



# Culture Collections

March 2008

## An International Workshop on Culture Collections: Ensuring the Availability of Essential Research Resources for Plant Associated Microbes

► **Background:** Culture collections of plant-associated microbes provide a needed resource of genotypic and phenotypic variation necessary for effective research in plant pathology. Collections provide a genetic link between the past and present and can provide insight on changes that have occurred since previous epidemics. Recent advances in molecular techniques have shown that pathogen diversity is much more extensive than previously suspected. Reference cultures having phenotypic and genotypic markers can facilitate identification of emerging pathogens, provide data essential for forensic investigation, and be useful in identifying control strategies. Without access to the genetic diversity of microbes, it is impossible to predict durability of plant resistance.

Many isolates and strains are held in personal collections housed in academic institutions. Most such collections are maintained without permanent funding. After a researcher retires or leaves a location, the “orphaned” collection may be lost. Commercial collections too are subject to funding insecurity and the high cost of commercially available microbes often impedes academic research. There is a need for affordable strains and isolates for the broad research community throughout the United States. A national culture collection system could provide a permanent home to valuable plant pathogen cultures and ensure that genotypic and phenotypic diversity of plant associated microbes are maintained and available to researchers. A national database containing microbe information from both personal and commercial collections is needed to locate useful microbes for research purposes.

► **Solution:** The American Phytopathological Society (APS) *ad hoc* committee has explored strategies to preserve plant pathogen collections and information and been actively involved with:

- An APS Standing Committee created to assist in the development of a plan for a **National Culture Collection System (NCCS)** and provide expertise to the NCCS regarding the national databases; and
- A small, preliminary national workshop held with stakeholders from agencies and entities for whom these culture collections of plant associated microbes and databases are critical. The workshop, funded through the USDA-ARS and USDA-APHIS, was held in November 2007. At this meeting significant progress was made towards defining the critical components of a national culture collection system for plant-associated microbes (see *Phytopathology News* 42:(2)).

► **Specific Request:** We request support and funding for the planned follow-up workshop entitled, “An International Workshop on Culture Collections: Ensuring the Availability of Essential Research Resources on Plant-Associated Microbes.” The workshop would build from the results of the 2007 national workshop to further investigate potential solutions for ensuring the future availability of plant related microbial culture collections and to engage international participation. The goals of the workshop would be to more fully define (1) strategies for developing a national database; (2) essential components of a national culture collection system; (3) a framework for the research community to coordinate efforts to preserve culture collections; (4) a strategy for preservation of these research resources; (5) explore methods of collaborating with or linking to other international culture collection efforts; and (6) identify potential sources of short- and long-term funding for the various system components. In addition to representatives from APS, workshop participants would include scientists and administrators from the USDA-ARS, USDA-APHIS, USDA-CSREES, NSF, DOD, DHS, EPA, FBI, the American Society for Microbiology, the American Mycological Society, domestic and international public and private-sector scientists with expertise in culture collections, and other stakeholders.

► **Contacts:** APS member Jeff Jones (bjones@ufl.edu), APS PPB member Scott Gold (sgold@uga.edu) as well as APS PPB Chair Jacque Fletcher (jacqueline.fletcher@okstate.edu) and Kellye Eversole (eversole@eversoleassociates.com) are available to answer any additional questions.

