

INTISARI

Jagung manis merupakan tanaman semusim yang dapat dimanfaatkan sebagai pemecah angin untuk mengatasi salah satu faktor pembatas budidaya tanaman di lahan pasir pantai, yaitu kecepatan angin tinggi. Penelitian lapangan dilaksanakan di lahan pasir pantai Samas, Kabupaten Bantul, Daerah Istimewa Yogyakarta. Penelitian laboratorium dilaksanakan di Laboratorium Manajemen Produksi Tanaman, Laboratorium Ilmu Tanaman, dan Laboratorium Hortikultura, Fakultas Pertanian, UGM. Penelitian bertujuan untuk (1) Menentukan letak jagung manis sebagai pemecah angin yang memberikan cuaca mikro, sifat fisiologis, sifat biokimia, pertumbuhan, dan hasil tanaman kangkung terbaik (2) Mempelajari pengaruh letak jagung manis sebagai pemecah angin terhadap cuaca mikro, sifat fisiologis, sifat biokimia, pertumbuhan, dan hasil tanaman kangkung. Percobaan disusun dalam Rancangan Acak Kelompok Lengkap non faktorial yang terdiri dari lima taraf dan empat ulangan. Faktor penelitian yaitu letak tanaman jagung manis sebagai pemecah angin, meliputi tanpa jagung manis, jagung manis di timur, jagung manis di timur dan barat, jagung manis di selatan, serta jagung manis di selatan dan utara. Data dianalisis menggunakan analisis ragam (ANOVA) dan, jika berbeda nyata, analisis data dilanjutkan dengan Tukey HSD dengan $\alpha = 5\%$. Hasil menunjukkan (1) Penanaman jagung manis sebagai pemecah angin di lahan pasir pantai Samas pada bulan November menunjukkan efektivitas penurunan kecepatan angin dan modifikasi cuaca mikro, serta peningkatan sifat fisiologis, pertumbuhan, dan hasil kangkung di sisi timur (2) Kecepatan angin menurun dapat meningkatkan kelembaban udara dan kadar lengas tanah serta menurunkan suhu udara. Kadar air nisbi, lebar stomata, laju transpirasi, fotosintesis, pertumbuhan meningkat. Meskipun indeks panen kering dan indeks panen segar tidak meningkat, hasil kangkung meningkat.

Kata kunci: kadar air nisbi, kadar lengas tanah, kecepatan angin

ABSTRACT

Sweet corn is an annual crop that can be used as a windbreaker to overcome one of the limiting factors for plant cultivation in coastal sandy land, namely high wind speed. Field research was conducted in Samas coastal sandy land, Bantul Regency, Special Region of Yogyakarta. Laboratory research was conducted at the Plant Production Management Laboratory, Plant Science Laboratory, and Horticulture Laboratory, Faculty of Agriculture, UGM. The research aimed to (1) Determine the sweet corn's location as a windbreaker that provided the best microclimate, physiological properties, biochemical properties, growth, and yield of water spinach plants (2) Study the effect of sweet corn's location as a windbreaker on the microclimate, physiological properties, biochemical properties, growth, and yield of water spinach plants. The experiment was arranged in a non-factorial Randomized Complete Block Design consisting of five levels and four repeats. The research factor was the location of sweet corn as windbreakers, including without sweet corn, sweet corn in the east, sweet corn in the east and west, sweet corn in the south, and sweet corn in the south and north. The data were analyzed using analysis of variance (ANOVA), and if the difference was marked, the data analysis continued with Tukey HSD with $\alpha = 5\%$. The results showed that (1) Planting sweet corn as a windbreaker in Samas coastal sandy land in November showed the effectiveness of decreasing wind speed and micro weather modification, as well as improving the physiological properties, growth, and yield of water spinach on the east side (2) Decreasing wind speed can increase air humidity and soil moisture content and reduce air temperature. Relative water content, stomatal width, transpiration rate, photosynthesis, and growth were increase. Although the dry harvest index and fresh harvest index did not increase, the yield of water spinach increased.

Key word: relative water content, soil moisture content, wind speed