

Disease Notes

First Report of Clavicipitaceous Anamorphic Endophytes in *Hordeum* Species. A. D. Wilson, S. L. Clement, W. J. Kaiser, and D. G. Lester, Plant Germplasm Introduction and Testing Research Unit, USDA-ARS, Washington State University, Pullman 99164. *Plant Dis.* 75:215, 1991. Accepted for publication 24 September 1990.

Clavicipitaceous endophytes systemically infect many grass species and produce alkaloids that confer resistance to insects (2) and toxicity to mammals (1). The mutualistic anamorphic forms (e.g., *Acremonium* spp.) do not sporulate or cause symptoms, but they produce distinctive mycelium in their hosts. The incidence of anamorphic endophytes in a portion of the U.S. *Hordeum* germ plasm collection, held at the National Small Grains Collection in Aberdeen, Idaho, was determined by microscopic examination of 100 stained seed and seedling tissues. Endophytes were found in accessions of *H. bogdani* Wil. (47–88%), *H. brevisubulatum violaceum* (Trin.) Link (68–98%), and *H. comosum* Presl (74–92%) at the ranges of seed infection percentages shown in parentheses. Some endophytes were identified as *Acremonium* species. Accessions of *H. brachyantherum* Nevski, *H. bulbosum* L., *H. chilense* Roem. & Schult., *H. jubatum* L., *H. marinum* Huds., *H. murinum* L., and *H. stenostachys* Godr. were endophyte-free. Anamorphic endophytes have not been reported previously in the wild relatives of cultivated barley (*H. vulgare* L.) or in genera of other cereal grasses.

References: (1) C. W. Bacon et al. *Agron. J.* 78:106, 1986. (2) K. Clay. *Mycol. Res.* 92:1, 1989.