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PS - poster session

Aclinic method of trap culture for arbuscular mycorrhizal fungi

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Trap culture of arbuscular mycorrhizal fungi (AMF) on plant cuttings was studied in small plastic boxes and cultivated in horizontal position. Such system was tested for mycorrhization of Lamiaceae on cultivars of model plant *Plectranthus scutellarioides*. Boxes of the same size (95x85x20 mm) with a cover which had 60x5 mm hole in a side wall were exploited for cultivation. Tested cuttings of *P. scutellarioides* had been rooted in sterile water before inoculation with AMF. Single rooted cutting was placed into the box, later filled in with steam sterilized quartz sand of 1.4–2.0 mm fraction and humidified with 20 ml of sterilized water. Spores, isolated by wet sieving and sucrose gradient centrifugation, and root fragments of mycorrhized plants from the collection of standard trap culture in pots were used as AMF inoculum. Processed boxes with inoculated cuttings were incubated horizontally in piles inside grow chamber at 22-24° C, 16 h light period and 17-19° C, 8 h dark period. The aclinic system occupies less space and is more effectively controlled in comparison to conventional pot cultures. Application of *P. scutellarioides* rooted cuttings in tested aclinic method prevents some potential contamination of the system by pathogenic and saprotrophic fungi that was confirmed during monitoring. Preliminary results of sterilized seed germination of *Sorghum bicolor* under the same conditions of the aclinic system had demonstrated high risk of other fungi growth. AMF lifecycle stages were easily studied under the dissecting microscope as a part of plant root system grows on surface and in upper layer of quartz sand due to uniform water balance inside the box. Water condensation on the cover inner surface facilitated AMF development in the upper layer of quartz sand.