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A gender-response study of farmer preferences of bread wheat traits in Nepal

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The versatility of wheat as a food source and its varied uses as food/feed and in construction/industry accounts for its importance in the global agricultural market. Due to its end-product versatility and high nutritional value, wheat is the world's third most produced cereal crop after maize and rice. As Nepal's third major food crop, wheat research has focused on increasing yield and breeding for resistance to major diseases; 34 varieties have been released in Nepal. However, many of these varieties were not widely adopted due to lack of key farmer preference criteria. As a result of Nepal's varied ecological zones and different ethnic groups, farmer preferences of varieties vary between localities. These differences in farmer preference have not been studied sufficiently for successful promotion of new varieties. As a means of supplementing current plant breeding research, in this study I will focus on gender differences in choice of varieties in the Nepali production system. I will be determining differences in farmer preference of agronomic and quality traits in order to assess whether gender influences variety and rate of adoption. The study will be conducted through a series of surveys and interviews of female and male farmers and will aim to evaluate preference among the following traits: cooking quality, dough properties, seed price, resistance to rust, grain color, grain size, kernel density, straw quality, timing of plant maturation, tolerance to environmental stresses, and market desirability. The understanding of farmer preferences that will arise from this study will in turn help plant breeding and variety promotion by prioritizing different traits in response to varying farmer expectations. The data gathered through the study will thus provide an in-depth insight on the factors that drive farmer adoption of wheat varieties.

Establishing food and nutritional security in the Eastern Gangetic plains of India through biofortified rust resistant wheat varieties

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Both food and nutritional security in the Eastern Gangetic Plains (EGP) of India is of utmost importance. Fifty genotypes developed at CIMMYT were evaluated under participatory varietal selection for five years (2009-2013) in 54 EGP environments made up of 5-18 locations in each year. Fourteen lines were identified as superior to adapted cultivars in resistance to stem rust and stripe (yellow) rust, grain yield and grain zinc concentration. The APR responses for stem rust were MR to R, and for stripe rust, 0-20S. The grain zinc concentrations ranged from 30-45 ppm (15-30% superiority over the checks) compared to 27 ppm in the best local check. These rust resistant biofortified lines yielded 3.5-4.5 t/ha (10-33.3% superiority over the checks) under late-sown heat-stressed conditions. Heat stress is the most important abiotic stress in the EGP. Superior, farmer preferred lines are now in various stages of seed multiplication and in the process of being released and commercialized in the EGP by the private and public seed sectors.