

PERBANYAKAN SPORA JAMUR MIKORIZA ARBUSKULA (JMA)

MENGGUNAKAN BUNGA MATAHARI Kerdil

(*Helianthus annuus*) DWARF SOLEIL

Intisari

Jamur Mikoriza Arbuskula (JMA) menunjukkan potensi sebagai pendukung pertumbuhan tanaman karena kemampuannya dalam meningkatkan daya dukung perkembangan serta ketahanan terhadap cekaman biotik dan abiotik. Studi ini bertujuan mengevaluasi potensi bunga matahari kerdil (*Helianthus annuus*) Dwarf Soleil sebagai inang dalam perbanyakan spora JMA. Penelitian dilakukan menggunakan metode *Pot Culture* pada medium zeolit steril. Inokulasi JMA dilakukan dengan 25 spora/1000 gram zeolit, yang diisolasi dari rizosfer Pisang Raja dan Pisang Cavendish. Tanaman dirawat dengan penyiraman *Johnson's Nutrient Solution* (JNS), pada suhu 25–30°C. Analisis perbanyakan mencakup isolasi spora dan pewarnaan akar. Hasil menunjukkan bahwa bunga matahari kerdil dan jagung masing-masing menghasilkan rata-rata 2 spora/100 gram zeolit. Analisis pewarnaan akar tidak mendeteksi struktur khas JMA, seperti vesikula dan arbuskula, pada akar kedua tanaman tersebut. Oleh karena itu, bunga matahari kerdil disimpulkan belum efektif sebagai inang perbanyakan JMA sehingga disarankan menggunakan spora JMA yang sudah teruji.

Kata Kunci: Jamur Mikoriza Arbuskula, bunga matahari kerdil, perbanyakan spora, *mycorrhizal dependency*.

PROPAGATION OF ARBUSCULAR MYCORRHIZAL FUNGAL (AMF) SPORES USING DWARF SUNFLOWER (*Helianthus annuus*) DWARF SOLEIL

Abstract

Arbuscular Mycorrhizal Fungi (AMF) have demonstrated potential as plant growth promoters due to their ability to enhance plant development and confer resistance to both biotic and abiotic stresses. This study aimed to evaluate the potential of dwarf sunflower (*Helianthus annuus* Dwarf Soleil) as a host plant for AMF spore propagation. The experiment was conducted using the pot culture method with sterile zeolite as the growth medium. AMF inoculation was carried out by applying 25 spores per 1000 grams of zeolite, with spores isolated from the rhizosphere of *Pisang Raja* and *Pisang Cavendish*. Plants were irrigated daily with *Johnson's Nutrient Solution* (JNS) and maintained at a temperature of 25–30°C. Spore propagation was assessed through spore isolation from the growth medium and root staining analysis. The results showed that both dwarf sunflower and maize produced an average of 2 spores per 100 grams of zeolite. However, root staining did not reveal characteristic AMF structures, such as vesicles and arbuscules, in the roots of either plant. It was therefore concluded that dwarf sunflower was not an effective host for AMF propagation under the conditions of this study, and the use of validated AMF inoculum is recommended for future research.

Keywords: Arbuscular Mycorrhizal Fungi, dwarf sunflower, spore propagation, mycorrhizal dependency