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ABSTRACTS OF POSTER EXHIBITS

Floristic diversity in a model system using experimental microcosma

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Most investigations of floristic diversity have involved studies of natural vegetation. Progress using these approaches has been limited because some potentially important factors are not amenable to precise field measurement or manipulation. Here we describe an alternative research strategy in which communities were allowed to develop in turf microcosms providing factorial combinations of soil heterogeneity, grazing and mycorrhizal infection, all of which are capable in theory of promoting diversity. Both grazing and mycorrhizas increased diversity markedly by raising the biomass of the subordinate species relative to that of the canopy dominant. The effect of grazing is shown to be due to the differential sensitivity of the canopy dominant to defoliation. Export of assimilate from canopy to subordinate species through a common mycelial network is likely, together with enhancement of mineral nutrient capture, to be involved in the beneficial effect of mycorrhizas. No major effects of soil heterogeneity upon diversity were detected.

Reference

Nature **328** (6129), 420–422, 1987.

Distribution of salt-tolerant fungi and bacteria along a recently landfilled and reclaimed sea wall

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Samples were taken from a combined landfill/sea wall restoration scheme at Hadleigh Marsh on the Thames Estuary, Essex. A number of physico-chemical characteristics were determined. Numbers of colony forming units of fungi and bacteria were determined by the agar spread-plate method, with media containing a range of salt concentrations being used to assess the distribution of the microbial communities between different salt tolerance classes. There were distinct conductivity, sodium and moisture content profiles, dependant upon the topography of the sea wall. Total nitrogen,