

# Segregation of secondary metabolite biosynthesis in hybrids of *Fusarium fujikuroi* and *Fusarium proliferatum*

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*Fusarium fujikuroi* and *Fusarium proliferatum* are two phylogenetically closely related species of the *Gibberella fujikuroi* species complex (GFC). In some cases, strains of these species can cross and produce a few ascospores. In this study, we analyzed 26 single ascospore isolates of an interspecific cross between *F. fujikuroi* C1995 and *F. proliferatum* D4854 for their ability to produce four secondary metabolites: gibberellins (GAs), the mycotoxins fusarin C and fumonisin B 1, and a family of red polyketides, the fusarubins. Both parental strains contain the biosynthetic genes for all four metabolites, but differ in their ability to produce these metabolites under certain conditions. *F. fujikuroi* C1995 produces GAs and fusarins, while *F. proliferatum* D4854 produces fumonisins and fusarubins. The segregation amongst the progeny of these traits is not the expected 1:1 Mendelian ratio. Only eight, six, three and three progeny, respectively, produce GAs, fusarins, fumonisin B 1 and fusarubi