

Summary of the 1999 National Fusarium Head Blight Forum Germplasm Introduction and Enhancement Breakout Session

Issue 1. Communication of Findings. Those who participated in the breakout session, agreed that communicating the results of research to others was very important. To increase communication the Germplasm Introduction and Enhancement Research Committee will work with the U.S. Wheat & Barley Scab Initiative Networking and Facilitation Office to establish a searchable database. The data that will be included within the database are: germplasm origin, improvement status, type & level of resistance, whether or not the germplasm has been verified, the location(s) at which it has been tested, the agronomic traits (as they become known), the GRIN identifier, and seed availability. Once the seed quantities have been increased sufficiently, the database will be provided to Graingenes (CIMMYT, GRIN) and the maintenance of sources will be transferred Dr. Bockelman at Aberdeen.

Issue 2. How Should Scientists Deal With Intermediate Levels of Resistance? To help scientists work with intermediate levels of resistance it was determined that all of the data regarding a particular variety should be made available to the database referenced in Issue 1. The data should include whether or not the germplasm has been verified, the location(s) at which it has been tested, and the GRIN identifier. Scientists interested in accessions with intermediate levels of resistance can determine which levels of intermediate resistance they wish to pursue and acquire seed for those lines directly from the Aberdeen collection. Seed for these lines will not be increased at the individual evaluation centers.

Issue 3. Allelism Tests Among New Sources and Those Currently Used by Breeding Programs. Allelism tests are critical, however, performing allelism tests is too much work for one person. The group decided that a system needed to be developed to coordinate allelism tests so that redundant work is avoided. Communication would be the key to helping the system be successful. Collaboration with Kansas State University in population development was also suggested.

Issue 4. Coordination of Population Development From Identified Sources. This issue was divided into Hard Winter Varieties and Soft Winter Varieties. There is overlap in adaptation of the Hard Winter Varieties among Southern South Dakota, Nebraska, and Northern Kansas. The breeders should communicate closely and share populations to maximize their research efforts. In Soft Winter Varieties there is a very broad area of adaptation. Perhaps there may be some regional collaboration, but in general, individual breeders should work directly with purified sources. In the future, there may be the opportunity to share lines extracted from later generations through regional nurseries.

Issue 5. Broaden the Connection with Eastern Europe and South America. It was proposed that stronger relations with Eastern European Nurseries be facilitated through stronger ties with CIMMYT. Also, personal contacts should be initiated in Hungary, Romania, and other countries. These contacts will help to determine what needs to be done to facilitate the exchange of elite germplasm. Use of a cooperative winter scab nursery or U.S. Wheat and Barley Scab Initiative funds may also be used to gain both expertise and germplasm informally.