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# 2 ND EUROPEAN SYMPOSIUM ON MYCORRHIZAE

## ABSTRACTS

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## EFFECT OF SODIUM CHLORIDE AND MANITOL ON GERMINATION AND HYPHAL GROWTH OF THE VESICULAR-ARBUSCULAR MYCORRHIZAL FUNGUS *GLOMUS MOSSEAE*

The effects of low osmotic potentials on the germination and hyphal growth of a vesicular-arbuscular (VA) mycorrhizal fungus are examined. Surface sterilised chlamyospores of *Glomus mosseae* were plated on 1 % water agar osmotically adjusted at six different levels with either NaCl or Manitol. Little or no germination occurred below - 7.5 bars with the osmotocants used. Hyphal growth was more affected than germination by low water potentials and Manitol was consistently more efficient than NaCl at inhibiting both germination and hyphal growth. These results highlight the importance of low osmotic potentials as opposed to direct salt toxicity on the germination mechanisms. As salt toxicity and water availability are the two major plant stresses that occur in arid and semiarid ecosystems more research is being done to assess the behaviour of VA mycorrhizal fungi under these conditions.

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## UTILIZATION OF VESICULAR-ARBUSCULAR MYCORRHIZA AS A FACTOR OF INTEGRATED PLANT PROTECTION

The various influences of VA-fungi on the development of all plant organs and the susceptibility of plants against diseases are well described (Dehne, 1982). In many cases plant diseases are stage specific, i. e. only defined developmental stages of a certain plant organ are susceptible to microbial attack. This stage specificity is strongly expressed in the leaf age resistance to fungal attack in the tropical tree *Hevea brasiliensis* (rubber tree). VA-mycorrhiza in rubber tree influences the growth pattern of the seedlings, leading to a modified number or area of leaves per seedling. Consequently this modification of leaf development by mycorrhiza influences the resistance pattern of the upper plant parts. Our paper provides data in how far mycorrhizal infection changes the susceptible leaf periods and the development of fungal diseases in susceptible leaves. This studies are combined with the analysis of physiological modifications in the rubber tree, correlated with mycorrhizal symbiosis.

Finally the importance of mycorrhiza-formation for the integrated-plant-protection of the rubber tree in Brazilian plantations (Amazon state) against *Microcyclus ulei*, the pathogen causing the South-American-Leaf-Bight-Disease is designed.

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## HELIANTHEMUM AND SOME AGARICALES: UNUSUAL CASE OF ECTOMYCORRHIZAL SYMBIOSIS

As reviewed recently by Malloch and Thorn (1985) ectomycorrhizae and/or ectomycorrhizae-forming fungi are recurrently found in connection with Cistaceae. *Helianthemum obscurum* Pers. (syn. *H. ovatum*. *H. chamaecistus*), the conspicuous member of Cistaceae on xerothermous grasslands in Czechoslovakia,