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Project Title: Enhancing the Capacity of Farmers to Produce Malting Barley in the Northeast.

PROJECT 1 ABSTRACT

(1 Page Limit)

The localvore movement has created and expanded markets for farmers in the Northeast, to the point where demand for local grains exceeds supply. More recently, public interest in sourcing local foods has extended into beverages, and the current demand for local brewing and distilling ingredients is quickly increasing. One new market that has generated interest of both farmers and end-users is malted barley. This only stands to reason since the Northeast alone is home to over 175 microbreweries and 35 craft distillers. Additionally, in New York a provision in the legislation calls for 90% of the hops and 90% of the ingredients in local beer to be New York grown by 2024. These activities have obviously significantly increased the demand for local grains and malt. Until recently local malt was not readily available to brewers or distillers. However a rapid expansion of the fledgling malting industry will hopefully give farmers new markets and end-users hope of readily available malt. Six new malt houses in VT and NY have opened their doors in 2013 or plan to open in 2014. In addition, established malt houses such as Valley Malt (Hadley, MA) and Maltarie Frontenac (Thetford Mines, Qc) have expanded their production capacities to meet the demand from brewers and distillers. In addition, larger malting companies such as Canada Malting Company have also expressed interest in further expanding their local product development, which would create even more space for additional farms to enter the market. To date, the operating maltsters struggle to source enough local grain to match demand for their product. Those businesses yet to open have expressed concern that local grain quantities will not be available to support their new operations. In addition to short supplies, the local malt barley that is available often does not meet the rigid quality standards for malting.

In order for 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 the Northeast, resulting in loss of yield, shriveled grain, and, most importantly, mycotoxin contamination. Through this project strategies will be developed to minimize the loss of yield and quality from FHB. The first step will be to develop variety trials that evaluate potential germplasm for the area. Winter and spring variety trials will identify varieties suitable for malting and adapted to the Northeast. Varieties will be evaluated for disease resistance/tolerance as well as yield and quality. 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 practices that are implemented by cereal grain growers include crop rotation, addition of compost for fertility, interseeding with clover for fertility and weed control, and higher seeding rates to combat weeds. It is unclear how these practices may influence FHB and DON levels in barley crops. Standard organic grain practices including elevated seeding rates and interseeding of clover 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.