

## Chapter (non-refereed)

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# Use of cotton cloth in microcosms to examine relationships between mycorrhizal and saprotrophic fungi

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## Poster summary

Small pieces of Shirley Soil Burial Test Fabric (cotton) (2 cm x 10 cm) were used as one of a number of substrates to investigate the effects of interactions between saprotrophic and mycorrhizal fungi in controlled culture microcosms (Figure 1). Substrates were placed inside or outside a root exclusion zone, delimited by a nylon mesh pervious to fungal hyphae but not to roots, in a series of mini-propagators used as microcosms. The complexity of organism interactions was built up in a factorial experimental design with the following levels of complexity:

- i. sterile medium (perlite:peat:nutrient solution);
- ii. fungus alone (saprotroph or mycorrhizal fungus);
- iii. non-mycorrhizal roots;
- iv. non-mycorrhizal roots plus saprotroph;
- v. mycorrhizal roots;
- vii. mycorrhizal roots plus saprotroph.

Mycorrhizal roots were shown to enhance substrate decomposition to varying degrees, but the addition of the saprotroph to the mycorrhizal system suppressed the decomposition rate. This work has been published in detail elsewhere (Dighton *et al.* 1987).

## Reference

**Dighton, J., Thomas, E.D. & Latter, P.M.** 1987. Interactions between tree roots, mycorrhizas, a saprotrophic fungus and the decomposition of organic substrates in a microcosm. *Biol. Fertil. Soils*, **4**, 145-150.

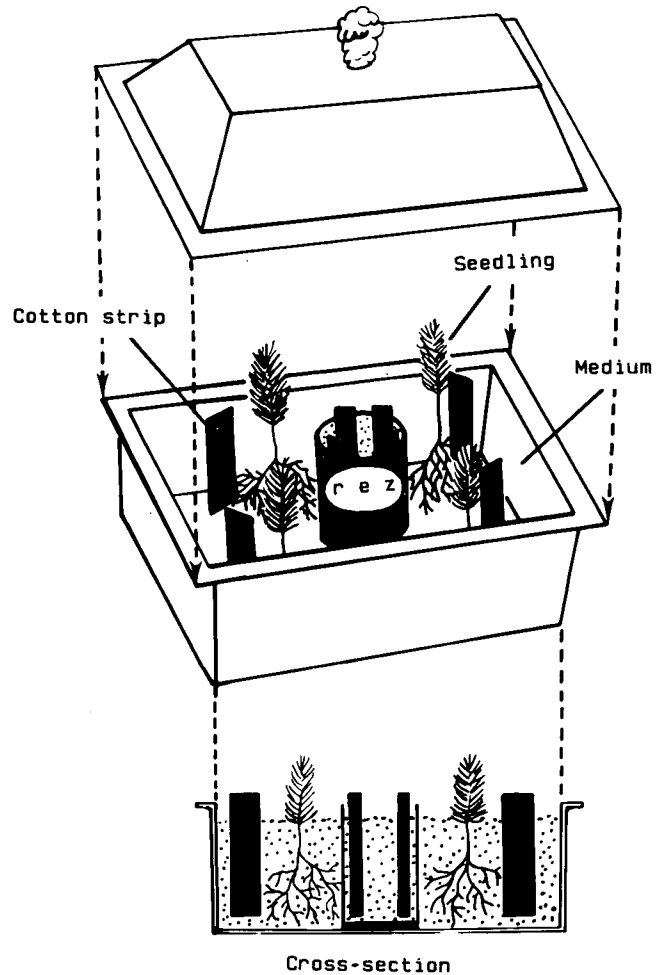


Figure 1. Illustration of microcosm used for plant-mycorrhiza-substrate decomposition interaction rez, root exclusion zone