

Effect of metabolites produced by *Trichoderma harzianum* biotypes and *Agaricus bisporus* on their respective growth radii in culture

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Abstract	<p><i>Trichoderma harzianum</i> biotypes Th1, Th2, and Th3 produced volatile metabolites in vitro which had similar fungistatic effects on the growth of <i>Agaricus bisporus</i>. Metabolites present in agar colonized by these strains also inhibited mycelial growth of <i>A. bisporus</i>, although the reduction in growth was less in the presence of metabolites produced by biotype Th2 than that in the presence of metabolites produced by Th1 or Th3. <i>A. bisporus</i> produced metabolites in liquid culture that inhibited the growth of Th1 and Th3 but stimulated the growth of Th2. A compound(s) responsible for the inhibition and stimulation was extracted from <i>A. bisporus</i> culture filtrate and from compost-grown fruit bodies with n-butanol, but the identity of the compound(s) was not determined. We suggest that the stimulation of Th2 by metabolites produced by <i>A. bisporus</i> and the relatively low level of inhibition of <i>A. bisporus</i> by Th2 facilitate colonization of compost by both fungi. However, as compost colonization reaches a maximum, a change in the competitive balance in favor of Th2 results in the inhibition of fruit body production by <i>A. bisporus</i> and the devastating green mold epidemics affecting mushroom production.</p>
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