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Full Length Research Paper

Effects of arbuscular mycorrhizal inoculation on the growth and the development of sesame (*Sesamum indicum* L.)

S. Boureima¹, M. Diouf¹, T.A Diop^{2*}, M. Diatta¹, E. M. Leye², F. Ndiaye² and D. Seck¹

¹Centre d'Etude Régional pour l'Amélioration de l'Adaptation à la Sécheresse, B.P. 3320, Thiès, Sénégal.

²Laboratoire de Biotechnologies des Champignons, Département de Biologie végétale, Faculté des Sciences et Techniques, Université Cheikh Anta Diop, B.P. 5005, Dakar, Sénégal.

*Corresponding author. Email: lbc@ucad.sn or Tahir.Diop@i-rd.sn.

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Abstract

Sesame (*Sesamum indicum* L.) has recently been introduced into cropping system in Senegal in the context of crop diversification and poverty alleviation. A pot experiment was conducted to study the response of sesame plants to arbuscular mycorrhizal (AM) inoculation. The experiment was carried out in greenhouse in a complete randomized block with two factors, the variety on 3 levels (32-15, Jaalgon 128 and 38-1-7) and the inoculation on 4 levels of *Glomus* spp isolates. The results indicate that inoculation with mycorrhizal fungi significantly increases leaf number and leaf area of *Sesamum*. The leaf area increased by 136% at the plants inoculated with *Glomus fasciculatum* and number of leaves by 70% at the plants inoculated with *Glomus mosseae*. Moreover, inoculation improved the root system by increasing volume and dry weight of roots. The isolate *Glomus intraradices* increased root volume of Jaalgon 128 by 233%. At the 32 - 15 associated *Glomus mosseae* one recorded an increase of 115%.

Key words: Arbuscular mycorrhizae, growth, sesame (*Sesamum indicum* L.).

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