

PI: Rajaram, Sanjaya

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Research Area: GIE

Project Title: Facilitate international spring durum wheat germplasm and information exchange through CIMMYT.

PI's E-mail: s.rajaram@cgiar.org

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PROJECT 2 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 USA durum wheat varieties and thus significantly increase the production and yield stability of wheat in the United States of America.

Specifically, the objectives of the project are:

- to provide agronomically suitable FHB resistant germplasm to USA collaborators through pre-breeding activities using synthetic introgression wheat stocks, elite lines and major USA 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; and,
- to test germplasm through the CIMMYT International Wheat Improvement Network.

Researchers at CIMMYT are working on incorporating genetic resistance for FHB into commercially grown durum wheat varieties. Sources of resistance from genetic sources are limited, but have been identified in CIMMYT main-stream breeding lines. These will be evaluated by CIMMYT in Mexico, China and Uruguay and included in the breeding programs. Wide crosses will be used for the durum program. The D genome resistance of *Ae tauschii* accessions will be transferred into the durums A genome.

The best sources of FHB resistance have been crossed with USA parents and F1 top crosses will be screened for *Septoria tritici* and *Puccinia striiformis* during the 2003 cycle in Toluca, Mexico. The most promising materials will be shipped to USA researchers in November-December 2003.

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.