NEWS RELEASE

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Wheat & Barley Scab Initiative Restructures Research Areas

Scientific findings and technological advances during the past several years, combined with a desire to work as efficiently as possible, have prompted the U.S. Wheat and Barley Scab Initiative (USWBSI) Steering Committee to restructure the Initiative's research areas for 2006. The original six research areas, established in 1997, have been reorganized into eight. These changes are as follows:

• The "Biotechnology" research area has been split into two sectors: "Host Genetics & Genomics" and "Genetic Engineering & Transformation." The Genetics/Genomics area covers host plant resistance and associated technologies to accelerate the characterization and deployment of such genes for eventual use by farmers. Genetic Engineering/Transformation encompasses the science and technologies relating to GMO approaches to host plant resistance, *e.g.*, the development of Fusarium Head Blight (FHB)-resistant transgenic wheat and/or barley varieties.

• "Pathogen Genetics & Genomics" is a new research area whose emphases were formerly under either "Biotechnology" or "Epidemiology & Disease Management." The primary research objective of this new area is to understand — at a molecular level — the *Fusarium* pathogen's processes that enable pathogenesis and the production of mycotoxins. Such knowledge is essential to developing intervention strategies (*e.g.*, resistant varieties and/or chemical/biological controls).

• The "Epidemiology & Disease Management" research area is now known as "Etiology, Epidemiology & Disease Forecasting." Etiology involves non-molecular studies that seek to shed more light on the causes of FHB and the manner in which the causal organisms infect and colonize wheat and barley plants. The better scientists understand how and why this disease establishes itself, spreads and produces toxins, the better they can be at forecasting and controlling its onset and proliferation.

• The "Chemical & Biological Control" research area remains the same under reorganization — with one important exception. Cultural practices as a means of disease management have been added, resulting in the new title of "Chemical, Biological & Cultural Control." The cultural control item was formerly a part of "Epidemiology & Disease Management."

• The "Germplasm Introduction & Enhancement" original research area is now known as "Host Genetic Resources." The GIE program area's primary focus was to screen all existing accessions in world wheat and barley germplasm collections and to explore "wild" crosses for host plant resistance. A number of promising sources have been found; so now the primary focus will switch to exploiting those materials and integrating them into breeding programs.

• The research area "Food Safety, Toxicology & Utilization" has been changed in title only. It's now called "Food Safety, Toxicology & Utilization of Mycotoxin-contaminated Grain."

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• The sixth USWBSI original research area — "Variety Development & Uniform Nurseries" — remains unchanged in both title and emphases, except that pre-breeding collaboration with the USDA-ARS regional genotyping centers was moved to Host Genetic Resources.

Michigan State University plant breeder Rick Ward, who serves as co-chairman of the U.S. Wheat and Barley Scab Initiative, says research in the six original areas has spawned substantial progress since the Initiative's inception in 1997. This recent restructuring is designed to facilitate even greater advances in the future by taking advantage of new science and technology as well as the experience gained during the past several years.

For example, as of 1997 very little DNA sequencing had been conducted in either wheat or the *Fusarium* pathogen. Now, however, *Fusarium* has become the first plant fungal genome to be completely sequenced, and substantial sequence data are available in wheat, Ward relates. In a parallel development, three USDA-ARS genotyping centers (Fargo, ND, Manhattan, KS and Raleigh, NC) have been created, and part of the recurring budget for each is coded specifically for work on Fusarium Head Blight.

USWBSI research committees comprised of public and private sector scientists are developing priorities for each of the eight research areas. The general community can comment on the priorities for the upcoming call for pre-proposals by visiting www.scabusa.org (click on link titled "Draft FY06 Research Priorities" under the 'USWBSI Information' section) until approximately July 25.

The U.S. Wheat and Barley Scab Initiative is a national research effort whose goal is to develop effective control measures to minimize the threat of Fusarium Head Blight (scab) to producers, processors and consumers of wheat and barley. Persons seeking additional information on research or other facets of the Initiative's mission and activities are invited to visit the Initiative's Website at www.scabusa.org or contact the Networking & Facilitation office at scabusa@scabusa.org.

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Editors: For a photo of wheat or barley damaged by Fusarium, contact Sue Canty, USWBSI Networking & Facilitation Office, scabusa@scabusa.org, ph 517-355-0271 ext 183