



Morphological and structural diversities of indigenous endomycorrhiza communities associated to maize [*Zea mays* (L.)] in Northern Cameroonian soils

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1 ABSTRACT

This study describes endomycorrhiza that enter into association with maize [*Zea mays* (L.)], grown in northern Cameroon. During the survey, twenty seven (27) soil samples were collected from three northern Cameroonian regions. In each of the regions, nine (9) composite soils were sampled, thus 3 per department, corresponding to sampling sites, villages or localities. *Zea mays* seeds were grown in a pot on the composite soils samples for 3 months. Parameters such as mycorrhizal frequency, intensity, specific density and specific richness were determined following to the standard methods. After spore extraction, species description and characterization were obtained through the informations provided by the International Vesicular Mycorrhizal fungi collection (INVAM): [http://invam.caf.wv.edu/fungi/taxonomy/species ID.htm](http://invam.caf.wv.edu/fungi/taxonomy/species_ID.htm). Results indicate that the mycorrhizal frequency and intensity were respectively 20.5% and 15.38%. The highest specific endomycorrhizal density and richness were registered in the department of Diamare with 59.1% and 6% respectively. The morphological and structural characterization enabled the description of 6 endomycorrhizal species, belonging to 4 genera: *Glomus constrictum*, *Glomus maculosum*, *Glomus manihotis*, *Acaulospora kentinensis*, *Rhizophagus intraradices* and *Diversispora epigae*. All the species were found in all composite soils sampled in all three *Zea mays* growing regions. These findings open opportunities for domestication and application of endomycorrhiza for a sustainable production of *Zea mays* in field.
