

OSU Releases

Bumper Crop of Wheat Varieties

by Brian Brus, OSU Agricultural Communications Services

Scientists at Oklahoma State University are giving wheat farmers new options to plant in their fields soon — five wheat varieties that build on years of research and careful selection of the best traits.

Five is a large number even for OSU, which is known for its industry-shaping genetics program and nearly annual releases. However, Brett Carver, who holds the Wheat Breeding Genetics Chair in Agriculture, said optimal conditions and record yields this year allowed for a particularly large data set and several lines of research.

“There’s ultimately little crossover between these varieties,” he said. “We don’t breed a variety that addresses every problem — it doesn’t make sense; our geography is too diverse. I wanted to make sure we knew where each of these five would do best, where each of them needs to grow.”

Each new cultivar plays up to certain strengths and traits. Carver, who was interviewed recently for the SUNUP television video series, provided a short overview:

Uncharted — The first of four Hard Red Winter wheats. Uncharted has “an unprecedented resistance” to a virus called Barley Yellow Dwarf. Carver said the virus’ effect on small-grain plants is comparable to Covid-19 virus to humans.

Strad CL Plus — This wheat can supplant its predecessor in fields which use the Clearfield commercially branded herbicide control system.

Breakthrough — Another virus typically found in the Panhandle of the state, called Wheat Streak Mosaic, has far less effect on Breakthrough.

Butler’s Gold — The last of the reds introduced this year. Butler will be attractive to farmers who face season-disrupting conditions and are trying to recover with a late-planted crop. This variety is extremely fast in the way it develops, he said.

Big Country — The only white wheat released this season. Big Country has the potential to outperform yields of red varieties at an equally high or higher quality level. It also has strong sprouting and disease resistance. White grain can produce a larger amount of flour per weight, so the only thing holding back Big Country will be whether mills are willing to try it in response to market demand over red.

OSU professor Bob Hunger, a wheat plant pathologist, agreed with Carver that this seems to be the “year of disease.”

“It’s unusual to produce as many as five varieties in any year, but there definitely seems to be a greater need for virus resistances,” Hunger said. “Big

Country has one of the best packages of resistances that I’ve ever seen.”

The cultivars were revealed by the [OSU Wheat Improvement Team](#) in conjunction with the university’s [Department of Plant and Soil Sciences](#) and the [Department of Entomology and Plant Pathology](#).

Each of the varieties have a unique number that was used for experiment tracking – OK12912C-138407-2, for example, the original identifier for Strad CL Plus – but Carver said the average person connects much easier with a name that represents a heritage or meaningful story.

Strad CL Plus, for instance, not only refers to the unparalleled craftsmanship of a Stradivarius violin, it also suggests a connection to a predecessor wheat strain called Doublestop, a musical term for the technique of playing two musical notes simultaneously on a violin. The Doublestop wheat line involved the two-gene technology for controlling problem weeds such as feral rye and jointed goatgrass. Strad builds on those traits.

The story behind Butler’s Gold started 40 years ago when President Jimmy Carter took a stand against the Soviet Union’s invasion of Afghanistan and ordered a boycott of the Olympics held in Moscow that year. James Butler was 19 at the time, a graduate from Broken Bow

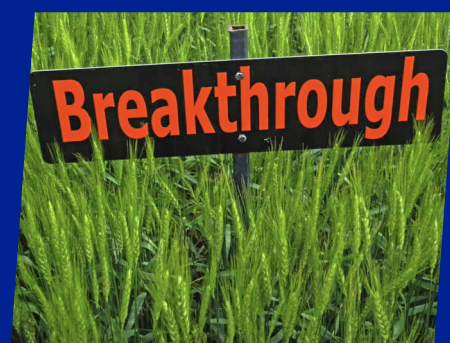




Photo of OSU sprinter James Butler, as seen in The Oklahoman.

High School, and a star student at OSU for his potentially record-breaking sprint speeds.

The keyword in Butler's tale is "potential." He had set a school record that still stands and won the U.S. Olympic trials in the 200m sprint, but Butler never got a chance to run against the world. He moved on and now lives in Florida, Carver said.

When a local newspaper sports reporter told Carver about Butler's struggle, the scientist immediately recognized a winning name. He has spoken directly with Butler to make sure the alumnus is comfortable with his name attached to the fast-growing plant.

Wheat is Oklahoma's largest crop, with almost 3 million acres of winter wheat harvested annually that's worth about \$500 million. According to the USDA, varieties introduced to the market by OSU now typically account

for at least half of the wheat acres planted in the state. That wouldn't be possible without OSU's upfront investments in human capital and infrastructure or without the nonprofit Oklahoma Genetics Inc., which oversees wheat licensing and marketing agreements so that OSU ultimately gets a cut of profits, funds that are put back into more research to produce more improvements. Regional farmers and wholesalers follow strict standards under OGI for growing, harvesting and storing materials to ensure that new plants don't mix with other varieties and dilute qualities OSU has worked so hard to draw out. After the first wave of growers produce enough seed, it will then be widely distributed to the rest of the market.

[Oklahoma Wheat Commission](#) (OWC) Executive Director Mike Schulte said OSU's wheat genetics program has helped elevate

Oklahoma to the top of the industry. Farmers across the country have Oklahoma land-grant university researchers to thank for the health, size and hardiness of their crops.

"As we move forward creating varieties to fulfill specific needs for Oklahoma wheat producers and the milling and baking industries, OWC appreciates the continued dedication by our public wheat research program and wheat improvement team at OSU," Schulte said. "They are obviously committed to excellence. These five new releases will create greater opportunities and value with varieties that not only have exceptional agronomic traits, but also will offer better end-use quality characteristics for the miller and baker. This in turn will hopefully create an even greater demand for our publicly funded wheat varieties supported by Oklahoma wheat producers with their support of OWC," Schulte stated. [OWC](#)



Click image to view Sunup interview of Brett Carver.

