

Effect of Native Vesicular Arbuscular Mycorrhizal (VAM) Fungi on the Growth of Coffee Seedlings in the Nursery

M. SUDHA¹, G. BALAKRISHNA²

¹Plant Pathology Division, Central Coffee Research Institute, Coffee Research Station-577
117, Chikmagalur District, Karnataka, India

²Botany Division, College of BS&H, University of Agricultural Sciences, GKVK, Bangalore

SUMMARY

In order to study the response of coffee seedlings to VA mycorrhiza, different strains were isolated from the rhizosphere of various agro climatic zones of Karnataka state, India where coffee is grown. Selected areas of the cities viz., Hassan, Chikmagalur, Mudigere, Koppa were taken for the studies. Among 56 isolates collected, six isolates were found predominant and they were maintained using Rhodes grass as the host plant in 1:1 sterile sand soil mixture and were screened on coffee seedlings of arabica coffee. Native VAM cultures were inoculated at the rate of 12,500 IP/plant while transplanting the seedlings into the poly bags. All the 6 isolates were found to be better symbionts for coffee. However among these native isolates *Glomus radiata* and *Acaulospora myriocarpa* have resulted in augmenting the plant growth. The growth parameters recorded are plant height; number of leaves; leaf area; total biomass; 'P' uptake; acid phosphatase enzyme activity and percent root colonization. The observations indicated that *Glomus radiata* has shown the significant difference in increasing the biomass and also enhanced the vigor of coffee seedlings as compared to un-inoculated control plants. However all the isolates have performed better than the un-inoculated control plants.