

- A Faster Path to Better Wheat
- Small Grain Silage Assessment to Bolster Research Opportunities

## WHEAT OUTLOOK VARIES ACROSS GROWING REGIONS

Across Texas, this year's wheat crop is shaping up to be anything but uniform. In some parts of the state, fields still show promise, but in the Panhandle and much of the Rolling Plains, the outlook is far less certain. Persistent drought, above-average temperatures and a series of compounding stressors are steadily chipping away at crop conditions, leaving many growers weighing difficult decisions as the season unfolds.

### Drought and Temperatures Concerns

“These hot temperatures are never favorable for wheat prior to grain maturity,” said Calvin Trostle, Texas A&M AgriLife Extension agronomist. “I remind farmers and colleagues, ‘wheat is a cool-season grass.’”

That reality is becoming increasingly apparent across the state. Temperatures pushing beyond 86°F during key growth stages are accelerating soil moisture loss and shortening the window for grain development. For a crop already under moisture stress, the margin for error continues to narrow.

Additionally, reports of vernalization issues have been noted as far north as Johnson County, with more pronounced concerns in South Texas. Without sufficient chilling, head development may be delayed or reduced, further limiting yield potential.

Faced with warmer temperatures, crop progress advanced ahead of schedule leaving fields vulnerable to freeze damage when temperatures plummeted in mid-March. Fields that

had already reached, or were approaching, jointing were particularly vulnerable. In some fields, freeze damage was extensive, adding yet another layer of uncertainty to an already stressed crop.

### Stress Compounds Pest and Disease Pressure

The same conditions stressing the crop are also creating opportunities for pests and disease to gain ground. Warmer-than-normal temperatures combined with stressed plants can weaken the effectiveness of genetic resistance, particularly for traits that are temperature-sensitive. Varieties that have historically performed well are showing increased vulnerability under sustained heat and drought stress.

Leaf rust is one of the most notable concerns emerging across the state.

*"Growers should continue to check for rust development, even in resistant varieties. Drought conditions or Hessian fly infestations can reduce the effectiveness of genetic resistance and temperature-sensitive genes may be a factor."*

**BRANDON GERRISH PH.D.**  
Texas A&M AgriLife Extension Specialist

Photo Courtesy of Tyler Mays

Wheat Growth Stage	Optimum Temperature (°F)	Minimum Temperature (°F)	Maximum Temperature (°F)
Seed Germination	68-77 ± 2	38-40 ± 1	95 ± 2
Root Growth	63 ± 2	38 ± 1	75 ± 2
Shoot Growth	65 ± 2	40 ± 1	68 ± 1
Leaf Initiation	69 ± 3	35 ± 1	74 ± 2
Terminal Spikelet	61 ± 4	37 ± 1	68 ± 3
Flowering	73 ± 3	50 ± 2	79 ± 2
Grain Filling Duration	79 ± 3	55 ± 3	86 ± 4

Table Courtesy of Calvin Trostle

Even under dry conditions, reports of leaf rust are increasing. Infected plants often experience reduced vigor, fewer kernels and smaller grain size, impacting both yield and forage value. The situation underscores the importance of continued scouting, particularly in a year when typical disease patterns are less predictable.

Hessian fly pressure is also raising concerns, especially in the Blacklands. Agronomists have observed infestations in varieties previously considered resistant, including Gallagher, GoWheat 9216H and Amigos. Rather than signaling a shift in pest biotypes, the trend is more likely tied to environmental stress reducing the plant's ability to defend itself.



Tyler Mays, Texas A&M AgriLife Extension Program Specialist for Integrated Pest Management, cautions that current infestations could carry over into next year's crop if not properly managed. To help reduce risk, Mays recommends a combination of practices, including managing volunteer wheat and post-harvest residue and delaying planting until early November. Planting top-performing resistant varieties like Amigos (HRW) and Dyna-Gro 9393 (SRW) can also be effective in reducing the negative impacts of a Hessian fly infestation.

Less visible, but equally concerning, are wheat curl mites and the viruses they transmit, including wheat streak mosaic. Dry conditions tend to favor mite movement, increasing the likelihood of infection. Symptoms such as yellow streaking, stunting and reduced tillering can easily be mistaken for other stress-related issues, making accurate diagnosis essential.

### Research Continues to Guide Decisions

As conditions evolve, ongoing research remains a critical tool for producers navigating an increasingly complex environment.

Uniform Variety Trials, supported in part by the Texas Wheat Producers Board, continue to provide insight into

how different varieties perform under varying conditions, including drought and pest and disease pressure. Resources such as the Texas Leaf Rust Ratings offer valuable comparisons that can help guide future planting decisions.

Through board-supported research, Texas A&M AgriLife specialists like Tyler Mays are taking a closer look at evolving pest challenges, including Hessian fly, and refining integrated pest management strategies to better equip growers in the field. While long-standing recommendations such as delayed planting and volunteer wheat control remain critical, recent work has also explored the utility of seed treatments, particularly for early forage production or when planting varieties known to be susceptible.

Research efforts are digging deeper into viral diseases including Wheat Streak Mosaic, Triticum Mosaic and High Plains disease and the wheat curl mites that spread them. The long-term wheat breeding and genetic-improvement program in the state include key components focused on identifying and incorporating genetic resistance through multiple means. In 2024, the board joined the Wheat Genetic Resource Center, a research consortium of wheat industry partners and land grant universities which enhanced regional efforts to tackle large scale, region-wide impacts like those seen from the curl mite-vectored diseases.

### Uncertainty Shapes On-Farm Decisions

For many growers, the combination of weather challenges, pest pressure and high input costs have forced careful evaluation of both management and marketing strategies. Decisions that might typically be straightforward – whether to invest additional inputs, graze out a field or carry a crop through harvest – were weighed against an unpredictable outlook and tightening margins.

The Texas Wheat Producers Association remains engaged with regional USDA Risk Management Agency contacts to ensure current field conditions are understood as acres continue to be assessed. At the same time, the association is working to keep congressional and administrative leaders informed about the broader state of the farm economy. With rising fuel and fertilizer costs adding pressure, the association is also supporting efforts to secure additional economic assistance and advocating for greater oversight and cost-reduction measures.

While this season has presented its share of challenges, it is also reinforcing the importance of adaptability. From variety selection to pest management and planting decisions, each lesson learned this year will help shape the next. As conditions continue to evolve, so too will the strategies growers rely on to manage risk and protect productivity.

# A FASTER PATH TO BETTER WHEAT

Texas A&M AgriLife High Plains Research & Extension Center officially opened in spring 2026.

Two walk-in grow rooms provide state-of-the-art technology to accelerate the breeding process.

The time needed to develop new varieties is cut nearly in half.

With the help of improved infrastructure, what once took nearly a year to complete can now be accomplished in just a few months. For Texas wheat farmers, that kind of progress is more than a scientific milestone; it is a faster path to better genetics.

## A New Hub For Wheat Innovation

Through its partnership with Texas A&M AgriLife Research, the board helps drive innovation by supporting cutting-edge breeding techniques. One key new opportunity is the opening of the Texas A&M AgriLife High Plains Research and Extension Center in Canyon. The enhanced facility is expected to provide Texas farmers with greater access to research, resources and practical solutions that directly improve their operations. While the building provides much-needed collaborative workspace and state-of-the-art laboratories, one of its most impactful features for the wheat industry lies within two walk-in growth rooms intended to dramatically accelerate the breeding process.

*"The wheat breeding process is a long and resource-intensive effort, requiring years of careful selection, testing and validation.*

*Reducing the breeding cycle time is a transformative step forward for our program. It allows us to respond more quickly to emerging challenges in the field and deliver improved, high-performing varieties to farmers with greater speed and precision."*

**JACKIE RUDD, PH.D.**

Texas A&M AgriLife Research Wheat Breeder for the High Plains and Rolling Plains

Alongside Rudd, Junli Zhang, small grain geneticist and assistant professor in the Texas A&M Department of Soil and Crop Sciences, is helping lead the research efforts within the new facility and its growth rooms.



NEW VARIETIES AVAILABLE

**15-36%**  
**FASTER**

Measuring roughly 11 feet wide by 18 feet long, each grow room allows researchers to simulate ideal growing conditions year-round, significantly reducing the time required to advance wheat generations. Previously AgriLife researchers were developing varieties in a greenhouse facility, where a single wheat breeding cycle can take up to eight months. The new growth rooms allow researchers to complete a grow season in as little as three to four months, effectively doubling the speed at which new lines can be evaluated and field-tested.

## What Does That Mean For Farmers?

It means newer varieties with the latest genetics can be developed and tested in nearly half the time.

Equipped with precise temperature and humidity controls, each room contains prelit wire shelving units, providing capacity for up to 700 wheat plants in one-gallon pots or more than 6,000 plants grown in cones. This level of control and efficiency enables researchers to push breeding timelines faster than ever before, without sacrificing accuracy or data quality.

*“We’re excited about the new technology in this facility and the significant gains in breeding efficiency it allows,” said Zhang, “By combining double-haploid lines with speed breeding in the growth rooms, we can advance three to four generations each year, helping us deliver improved varieties to farmers much faster.”*

This speed and efficiency allow researchers to respond more quickly to what farmers are seeing in the field, from dry conditions to emerging pests, while helping deliver stronger, higher-yielding varieties. By pairing producer-funded research projects with AgriLife’s commitment to utilizing innovative infrastructure and technologies, the board continues to ensure that wheat breeding in Texas remains forward-looking and farmer-focused.

# SMALL GRAIN SILAGE ASSESSMENT TO BOLSTER RESEARCH OPPORTUNITIES

Across Texas, wheat production continues to shift toward forage. With a significant share of acres used for grazing or silage, producers are responding to strong demand from dairies and feedyards for high-quality, cost-effective feed.

To reflect these evolving practices, the board implemented the Small Grain Silage Assessment for the 2026 harvest. Established through a 2025 farmer referendum, the assessment applies to wheat and small grains harvested for silage at a rate of 16 cents per ton, ensuring research investment keeps pace with how wheat is used today.

**“Before the referendum, the board’s funding came solely from grain production, but there was a clear need for research and investment in small grain silage production,” said Scott Born, a farmer from Ferris and chairman of the Texas Wheat Producers Board. “The new assessment will allow the board to expand its work and invest in programs that will benefit farmers targeting forage and silage production.”**

While the board has long supported research to improve genetics, yields and grain quality, the new assessment expands efforts to include silage-focused production and profitability.

**“Forage production has expanded throughout the Texas High Plains,” said Landon Friemel, a farmer in Deaf Smith County and a Texas Wheat Producers Board director. “As a silage producer, it is encouraging to see the research opportunities that will help us create more value for farmers and a better product for the livestock industry.”**

The board has already begun investing in silage research. In 2025, funding supported work by Dr. Juan Piñero with Texas A&M AgriLife Research evaluating yield tradeoffs in wheat and triticale across maturity stages and harvest heights. The results will help producers better balance forage quality and tonnage.

Additional support in 2026 helped equip the High Plains agronomy program with a small grains silage header, expanding regional research capacity.

Together, these efforts align research with real-world production trends, strengthening the long-term competitiveness of Texas small grains.

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