

INTISARI

Produksi kacang hijau nasional terjadi penurunan selama kurun waktu tahun 2016 – 2018. Salah satu usaha yang dapat dilakukan untuk meningkatkan hasil tanaman dengan pendekatan ramah lingkungan dengan menambahkan agen hayati, salah satunya mikoriza. Pemberian mikoriza mampu meningkatkan pertumbuhan serta komponen hasil tanaman. Penelitian ini bertujuan untuk mengetahui tanggapan beberapa aksesori kacang hijau terhadap inokulasi mikoriza serta untuk memilih aksesori yang tanggap terhadap inokulasi mikoriza sebagai bahan kajian genetika dan fisiologi ketergantungan kacang hijau terhadap mikoriza. Penelitian dilaksanakan pada bulan April hingga September 2020 di lahan Pusat Inovasi Agroteknologi Universitas Gadjah Mada (PIAT-UGM) Kalitirto, Berbah, Sleman, Yogyakarta. Penelitian dilaksanakan menggunakan rancangan acak lengkap (RAL) petak terbagi (*split plot*) yang terdiri atas dua faktor. Faktor utama yaitu perlakuan inokulasi dan anak faktor berupa 20 aksesori kacang hijau. Pengamatan meliputi infeksi mikoriza, sifat komponen hasil, dan komponen hasil tanaman. Data yang diperoleh selanjutnya dianalisis menggunakan analisis varian sesuai rancangan acak lengkap, uji lanjut Scott Knott, dan analisis korelasi. Pada penelitian ini masing-masing nomor aksesori kacang hijau memiliki tanggapan yang beragam terhadap inokulasi mikoriza. Laju kolonisasi mikoriza pada lahan sawah bekas padi menunjukkan peningkatan di setiap waktu pengamatan, selain itu persentase infeksi mikoriza menunjukkan nilai yang lebih tinggi pada perlakuan inokulasi. Inokulasi mikoriza mampu meningkatkan jumlah polong per tanaman, biji per polong, dan bobot biji per tanaman namun tidak dengan bobot 100 biji tanaman. Hasil penelitian memberikan informasi bahwa nomor aksesori 788, 797, 798, 805, 807, 810, 812, 826, 829, dan 832 berpotensi untuk dikembangkan sebagai bahan kajian genetika dan fisiologi ketergantungan kacang hijau terhadap mikoriza

Kata kunci: kacang hijau, inokulasi mikoriza, ketanggapan mikoriza

ABSTRACT

National mungbean production has decreased during 2016 – 2018. One of the effort that can be made to increase productivity is to use biological agents such as mycorrhiza. Mycorrhizal inoculation is able to increase growth and yield components of plants. This study aims to determine the response of several mungbean accessions to mycorrhiza inoculation and to choose accessions that are responsive to mycorrhiza inoculation as materials for genetics and physiology study of mungbean dependence on mycorrhizae. This research was conducted from April to September 2020 at Agrotechnology Innovation Center, Universitas Gadjah Mada (AIC-UGM), Kalitirto, Berbah, Sleman, Yogyakarta. There are two factors that is included at the experiment i.e. Mycorrhizal inoculation and accessions with accesssion is believed to be more important than the inoculation one. The research was conducted using a split plot arranged in completely randomized design (CRD). The main factors were inoculation factor and the sub factor was 20 mungbean accessions. The observation included mycorrhiza infection, and yield components. Data obtained were then analyzed using analysis of variance according to a completely randomized design, followed by Scott Knott test, and correlation analysis. In this study, mycorrhizal inoculation generally improves mungbean growth though each mungbean accession showed different responses to mycorrhizal inoculation. The colonization rate of mycorrhizae in former paddy fields showed an increase at each observation time, besides that the percentage of mycorrhizal infections showed a higher value in the inoculation treatment. Mycorrhizal inoculation was able to increase the number of pods per plant, seeds per pod, and seed weight per plant but had no effect on the weight of 100 seeds. The results provide information that accession numbers 788, 797, 798, 805, 807, 810, 812, 826, 829, and 832 have the potential to be developed as materials for genetic and physiological study of mung bean dependence on mycorrhizae.

Keywords: mung bean, mycorrhiza inoculation, mycorrhiza responsiveness