

Lab and Field Studies of Ilypovirulent Strains: EP-60 from Michigan and EP-234 from Tennessee

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EP-60 behaves as if it contains two factors conferring hypovirulence. One factor causes complete loss of pathogenicity, the other causes partial loss of pathogenicity. Each affects cultural characteristics differently. The effects of the more debilitating factor are dominant when the two factors are present together in the same strain. Isolates containing one, both, or neither of the factors were obtained by single spore isolation. The factors were transmitted separately and together by hyphal anastomosis from the original genetic background of the fungus into a genetically marked one and then returned to the original one. In both, each factor confers its distinct abnormalities in cultural characteristics and pathogenicity.

EP-234 behaves as if it contains a single factor conferring hypovirulence. This factor causes abnormalities in the fungus that resemble the abnormalities caused by the more debilitating factor in EP-60. This factor was transmitted to the marked genetic background where it has essentially identical effects on cultural characteristics and pathogenicity. The less debilitating factor from EP-60 and the factor from EP-234 were combined in the EP-60 genetic background by hyphal anastomosis. The effects of the factor from EP-234 were dominant in the product. These experiments illustrate the "simple" behavior of these particular factors from native American hypovirulent strains.