

Project Abstract

Project Title:	Germplasm acceleration for FHB resistance breeding in barley	
USWBSI Project ID:	FY24-BA-001	
Principal Investigator:	Margaret Krause	Oregon State University

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Project Summary

Our Overall Project Goal is to continue to assist researchers in increasing the efficiency with which they identify and deploy genes and QTLs that contribute to reduction in the losses caused by Fusarium head blight (FHB). This can be achieved by developing doubled haploid (DH) germplasm from the F1s of cross combinations identified by collaborating breeders. DHs are complete homozygotes that provide unequivocal genotyping and phenotyping data. We will also provide speed breeding as an alternative path for achieving a rapid approach to homozygosity when germplasm is recalcitrant in the DH production process.

Our Project Objectives are to:

1. Produce ~ 2,000 green plantlets from the F1 donor plants: ~2,000 green plantlets (GPs) will produce ~ 1,000 fertile doubled haploid (DH) plants.
2. Produce seed from the DH and ship seed to cooperators.

Our Expected Outcomes and Approaches are to:

1. Receive F1 seed no later than June 1 from the collaborating research group(s) identified by the CP Steering Committee (CPSC) as having the greatest potential to have economic impact and to contribute to the fundamental body of knowledge.
2. Grow F1 donor plants.
3. Produce ~ 2,000 GPs from the F1 donor plants.
4. Produce ~ 1,000 DHs from the GPs.
5. Ship DH seed to cooperators.

Statement of Mutual Interest:

Collaborators will receive homozygous germplasm that will assist them in achieving their goals of FHB resistance gene/QTL discovery and deployment.

