# Diversity of arbuscular mycorrhizal fungi in soils of yam (*Dioscorea* spp.) cropping systems in four agroecologies of Nigeria

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The diversity of arbuscular mycorrhizal (AM) fungi in soils under a yam cropping system in four agroecologies of Nigeria was investigated. Soil samples were collected from yam fields at Onne (humid forest, high rainfall area), Ibadan (derived savanna), Abuja (Guinea savanna) and Ubiaja (humid forest, medium rainfall area). Soil characteristics, AM fungi species, spore abundance, Shannon diversity index, species richness and evenness were determined. A total of 31 AM fungi species was isolated from the four agroecologies with a range of 14–20 species found in a single location. *Glomus* species were the most abundant among AM fungi species with *G. geosporum*, *G. intraradices* and *G. mosseae* occurring in large populations in all locations. Ubiaja, which had a cassava/natural vegetation sequence before yam, had significantly higher spore abundance and species richness than the other locations, which had a yam/legumes or a maize/legume sequence before yam. However, diversity was significantly higher at Abuja, which had a maize/legume sequence with yam, than Ibadan, which had only a yam/legume sequence. The study revealed significant diversity in AM fungal species across agroecologies in yam-growing regions. Further research on the functional consequences of changing composition of AM fungi species across the region is recommended.

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