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**Project ID: FY14-BA-002**

**ARS Agreement #: NA**

**Research Category: BAR-CP**

**Duration of Award: 1 Year**

**Project Title: Crossing and Field Tests of Transgenic Barley.**

**PROJECT 1 ABSTRACT**

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Transgenic barley lines expressing a variety of genes that may reduce FHB and/or DON are being developed in several genotypes including Conlon (adapted susceptible), Golden Promise (GP; unadapted susceptible), and ND20448 (adapted resistant). To accurately test gene effects on FHB and DON in the field, transgenes in GP need to be crossed into adapted cultivars. Genes also need to be crossed into resistant lines developed by the barley breeding programs to determine whether the transgenes add to that resistance. The proposed research project will develop adapted lines expressing each transgene and test them in at least one ND location each year. Lines also will be tested in MN through collaboration with Ruth Dill-Macky