

AGRPC Project II Progress Final Report

Project Title: Double Haploid Breeding Method to improve Lodging Resistance in Durum Wheat (*Triticum turgidum* L. var. *durum*).

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Summary:

The purpose of this project is to expedite the release of durum wheat cultivars with superior agronomic and quality characteristics such as: high yield, resistance to lodging and high quality. These cultivars would be available to the producers in Arizona, the national pasta industry and the international export market. This project is a continuation of a project I started by crossing durum wheat with triticale and developing a segregating population via tissue culture techniques.

Project progress:

The experimental lines developed by crossing durum with triticale were sent for advancement to the double haploid production laboratory. The survivors of this production (doubled haploid seeds) will be sent to Arizona Plant Breeder by the beginning of 2019. The amount of seed is not expected to be more than 5g. However, at this stage the double haploid lines should show high levels of homozygosity and be ready for increase in Colorado in 2019. At harvest a subsample of each line will be taken to be ran through the quality lab. Top lines will be selected for the yield trial evaluation in CG in 2020. The highest yielding lines will be selected and evaluated for at least 2 years before making the final decision on releasing a new durum wheat cultivar adapted to Arizona.

Date: 9/25/18