

**0203-RA-012 Facilitate international germplasm and information exchange through CIMMYT.**

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PROJECT ABSTRACT

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The overall goal of this collaboration is to increase genetic resistance to Fusarium Head Blight (FHB) as quickly as possible in commercially grown US wheat varieties and thus significantly increase the production and yield stability of wheat in the United States.

Specifically, the objectives of the project are:

- to provide agronomically suitable FHB resistant germplasm to US collaborators through pre-breeding activities using synthetic wheats and major US cultivars;
- to conduct a world-wide search for and acquisition of suitable FHB resistant germplasm and to make this available to the US Wheat and Barley Scab Initiative;
- to test germplasm through the International Testing Nursery; and
- to provide elite germplasm pre-breeding activities, FHB resistant germplasm and International Nursery Testing for barley.

Researchers at CIMMYT are working on incorporating genetic resistance for FHB into commercially grown varieties; specifically identifying and combining resistant types I, II, III and IV. Sources of resistance from genetic sources have been identified in Brazil, Japan, Argentina, China and Rumania, Ukraine, Korea and Uruguay. These will be evaluated by CIMMYT in Mexico, China and Uruguay and included in the breeding programs. Additional promising sources of Type II resistance have been identified in synthetic wheats. Commencing FY 2002, durum wheat accessions at CIMMYT will be evaluated for sources of resistance. Wide crosses will be used for the durum program. The D genome resistance of *Ae tauschii* accessions will be transferred into the durum A genome.

The best sources of FHB resistance have been crossed with US parents and F1 top crosses will be screened for *Septoria tritici* and *P. striiformis* during the 2002 cycle in Toluca, Mexico. The most promising materials will be shipped to US researchers in September 2002.

The project aims to develop as quickly as possible, FHB resistant germplasm that will minimize the threat of Fusarium head blight to the producers, processors and consumers of wheat and barley.