BGRI

2011 TECHNICAL WORKSHOP

June 13-16, St. Paul, Minnesota

Poster Abstracts

Edited by Robert McIntosh

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Borlaug Global Rust Initiative

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Poster Abstracts

Theme 5: Delivering Seed to Farmers

79. Farmer participation in promoting rust resistant wheat genotypes in the hills of Nepal enhances food security

***Sarala Sharma*[1]**

Wheat cultivation in the hills of Nepal contributes substantially to food security at the household level. However, this food security to resource poor farmers growing wheat at subsistence levels is often threatened by epidemics of yellow rust. Epidemics during 2003, 2004, 2005 and 2006 caused yield losses of up to 50% on currently highly susceptible popular cultivars Nepal 297 and RR21 (Sonalika). This was due to low genetic diversity in wheat varieties grown in the hills, farmer unawareness of rust disease management, a poor seed networking system, and conducive environments. Moreover, there is the growing threat of stem rust race Ug99 in some countries of South Asia. With a view to accelerate adoption of resistant cultivars, WK 1204, Pasanglahmu and Gautam were promoted in ten hilly districts of Nepal. WK 1204 has wide coverage in mid-hills and Gautam in the low hills.

In order to promote more varieties, elite yellow rust and a few Ug99 resistant pre-release genotypes were evaluated in the Kathmandu, Bhaktapur, Lalaitpur, Kavrepalanchok, Dolakha, Sindhupalanchok, Baglung, Parbat, Myagdi and Dhankuta areas during 2008/9, and 2009/10 using the participatory varietal selection approach. There was active participation of 580 farmers in trialing the genotypes. In the first year, farmers selected yellow rust resistant genotypes such as WK II82, BL 3235 and BL 3503. In the second year genotypes tested were BL 2818, NL 1073, NL 1050, NL 1053, and NL 1067. Ug99 resistant genotype NL 1064 (Danphe) was preferred by the farmers in hill regions.

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80. Muqawim 09 - a Ug99 resistant success story in Afghanistan

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Wheat (*Triticum aestivum* L.) in Afghanistan is grown on about 2.5 m ha, which is about 80% of the area cultivated under all cereals. Constraints to production include lack of irrigation for about 50% of the area, diseases (including rusts) and above all, the potential threat stem rust race Ug99. The Agricultural Research Institute of Afghanistan (ARIA) has released four Ug99-resistant wheat varieties viz., Baghlan 09, Kaushan 09, Muqawim 09 and Chonte #1. In 2010 a mere 176 tonnes of certified Ug99-resistant varieties were available for Afghan farmers. For this reason sources in Egypt were approached for Ug99 resistant variety Misr-1, which had been released in Afghanistan by the name Muqawim 09. This genotype appeared in the 2nd Elite Bread Wheat Yield Trial (EBWYT) during 2006 and was tested across Afghanistan during 2006-07 to 2008-09 with an average yield potential of 5.8 tonnes per ha and released in 2009. The Field Crop Research Institute (FCRI) of Egypt provided 150 tonnes of registered seed. The seed production system involving ISE (improved Seed Enterprise) is multiplying the variety and expects to produce an estimated 2,482 tonnes of certified seed for the 2011-12 crop season. This intervention result in sufficient seed to supply about 9 % of the total certified seed for the next crop season.

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81. Gender-responsive variety selection (GVS) for rust-resistant wheat varieties at Kulumsa, Ethiopia

K. M. Nelson[1], Y. Chiche[2], L. Sperling[3] and S. N. Davidson[4]

Ethiopia releases more varieties of wheat each year than most other African nations, yet new varieties are seldom adopted. Gender is thought to influence varietal acceptance, and therefore, it is critical to analyze perceived values of both pre- and post-harvest traits in wheat varieties. Hence, we are undertaking a gender-responsive variety selection project in Ethiopia in collaboration with researchers at the Ethiopian Institute for Agricultural Research. We aim to 1) identify gender differentials in wheat preferences, and 2) analyze the relative importance of traits so that the results may be used to guide selection criteria in breeding programs. To meet such objectives, we will conduct interviews to identify gender roles in wheat variety selection, seed storage and management; and to understand how men's and women's respective relationships to production and assets affect pre- and post-harvest preferences. Farmer field days at the Kulumsa Agricultural Research Center will serve as occasions to identify farmers' preferred pre-harvest characteristics including plant height, yield, maturity dates, and disease response; as well as, post-harvest qualities such as threshability, texture, cooking time, and quality of bread and injera. Data will be analyzed using conjoint analysis to quantify an individual's perceived values of a given variety. The method is based on the farmer's overall valuation of his or her combined preference for the different attributes. By asking farmers to rate combinations of attribute levels, an estimate for each level's contribution to the overall valuation can be obtained. The preference models of individuals can then be grouped into segments, which may be informative for breeders to accommodate gender preferences into selection criteria and to influence variety release procedures.

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