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Poster: Abiotic Stress

Abs # 487: Physiological and cultural factors affecting VA mycorrhizae infection and responsiveness in various cassava clones.

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Degree of VAM colonization and clonal responsiveness are useful selection criteria for improving the clonal adaptation of cassava (*Manihot esculenta* Crantz) for managing sustainable crop production systems in the tropics. Cultivated clones of cassava were shown to vary in their levels of colonization by different vesicular-arbuscular mycorrhizae (VAM fungi) species in controlled sterile- pot cultures using low-P soils. Physiological factors of host plants which significantly influenced the VAM responsiveness were fibrous root growth rate and weight, leaf area, water use efficiency, and photosynthetic photochemical efficiency. Host plant cultural factors that influenced VAM infection rates were soil P level, irrigation frequency, and age of the host plant. The VAM fungal species (*Glomus clarum* and *G. mossae*) effect on clonal responsiveness was not significant. Efficient and desirable host clones of cassava need to be selected for those environments where VAM could be beneficial for improved nutrient and water resource use.

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