

The interaction of harvester ant activity and VA mycorrhizal fungi

C. F. Friese and M. F. Allen

Department of Biology and Ecology Center, Utah State University, Logan,
UT 84322–5305, U.S.A.

At the Utah State University Wyoming research site, the disks of the Western harvester ant can comprise over 25% of the total surface area. These disks are patch disturbances across the landscape of the semi-arid shrub steppe. The question was asked whether the ants also may be interacting in some way with the VA mycorrhizal fungi growing in association with the surrounding vegetation. Detailed excavation of 2 ant mounds revealed 3 distinct zones of soil and root material. The central zone consisted of a root mat, a region of densely packed roots (60% by volume) that had been clipped and woven into the structure of the mound. This root clipping action appears to be a mound maintenance function by the ants. The clipped root material contained as much as 3,000 times the number of spores found in other zones or in association with the surrounding vegetation. *Glomus mosseae* (Nicol. & Gerd.) Gerd. & Trappe was the dominant spore (63%) in all the samples. The large volume of roots with spores concentrated around ant seed caches creates ideal patches for plant establishment once the mounds are abandoned (approx. 5–10 yrs.)

Effect of atmospheric sulphur dioxide on the phylloplane fungi of cereals

N. Magan

Biotechnology Centre, Cranfield Institute of Technology, Cranfield, Bedford
MK43 0AL, U.K.

and

A. R. McLeod

Central Electricity Research Laboratories, Kelvin Avenue, Leatherhead, Surrey,
U.K.

Phylloplane fungi of ripening cereals are known to be modified by climatic factors and environmental disturbances, particularly fungicide sprays (Magan & Lacey 1986). However, little information is available on the effects of ambient concentrations of atmospheric gases such as sulphur dioxide (SO₂).

The effect of different SO₂ concentrations (0.05, 0.1 and 0.2 ppm) on *in vitro* germination of yeasts and germination of dominant filamentous fungi was determined in chamber fumigation studies. Secondly, the effect of SO₂ on the phylloplane mycoflora of ripening barley was determined in an open-air fumigation system (McLeod *et al.* 1985).

Growth of pink and white yeasts (*Sporobolomyces* and *Cryptococcus* spp.)