Proud and Immortal, Bright Shine the Names, OSU Wheat Varieties Continue to Lead the Game

Oklahoma State University (OSU) varieties continue to increase Hard Red Winter Wheat plantings in the state of Oklahoma, according to the March 2017 “Oklahoma Variety Report” from USDA National Agricultural Statistics Service. This year, the top six leading wheat varieties planted in the state were developed by OSU. A few changes appeared in the lineup compared to last year with 4 of the top varieties coming out of OSU. This year we saw Doublestop CL Plus increase in planted acres moving ahead of Fuller and Jagger and landing it in the sixth spot following Gallagher, Duster, Endurance, Iba, and Ruby Lee. The Gallagher variety held in 1st place with a much larger increase in reported plantings from the previous year. Duster and Endurance now tie while Iba acreage also increased. Ruby Lee had slightly lower plantings than in the past. The roots of success continue to be firmly anchored with several other up-and-coming OSU varieties being adopted by Oklahoma wheat producers. Although it did not make it in the top 10, Bentley, a new release from 2015, increased its presence with more acres planted for this pristine variety next year.

Gallagher, the leading variety of all wheat seeded in Oklahoma, accounted for the largest percentage of the state’s 2017 planted wheat acres. The primary area of adaptation for the Gallagher variety is from the Northern regions of Texas to the Southern regions of Kansas throughout the Hard Red Winter wheat production area of southern, central and north central Oklahoma.

Gallagher an early maturing variety, known best for its good grazing tolerance. It is resistant to Hessian fly and moderately resistant to leaf rust, powdery mildew and barley yellow dwarf. It is resistant to the wheat soilborne mosaic and wheat spindle streak mosaic complex, and to stripe rust in the adult-plant stages. Gallagher has intermediate septoria leaf blotch resistance for no-till high residue systems. This variety also has the ability to exceed 12 percent wheat protein with adequate fertilization. It also carries a key segment of a rye chromosome that lends greater yielding ability, but unlike so many varieties with this feature, Gallagher has provided above-average milling and baking quality.
Duster has been a consistent top performer in OSU wheat variety tests for several years. It performs well in both grain-only and dual-purpose systems and has above-average tillering ability which allows it to recover well from grazing. It emerges well in hot, dry soil conditions and closes the canopy rapidly. These traits, along with good forage production and medium-late first hollow stem, make Duster a nice fit for dual-purpose production systems. Duster has effective resistance to several diseases common to Oklahoma, including leaf rust, stripe rust, powdery mildew, wheat soilborne mosaic, wheat spindle streak mosaic and barley yellow dwarf. Moderate susceptibility to tan spot and septoria means Duster should be monitored for these diseases in continuous no-till wheat production systems.

Duster is highly resistant to the Great Plains biotype of Hessian fly. This is of particular benefit to producers wishing to sow early to maximize forage yield or those who no-till wheat after wheat.

Endurance wheat, a mainstay released by Oklahoma State University Wheat Improvement Team in 2004, has performed well in dual-purpose and grain-only systems throughout the state of Oklahoma and beyond. It shows an unusual ability to break winter dormancy consistently late from year to year, yet will catch up on heading date relative to Duster. Still Endurance finishes relatively late and often benefits from moderate temperatures during May. Years of yield data indicate that Endurance has the ability to maintain good yield potential in a wide range of stress environments as well. Given these attributes, it should be no surprise that the OSU Wheat Improvement Team has used Duster and Endurance as a sturdy foundation for creating new, improved varieties.

Don’t forget about Iba, a variety also with Duster parentage that has outstanding test weight and a broad area of adaptation with proven yielding ability in performance tests from Kansas to Texas. It is resistant to current races of leaf rust, and moderately resistant to powdery mildew, tan spot and barley yellow dwarf, but susceptible to septoria leaf blotch. It is resistant to the wheat soilborne mosaic and wheat spindle streak mosaic complex. Iba is best suited for soil pH of 5.5 and above, and adequate nitrogen fertility is required to ensure 12% wheat protein.

The Ruby Lee variety has Endurance as one of its parents with large seed size and outstanding milling and baking characteristics. The Endurance influence lends excellent forage production and recovery from grazing. On the other hand, Ruby Lee is highly responsive to intensive management with great top-end yield potential. Stripe rust and powdery mildew can restrict yield of Ruby Lee, so foliar fungicides are recommended when justified by yield potential. The Ruby Lee variety is Hessian fly resistant with good tan spot resistance for no-till systems. Ruby Lee is best suited for a soil pH of 5.5 and above. Ruby Lee has good drought tolerance and a wide area of adaptation throughout the Southern Plains but appears best fit for downstate Oklahoma.

Last but not least, Doublestop CL Plus with its two-gene Clearfield technology offers improved weed control of problem weeds such as feral rye and jointed goat grass. It has excellent test weight in a late-maturity wheat with good protein content and quality. Yield stability of this variety across a wide range of environments is a virtue, including drought stressed and high-yield systems. This variety has an Endurance-type graze-ability with great forage production and late first hollow stem. It is tolerant of acid soils and is moderately resistant to leaf and stripe rust. It is resistant to wheat soil borne mosaic while having an inconsistent resistance to wheat spindle streak mosaic.
Thanks to wheat improvement programs like the one at OSU, producers continue to have improved options of wheat varieties to plant. Whether it is improved stress or pest tolerance or increased yields, at the level of end-use quality expected by our food industry, the Oklahoma Wheat Improvement Team at OSU is working at creating varieties that are meeting producers’ changing needs.

Wheat varieties released by OSU continue to feature these traits:

* High grain yield with or without grazing
* Heat and drought tolerance
* Resistance to multiple fungal and viral diseases
* Resistance to aphids and Hessian fly
* High quality for both milling and baking characteristics

Most importantly, OSU wheat varieties are locally adapted but globally marketed.

It is important to note the varieties released by the Wheat Improvement Team at OSU have been through several years of testing for the quality-based attributes that both domestic and foreign customers are looking for with regards to milling and baking characteristics. Variety development programs that rush a variety to release may not provide the same level of scrutiny for end-use performance. By finding important traits that are beneficial to grain buyers, the OSU Wheat Improvement Team is also working to capture more market share for the farmer by creating varieties that have the most benefit for end users.

Other important OSU varieties planted by Oklahoma wheat producers as sighted in the “Oklahoma Wheat Variety Report” from the USDA National Agricultural Statistics Service include:

- **Bentley**: a new and upcoming OSU variety released in 2015, that provides good forage production with excellent recovery from grazing
- **Billings**: still maintains resistance to stripe rust and leaf rust
- **Garrison**: the best-fit OSU variety for high-residue systems
- **Deliver**: a reliable beardless type with all the expectations of a high-quality bearded variety
- **OK Bullet**: tall but lodging-resistant variety, soon to be replaced with the shorter statured Spirit Rider
- **Centerfield**: the first Clearfield (single gene) variety targeted and best fit for central Oklahoma

For more wheat variety information about OSU wheat releases click on [http://www.okgenetics.com](http://www.okgenetics.com)