

## 2016 University of Delaware Small Grains Variety Trials

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Thank you to all of the companies who have generously supported and participated in the University of Delaware small grains trials. Appreciation and gratitude is extended to the following cooperators who generously provided land and support for our off-site locations; Craig Murray (Murray Bros. Farm) of Selbyville; John Thomas of Thomas Family Farm in Marydel; and Rob Emerson of Emerson Farms in Middletown. Thank you to the farm staff at the UD Thurman Adams Research Farm; Brian Hearn (Farm Manager), Ward Harris, William Hawkins, Kyle Mitchell, and George Willey for their help in maintaining equipment and plots. Also, I thanks to Bob Uniatowski, former variety trial coordinator, for his assistance in taking field notes this year. The variety trial program could not be done without any of them.

### **Summary**

Weather and moisture conditions were excellent for fall planting and all locations were planted in October which is typically optimum for Delaware. Weather remained mild and was unusually warm in December. This resulted in lush, rank growth conducive to aphid infestations and promoted favorable disease conditions at greenup. April was cool and wet which favored disease conditions. Powdery mildew and stripe rust were prevalent at all locations, particularly the Middletown location. The Middletown location had significant lodging for some varieties. For more specific weather data, the DEOS site is recommended <http://www.deos.udel.edu/#>, or I can send this data if requested.

**Planting rates** were 1.5 million seeds/acre (35 seeds/ft<sup>2</sup>). Planting was done with an Almaco research plot planter. Seed was drilled on 7.5" row spacing. Plots consisted of 9 rows and final plot harvest was 17 feet. Harvest was done with a Kincaid MF-8XP combine using a Harvestmaster grain gauge data collection system. Data collected at harvest was plot weight, test weight, and grain moisture. Yield data was corrected to 13.8% moisture for final report. Plant height at maturity was recorded. Plant lodging notes were taken where significant lodging took place (Marydel and Middletown). A **disease rating** by variety was done by Dr. Nathan Kleczewski, University of Delaware extension pathologist for the Middletown plot only, which exhibited the most disease pressure of all the locations. *Please note that there were no fungicides applied at the Middletown location.*

**Lodging** scores were based on a 0-10 scale with 0 being no lodging and 10 being complete lodging. There was significant lodging among varieties particularly at the Middletown location. Growers who wish to use a variety prone to lodging may be advised to check with their seed rep on the use a growth regulator.

Planting and harvest dates are recorded in the summary for each location.

**Fertility:** All plots were fertilized with N-sul (27-0-0-6) in two split applications for a total of 100 lbs.

**Herbicide:** T-squared (Thifensulfuron + Tribenuron) @.5 ounce/A. this was applied with the second nitrogen application. T-squared herbicide was used for the Georgetown, Selbyville and Marydel locations. Powerflex (pyroxsulam) @ 2 ounces/acre was used at the Middletown location to control significant bluegrass pressure.

### **Georgetown**

First N application 2/29/16

Second N application with T-squared herbicide 3/16/16

Sprayed Quilt fungicide (Azoxystrobin; Propiconazole) @ 14 oz/A 4/29/16.

Sprayed Lambda II (Lambda-cyhalothrin) insecticide for cereal leaf beetle @ 1.9 ounces/A plus Caramba fungicide @ 14 ounces/A 5/12/16. Growth stage was "headed" Feekes 10.5

### **Selbyville**

First N application 3/1/16

Second N application with T-squared herbicide 3/16/16

Sprayed Quilt fungicide (Azoxystrobin; Propiconazole) @ 14 oz/A 4/29/16.

Sprayed Lambda II (Lambda-cyhalothrin) insecticide for cereal leaf beetle @ 1.9 ounces/A plus Caramba fungicide @ 14 ounces/A 5/12/16. Growth stage was "headed" Feekes 10.5

### **Marydel**

First N application 3/9/16

Second N application with T-squared herbicide 3/23/16

Sprayed Lambda II (Lambda-cyhalothrin) insecticide for cereal leaf beetle @ 1.9 ounces/A plus Caramba fungicide @ 14 ounces/A 5/17/16. Growth stage was "headed" Feekes 10.5.

### **Middletown**

First N application 3/3/16

Second N application with Powerflex herbicide 3/17/16.

Sprayed Lambda II (Lambda-cyhalothrin) insecticide for cereal leaf beetle @ 1.9 ounces/A 5/5/16.

This location had significant disease pressure. It was NOT sprayed with any fungicide in order to rate for disease resistance.

