Producers in the upper Midwest are in dire need of a risk advisory system for FHB in barley that could help make them make informed decisions about fungicide application and grain marketing. An effective risk advisory system is currently available for wheat but it is not effective at predicting disease severity for barley. In addition there is also no model available for DON, which is the most important criteria used by the malting industry when deciding to purchase grain. The aim of this project is to investigate the effect of environmental conditions on FHB severity and DON accumulation in barley and to provide data to develop risk models that can be added as a component of the current wheat risk model.