Standardization and application of arbuscular mycorrhiza and *Azospirillum* for protray nursery system

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ABSTRACT

Biofertilizers are a sustainable approach to enhance agricultural productivity and environmental health. Arbuscular mycorrhizal fungi (AMF) improve nutrient uptake, particularly phosphorus, and protect plants from pathogens. *Azospirillum* fixes nitrogen, produces hormones and enhances nutrient availability. This study assessed the effect of AMF and *Azospirillum* on the growth, emergence and yield of tomato seedlings in protrays. Results indicate that increasing doses of Arbuscular Mycorrhiza (AM) in cocopeat significantly enhanced shoot and root lengths, germination percentage and seedling vigor, with the highest dose (3.0 kg AM/100 kg cocopeat) showing the best results and maximum root colonization (66.6 %). Similarly, higher doses of *Azospirillum* improved root colonization and seedling growth, with the highest dose achieving the greatest viable count (14.3 × 10 CF Ug $^{-1}$), highest colonization rate (73.3%) and superior growth metrics.

Key words: *Arbuscular mycorrhizal fungi, Azospirillum, Growth and Tomato.*