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Project Title: Integrated Management of FHB and DON in Barley in New England.

PROJECT 1 ABSTRACT

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In order for New England farmers to produce high quality grains for malting, more information is needed on the agronomic practices required to produce them. *Fusarium* head blight (FHB) is currently the most important disease facing organic and conventional grain growers in New England, resulting in loss of yield, shriveled grain, and, most importantly, mycotoxin contamination. Through this project integrated management strategies will be developed and evaluated with the goal of minimizing the loss of yield and quality from FHB.

Public interest in sourcing local foods has extended into beverages, and the current demand for local brewing and distilling ingredients is quickly increasing. This only stands to reason since the Northeast alone is home to over 175 microbreweries and 35 craft distillers. Until recently local malt was not readily available to brewers or distillers. However, a rapid expansion of the fledgling northeast malting industry will hopefully give farmers new markets and end-users hope of readily available malt. To date, the operating maltsters struggle to source enough local malt quality grain to match demand for their product.

Through this project integrated management strategies will be developed to minimize the loss of yield and quality from FHB. The first step will be to implement a variety trial that evaluates potential germplasm for the area. Spring barley trials will identify varieties suitable for malting and adapted to New England. Fungicide applications have proven to be relatively effective at controlling FHB in other barley growing regions. No work has been done in this region on the optimum timing for a fungicide application to barley specifically to minimize DON. Fungicide application timing studies will define best practices for the Northeast. Many organic growers are interested in producing malt barley. Current organic management do not allow for conventional fungicide application. Organic approved disease control materials will be evaluated as to their impact on FHB and DON.

All research results will be widely distributed to growers in the Northeast through field days, conferences, and online materials.