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Research Area: GIE

Duration of Award: 1 Year

Project Title: International Bread Wheat Germplasm and Information Exchange Through CIMMYT.

PROJECT 1 ABSTRACT

(1 Page Limit)

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

Specifically, the supporting objectives of the project are:

- 'Systematic search' among relevant entries among 'primary gene pool' in CIMMYT gene bank (largest global collection of wheat and wheat relatives) for 'novel resistance' in bread wheat.
- 'Promoting germplasm exchanges' and 'introduction of ('highly') resistant bread wheat germplasm from international programs' through CIMMYT international network, otherwise maybe inaccessible.
- Evaluate acquired and CIMMYT Gene Bank germplasm at FHB hotspot(s) in Mexico and globally through the CIMMYT International Wheat Improvement Network, to identify 'highly resistant elite bread wheat germplasm'.

The plans to accomplish the projects goals include:

- Germplasm from FHB-prone regions from 'throughout the world' already in the CIMMYT gene bank but not fully evaluated for 'novel resistance' will be subjected to 'a systematic search', based on GIS area of origin data to focus the search where FHB is endemic, and subsequent evaluation for FHB.
- 'Discovery of novel resistance' from certain countries (e.g. Argentina, Brazil, China, Japan, Mexico (CIMMYT), Romania, South Korea, Ukraine, Uruguay, etc.), is intensified.
- Above materials plus additional candidate 'new sources of FHB resistance' will be evaluated by CIMMYT in 'international programs' in Mexico, China and Uruguay/Brazil/Argentina, as a preventive measure against the risk of pathogen diversification and to identify widely effective 'resistant elite germplasm'.
- All these hexaploid stocks will be shared with USWBSI. In the process other relevant new diversity in traits to breeding may also be introduced.