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Project Title: Screening Hordeum Germplasm for Resistance to Fusarium Head Blight and DON Accumulation.

PROJECT 5 ABSTRACT

To broaden the genetic base of FHB resistance in barley, additional sources of resistance need to be identified and exploited. We propose an accelerated screening effort of diverse *Hordeum* germplasm from genebank collections around the world. The ND component of the Screening Hordeum Germplasm for Resistance to Fusarium Head Blight and DON Accumulation project will: 1) evaluate previously unscreened *Hordeum* accessions for reaction to FHB in Fargo ND, Langdon ND and Hangzhou China ; 2) validate putative resistance sources in replicated experiments at the same locations and 3) participate in characterizing the uniqueness of the putative resistance sources with molecular markers. In FY09-10, we propose to evaluate about 5,500 diverse *Hordeum* accessions for reaction to FHB. The accessions selected for this study will be mostly from the N. I. Vavilov All-Russian Scientific Research Institute of Plant Industry [VIR], International Center for Agriculture in the Dry Areas [ICARDA], and Plant Genetic Resources Canada [PGRC] genebanks and targeted to represent unique germplasm not screened in previous tests.