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**Project ID: FY12-BA-003**

**ARS Agreement #: 59-0790-8-071**

**Research Category: BAR-CP**

**Duration of Award: 1 Year**

**Project Title: Field Tests of Transgenic Barley Lines.**

## **PROJECT 2 ABSTRACT**

(1 Page Limit)

The objective of the proposed research is to conduct field trials of transgenic barley lines developed by L. Dahleen (USDA-ARS-Fargo, ND), R. Skadsen (USDA-ARS-Madison, WI) and T. Abebe (UNI) to determine their resistance to FHB and levels of DON accumulation. Homozygous transgenic lines from the three labs will be tested in field plots in the Langdon, ND disease nursery. These include lines expressing one or two antifungal genes in Conlon from the Dahleen lab, plus lines from the Skadsen lab (thionin) and Tilahun lab (gastrodianin) that have been backcrossed into Conlon from Golden Promise so they can be tested in the field. Two transgenic line with significant levels of resistance confirmed in multiple trials will be used in marker assisted backcrossing into the elite ND breeding line ND20448 and the recently released FHB resistant cultivar Quest for evaluation beginning in 2013.