

Respons Pertumbuhan dan Kadar Kapsaisin Tanaman Cabai Merah Keriting (*Capsicum annuum* L.) terhadap Kekeringan dan Pemberian Pupuk Mikoriza Arbuskular

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Abstrak

Produksi cabai merah keriting (*Capsicum annuum* L.) sangat dipengaruhi oleh iklim dan unsur hara. Mikoriza merupakan salah satu fungi yang bersimbiosis dengan akar tanaman. Mikoriza membantu tanaman dalam penyerapan air dan unsur hara. Penelitian ini bertujuan untuk mengetahui dan mempelajari respon pertumbuhan tanaman cabai merah keriting (*Capsicum annuum* L.) dan kadar kapsaisin buah cabai terhadap interval penyiraman dan pemberian pupuk mikoriza pada tanaman cabai. Penelitian ini menggunakan metode eksperimental dengan rancangan acak lengkap (RAL) yang terdiri atas dua faktor yaitu interval penyiraman dan pemberian pupuk mikoriza. Parameter yang diamati dalam penelitian ini terdiri atas pertumbuhan vegetatif (tinggi dan jumlah daun), pertumbuhan buah, berat basah dan segar tanaman, kadar klorofil, dan kadar kapsaisin buah. Data yang diperoleh kemudian dianalisis menggunakan SPSS 25.0, analisis variansi menggunakan multivariate annova dan pengujian lanjut DMRT dengan $\alpha = 0,05$. Hasil yang diperoleh dalam penelitian ini yaitu pemberian mikoriza 15g+interval penyiraman setiap hari menunjukkan hasil tertinggi pada rerata jumlah daun, tinggi tanaman, jumlah buah, panjang buah, berat buah, berat basah dan berat segar, serta kadar klorofil daun. Sedangkan rerata kadar kapsaisin tertinggi terdapat pada perlakuan mikoriza 15g + interval penyiraman tiga hari. Pemberian mikoriza meningkatkan rerata kadar kapsaisin dan berat buah, akan tetapi perlakuan interval penyiraman tiga hari mengurangi berat buah namun meningkatkan kadar kapsaisin. Penelitian ini dapat disimpulkan bahwa secara mandiri perlakuan mikoriza dan interval penyiraman berpengaruh signifikan terhadap pertumbuhan dan perkembangan tanaman cabai. Pemberian pupuk mikoriza meningkatkan kadar kapsaisin buah maupun kadar kapsaisin per tanaman. Selain itu, pemberian mikoriza berpengaruh signifikan terhadap jumlah buah, berat buah dan panjang buah cabai.

Kata kunci : cabai merah keriting, mikoriza, interval penyiraman, kadar kapsaisin

***The Growth Response and Capsaicin Levels of Red Chili Plants
(*Capsicum annum* L.) against Drought and Arbuscular Mycorrhizae
Fertilizer***

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Abstract

Curly red chili (*Capsicum annum* L.) is one of the plants used by Indonesian people as a seasoning for cooking. Chili pepper production is strongly influenced by climate and nutrients. Mycorrhiza is one of the fungi that symbiotic with plant roots. Mycorrhiza helps plants in the absorption of water and nutrients. This study aims to find out and study the growth response of curly red chili plant (*Capsicum annum* L.) and levels of capsaicin against the interval of watering and presence of mycorrhiza fertilizer in chili plants. This study used experimental methods with a completely randomized design of factorial patterns consisting of two factors, watering interval and administration of mycorrhiza fertilizer. The parameters observed in this study consisted of vegetative growth (height and number of leaves), fruit growth, wet and fresh weight of plants, chlorophyll levels, and fruit capsaicin levels. The data obtained were then analyzed using SPSS 25.0, variance analysis using ANOVA multivariate and advanced DMRT testing with α 0,05. The results obtained in this study are the administration of mycorrhiza 15g+ watering intervals daily showed the best results on the average number of leaves, the height of plants, number of fruit, length of fruit, the weight of fruit, wet weight and fresh weight, and content of chlorophyll leaves. While the highest average capsaicin levels are found in mycorrhiza treatment of 15g + three-day watering interval. This study concludes that the combination of mycorrhiza fertilizer + watering interval in chili plants (*Capsicum annum* L.) has no effect on the growth of chili plants. however, self-administration of mycorrhiza and watering intervals have a significant effect on the growth and development of chili plants. mikoriza fertilizer is able to increase the level of capsaisin per gram of fruit weight as well as the level of crop capsaisin. In addition, the administration of mycorrhiza at a three-day watering interval is able to increase the number of fruits, the weight of the fruit and the length of the chili fruit.

Keywords: curly red chili, mycorrhiza, watering interval, capsaicin levels