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European rust fungi evaluated for leafy spurge control in 1982 at the plant disease laboratory

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The Plant Disease Research Lab (PDRL) began evaluating plant pathogens for biocontrol of leafy spurge in January 1982, with the arrival of Sherry Turner from Montana State University. Her initial efforts to recover leafy spurge rusts from storage in liquid nitrogen were unsuccessful, so a collecting trip to Europe was organized to obtain viable pathogens and compatible host propagative material. Eighteen isolates of rust fungi were collected along with host material between July 22 and August 20, 1982, in the countries of Austria, Hungary, and Switzerland, and six pathogen isolates were propagated successfully in the containment greenhouse facility at PDRL. Two isolates of *Melampsora* species, which are autoecious on leafy and cypress spurges, have been studied for 8 months. One isolate, a pathogen of cypress spurge is very aggressive on its host, and sporulates profusely 7 to 10 days after inoculation of plants. Preliminary host range studies indicate that it will infect collections of both cypress and leafy spurge, some of which are from the U.S. The other isolate, attacking leafy spurge, is not nearly as aggressive as the former, but preliminary host range studies indicate that it too will infect some U.S. collections of leafy spurge.

The introduction of plant pathogens into the United States requires the cooperation of several Federal and State regulatory agencies as prescribed by law. Guidelines for introducing and evaluating plant pathogens as biocontrol agents of weeds (1) are, for the most part, supported by well organized agencies. One area where issues remain centers around the Endangered Species Act of 1973. Rather than ignore this piece of legislation, it is suggested that those involved with biological control of weeds take the initiative toward resolving potential differences.

Literature cited

Klingman, D. L., and J. R. Coulson. 1982. Guidelines for introducing foreign organisms into the United States for biological control of weeds. *Weed Science* 30:661-667.