

The coprome: another model system – abstract

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The ability of *Ascobolus crenulatus* Karsten, *Chaetomium bostrychodes* Zopf and *Sordaria macrospora* Auersw. to produce biomass within, fruit upon, and degrade rabbit faeces was followed using semi-natural faecal resource units (copromes) (Wood & Cooke 1984, 1987). On these criteria the performance of the fungi was in the order *C. bostrychodes* > *S. macrospora* > *A. crenulatus*. Species mixtures produced only slightly higher degradation rates than those effected by single species. This implied competition for available nutrients which was also indicated by depressed fruiting of all species in species mixtures when compared with fruiting levels of each species grown individually. For single species the time of onset and subsequent fruiting level were determined by the time at which sufficient resources could be allocated to reproduction rather than simply to hyphal extension rates.

Flavobacterium, *Methanobacterium*, *Pseudomonas* and *Staphylococcus* isolated from dung generally inhibited growth of *C. bostrychodes* and *S. macrospora* but stimulated that of *A. crenulatus*. When paired with fungi in copromes bacteria generally reduced ascocarp production but had only a slight effect on degradation rates, the latter being approximately equal to the sum of bacterial and fungal contributions. The bacterial contribution did not exceed 6% of the total. In the presence of all three fungi in copromes, bacteria had a differential effect on fruiting such that ascocarp production by *A. crenulatus* was enhanced while that of the other two species was reduced. Bacteria also alleviated the antagonistic effect of a *Coprinus* species so that the Ascomycotina, which normally fruited poorly in its presence, could produce ascocarps.

References

- Wood, S. N. & Cooke, R. C. 1984. Use of semi-natural resource units in experimental studies on coprophilous fungi. *Transactions of the British Mycological Society* **83**, 337–339.
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