

PIs: Maarten van Ginkel and Flavio Capettini

PI's E-mail: m.van-ginkel@cgiar.org

Project ID: 0405-VA-056

FY03 ARS Agreement #: 59-0790-0-F076

Research Area: GIE

Duration of Award: 1 Year

Project Title: International Barley Germplasm and Information Exchange Through CIMMYT.

PROJECT 3 ABSTRACT
(1 Page Limit)

Overall goals: identify and acquire 'new sources of FHB resistance' in barley, thus 'diversifying the current resistance gene pool' and to 'facilitate the utilization of resistant germplasm'.

Specifically, the objectives of the project are:

- Providing agronomically suitable FHB resistant barley germplasm to US collaborators through pre-breeding activities using major USA cultivars.
- 'Promoting germplasm exchanges' and 'introduction of ('highly') resistant barley germplasm from international programs' through CIMMYT international network, otherwise maybe inaccessible.
- Testing USA barley germplasm at CIMMYT-Toluca field station and/or through the CIMMYT International Wheat Improvement Network.

The plans to accomplish the projects goals include:

- Resistance for FHB will be incorporated into commercially grown barley varieties for developing countries, specifically identifying and combining resistant types I (penetration), II (spread), III (low toxin content; also denoted as Type V) and IV (tolerance, good grain fill in the presence of the disease; also denoted as Type III).
- The best sources of FHB resistance (carrying also disease resistance) will be crossed with US barley parents and segregating populations will be screened for other foliar diseases in Toluca, Mexico, and advanced through the two-cycle-a-year breeding shuttle, in which also the desired malting quality will be pursued.
- The most promising materials will be shipped to USWBSI researchers.