plant cultivation system that was carried out by planting more than one type of plant simultaneously on the same land area. The intercropping system
had been considered to be able to increase income yield and reduce the risk of loss due to crop failure in one of the production plants. The co-planting of sunflower and tomato plants was an example of a crop cultivation system using an intercropping system. However, research that examines the intercropping system of sunflower and tomato plants in an effort to increase yields was still very limited. Therefore, the aim of this study was to evaluate the effectiveness of sunflower and tomato intercropping systems on plant productivity and weed control. Sunflower and tomato plants were transplanted at the same time and planted in a pattern that was alternated for 13 weeks at a 1:1 ratio of two times. Based on the evaluation

results, the sunflower and tomato intercropping system caused the tomato fruit yield and sunflower yield to decrease (LER = 0.652 <1). This was caused by interspecific competition which was dominated by tomato plants (A = +0.165, CR = 1.677). Based on the Mann Whitney test, the yield weight of sunflower / individual plants in the intercroppping system had a lower weight than the monocropping system so that it had a significant difference (P <0.05). Therefore, the use of sunflower plants as companion plants in the tomato intercropping system was considered inappropriate if the transplants were carried out simultaneously. However, the sunflower and tomato intercropping system had better effectiveness than the monocropping system in inhibiting weed growth and pest infection and reducing the incidence of tomato fruit cracking. This research was expected to provide appropriate considerations regarding the use of sunflowers as a companion plant in the tomato intercropping system in an effort to increase plant productivity and weed control.