

...Prized fibers

(Continued from page 5)

Irrigation and easy weed control make growing cotton there more productive than in other parts of the state.

Starting at Odessa and going north up the Panhandle, the soil turns reddish brown as fields of cotton spread beneath the pump jacks and wind turbines that dominate the horizon. It's a geography of vast spaces - "so flat that your dog can run away, and you'll still see him a week later," a Texas congressman once said - and the white bolls in tidy rows are set off dramatically against unblemished blue skies.

Since 1850, Texas has led the nation in cotton production, tallying 8 million bales in 2021, according to the U.S. Department of Agriculture. Every one of those bales is processed at a cotton gin, where bolls move through machines that separate the embedded seeds, which are about the size of a grain of rice, from the prized fiber, which is called lint. Cotton production at this scale is possible only because of the gins that dot the state.

The largest gin in the world, Adobe Walls Gin in Spearman, about 35 miles from the Oklahoma border, produces 300,000 bales per year. Operations were much smaller during fall and winter harvests generations ago, when cotton gins became gathering places where farmers socialized and shared news while waiting their turn to have their crops baled. Those days could be stressful.

"There was a lot riding on the processing and selling of your cotton," says Andrew Torget, a University of North Texas professor and author of *Seeds of Empire: Cotton, Slavery, and the Transformation of the Texas Borderlands, 1800-1850*. "This is an industry where you basically have one payday. The emotional tenor of that was tremendous. How much profit you had, what you could buy your kids or couldn't for the coming year - all these things got concentrated in this one location and this one experience for farmers.

"Today we like to look back with a sort of bucolic romanticism about things that are unfamiliar to us, but I think we forget the terrors and the fears and the helplessness that sometimes accompany those experiences."

Still, gins greatly eased much of the anxiety of cotton farming, which in the early days of our state was only possible because of labor by enslaved people. It takes 10 hours for one person to remove enough seeds by hand to get 1 pound of lint. "Cotton has this problem that the seeds are stuck inside this prison of fibers," Torget says. "How you get those out is a real bottleneck because doing it by hand means you can't do it at scale."

Early gins used hand-cranked stone or iron rollers to separate

the seeds from the fiber and could process 5 pounds of lint per day. In 1794, Eli Whitney designed a machine, a cylinder with spikes that pulled lint clean from the seed as it was cranked, that increased production to 50 pounds per day.

Two years later, Henry Ogden Holmes patented a design that increased the output to thousands of pounds per day with a set of spinning saw teeth on a circular steel blade that pulled lint from seeds in a continuous motion. This design is still used in modern cotton ginning. Gin designs and innovations proliferated across the South, and daisy chains of gins began to be operated by animal and water power.

Visitors to the Texas Cotton Gin Museum in Burton, halfway between Austin and Houston, can see some of this history up close, including an open stand that reveals 80 saw blades that spin vertically through metal ribs. A group of local German farmers sold \$50 shares, raising \$10,000 to build the Burton Farmers Gin in 1913. The gin fired up for the first time August 3, 1914, and produced 82 bales that year. In 1915 it pressed nearly 1,000 bales.

"We would have been serving 60 farmers in a really good day," says Tynan Shadle, the museum's programs coordinator and a member of Bluebonnet Electric Cooperative. Teams and wagons full of cotton would wait their turn - first come, first served - in the yard. Some farmers camped out the night before; some would unload in the morning and return in the afternoon with another load.

The gin featured pneumatic tubes that inhaled the raw cotton and blew it through the entire ginning process, an innovation that came from Robert Munger of nearby Rutersville. The system is still used today in gins around the world.

Nothing from cotton was wasted in those days. Seed was separated from the lint and delivered back into the farmer's wagon to plant for the next year. Sometimes the gin bought it to use as livestock feed or to press into oil.

The Burton gin continued operations until 1974, when it closed its doors after producing only seven bales that year. Lint cleaning, feed milling and other services had kept the facility going longer than most, but its time had come.

"We've seen boll weevil infestations lead to crop failures, two world wars taking men off the farms, and then the GI Bill, which gave those returning men better opportunities," Shadle says. "We saw a mass exodus from farms.

"Cotton was just not able to make enough money, and so it was more profitable to switch back to cattle. Not too long after

that, they began finding natural gas in the area, too."

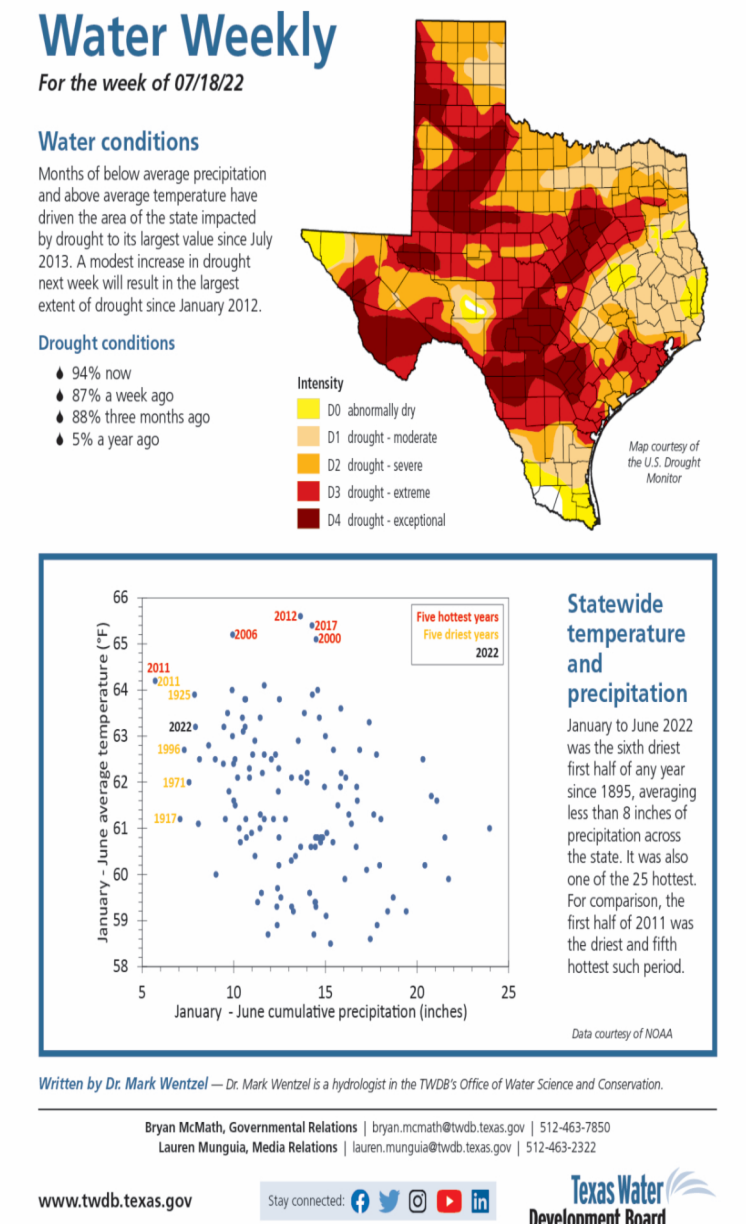
A community group formed a nonprofit and began restoring the Burton Farmers Gin in 1990. It's the oldest operating cotton gin in the U.S. and is a Historic Mechanical Engineering Landmark listed on the National Register of Historic Places.

Out in Lamesa, King Mesa Gin, which operates around the clock at times to keep up with the 7 tons of raw cotton delivered several times a day by truck, is the only gin in the U.S. to offer DNA tracing to its producers, ensuring the same cotton that's sent overseas for manufacturing is the same cotton in the finished product on store shelves.

In 2019, Texas growers were responsible for three-quarters of all American organic cotton, which is grown using more sustainable practices. "Where you're sitting right now is in a hundred-mile circle of the most organic cotton grown in the U.S.," says Harris, a member of Lyntegar EC.

For Tidwell, becoming part owner of King Mesa just made sense for ensuring his livelihood. "We went in together as a community to keep the gin in the community, under our control and to do it the way we've always done it," he explains from his knee-high cotton field. "I only get paid once a year, and this is my payday right here."

This article also appeared in the July 2022 issue of Texas Coop Power magazine.



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