

Sulistyowardani, 2005, Pengaruh Pemberian Cendawan Mikoriza Arbuskular (CMA) dan EM-4 terhadap Pertumbuhan Tanaman Cabai Merah (*Capsicum annuum* L), Skripsi di bawah bimbingan Dr. Ir. Tini Surtiningsih S., DEA dan Dra. Thin Soedarti, CESA, Jurusan Biologi, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Airlangga, Surabaya.

ABSTRAK

Tujuan dari penelitian ini adalah untuk mengetahui pengaruh pemberian berbagai konsentrasi mikoriza (CMA), EM-4 dan kombinasinya terhadap pertumbuhan tanaman cabai merah (*Capsicum annuum* L). Percobaan ini bersifat eksperimental dengan menggunakan rancangan acak lengkap (RAL) 5 ulangan dan menggunakan uji faktorial 3 x 3. Tiga perlakuan yang digunakan yaitu konsentrasi mikoriza (0, 10, 20 g), EM-4 (0, 1, 2 ml) dan kombinasinya. Percobaan ini dilakukan dengan cara : bibit tanaman berumur ± 4 minggu ditanam dalam polybag yang berisi 2 kg kompos dan pasir, yang dicampur dengan propagul CMA dan EM-4 sesuai perlakuan, dan NPK 0,1 g/ kg tanah sebagai pupuk dasar. Parameter yang diamati adalah tinggi tajuk, panjang akar, berat kering akar, berat kering tajuk dan persentase daya infeksi mikoriza.

Hasil penelitian menunjukkan bahwa, pemberian CMA berpengaruh nyata ($\alpha = 0,05$) terhadap peningkatan pertumbuhan tanaman. Hasil tertinggi dicapai oleh perlakuan CMA 20 g untuk tinggi tajuk (32,18 cm), panjang akar (16,49 cm), berat kering akar (0,27 g) dan berat kering tajuk (0,9 g). Daya infeksi CMA tertinggi 93,33 % pada konsentrasi CMA 20 g. Pemberian EM-4 juga berpengaruh nyata ($\alpha = 0,05$) terhadap peningkatan pertumbuhan tanaman. Hasil tertinggi dicapai oleh perlakuan EM-4 2 ml untuk tinggi tajuk (33,02 cm), panjang akar (16,26 cm), berat kering akar (0,33 g) dan berat kering tajuk (1,2 g). Pemberian kombinasi konsentrasi CMA dan EM-4 berpengaruh nyata terhadap peningkatan tinggi tajuk, berat kering akar dan berat kering tajuk. Kombinasi CMA 20 g dan EM-4 2 ml memberikan rata-rata tertinggi untuk tinggi tajuk (35,25 cm), berat kering akar (0,42 g) dan berat kering tajuk (1,37 g). Daya infeksi CMA tertinggi 95 % pada kombinasi CMA 20 g dan EM-4 2 ml.

Kata kunci : *Capsicum annuum* L, Cendawan Mikoriza Arbuskular (CMA), EM-4

Sulistiyowardani, 2005, *The Influence of Arbuscular-Mycorrhiza Fungi (AMF) and EM-4 Inoculation on Growth of Capsicum annuum L*, This script is advised by Dr. Ir. Tini Surtiningsih S., DEA and Dra. Thin Soedarti, CESA. Biology Department. Mathematics and Science Faculty. Airlangga University, Surabaya

ABSTRACT

The aim of this research was to find out the influence of AMF, EM-4 and their combinations that inoculated in different concentration on growth of *Capsicum annuum L*. The experimental research used completely randomized design with 5 replications and used factorial 3 x 3 tests. Three treatments that used were concentration of AMF (0, 10, 20 g), EM-4 (0, 1, 2 ml) and their combinations. The observation parameters were height of shoot, length of root, dry weights of root and crown, and percentage of AMF infection. The observation data was analyzed with ANOVA 5 % level followed by Duncan test. This research was done by : seedlings with 4 weeks old was planted in polybag that contains of manure and sand, was inoculated by AMF propagule and EM-4 to fit the treatment, and NPK 0.1 g/kg soil as basic fertilizer.

The result of the research was inoculation of AMF showed that there was significant different ($\alpha = 0.05$) on the increasing of *Capsicum annuum* growth, the highest mean were reached by inoculation of AMF 20 g for height of shoot (32.18 cm), length of root (16.49 cm), dry weight of root (0.27 g) and dry weight of shoot (0.9 g). The highest of AMF infection was 93,33 % on AMF 20 g. Inoculation of AMF showed that there was significant different too ($\alpha = 0.05$) on the increasing of *Capsicum annuum* growth, the highest mean were reached by inoculation of EM-4 2 ml for height of shoot (33.02 cm), length of root (16.26 cm), dry weight of root (0.33 g) and dry weight of shoot (1.2 g). The combinations of AMF and EM-4 showed significant different ($\alpha = 0.05$) for the increasing of height of shoot, dry weight of root and dry weight of shoot. Combinations of AMF 20 g and EM-4 2 ml showed the highest mean for height of shoot (35.25 cm), dry weight of root (0.42 g) and dry weight of shoot (1.37 g). The highest of AMF infection was 95 % on combinations of AMF 20 g and EM-4 2 ml.

Keywords : *Arbuscular-Mycorrhiza Fungi (AMF), Capsicum annuum L, EM-4*