



April 2018

Cotton’s Northern Expansion

A cotton-planting boom in Kansas, Oklahoma and northern Texas is also driving related infrastructure expansion. Is cotton sustainable in this traditional grain region?

by **Cathy Merlo**

Knowledge Exchange

Inside...

- Summary 1
- What’s driving the cotton boom? 2
- Creating a need for additional ginning capacity 4
- Adding warehouse and cottonseed storage 5
- Is cotton sustainable here? 5

Key Points:

- U.S. cotton acreage will be up in 2018, but nowhere is that increase more transformative than in the Southwest. Kansas, Oklahoma, and Texas are projected to increase planted area by 40 percent, 16 percent, and 6 percent, respectively.
- Drivers of the expansion include: Low prices for alternative crops, declining water availability, improved cotton harvesting equipment, better cotton varieties, and the inclusion of seed cotton in the farm bill.
- The anticipated increase in production is spurring expansion in cotton infrastructure.
- Significant farmer investments are being made, which will help to sustain cotton as part of the crop rotation in the Southwest expansion areas.

Summary

Kansas has never appeared on the Top 10 list of the nation’s leading cotton producers. Nor is it likely to this year.

But after the USDA in March projected a whopping 40 percent increase in 2018 Kansas cotton plantings over last year, the U.S. cotton industry is keeping a close eye on the Sunflower State.

In fact, cotton watchers also are zeroing in on Oklahoma and Texas, the two other states that, along with Kansas, have sharply increased cotton production in the last two years.

Labeled the “Southwest” by the National Cotton Council (NCC), the three states will account for the highest percentage growth in cotton plantings of any U.S. area this year. Oklahoma, already the fourth-largest cotton-producing state, is expected to increase its cotton acreage by 16 percent, to 680,000. (*See Exhibit 1.*) Texas, the nation’s top cotton producer, is projected to boost its plantings by 6 percent, to 7.312 million acres. (*See Exhibit 2.*) Kansas is slated to plant 130,000 acres. The USDA predicts the three states will plant a combined 8.122 million acres of cotton, up 7 percent from 2017.

To handle the increased volume, new or expanded cotton infrastructure – from gins to warehouses – also is underway or being carefully considered in all three states.

What's driving the cotton boom?

At least five factors are responsible for the Southwest's cotton expansion:

1) Unprofitable prices for grain crops

Five years of low prices for corn, soybeans and wheat have forced producers to look for other crop options. For many, 80-cent cotton pencils out better than \$4 corn, \$5 wheat or \$11 soybeans.

“Economics are a big part of cotton's growth,” says Gary Feist, manager of Southern Kansas Cotton Growers Cooperative.

“Producers can't make money with wheat,” the crop that's long dominated his area. (See Exhibit 3.)

Along Kansas' southern border, where the state's cotton growth is occurring, cotton is gaining ground in the traditional crop rotations of wheat, corn, soybeans, milo and sorghum.

That's also happening in Texas, where “producers recognize that cotton is an excellent companion crop in traditional corn-based production systems,” notes Jourdan Bell, a Texas A&M AgriLife Extension agronomist. “Especially in the northern counties, cotton-corn rotations are continuing to replace corn-corn-based systems.”

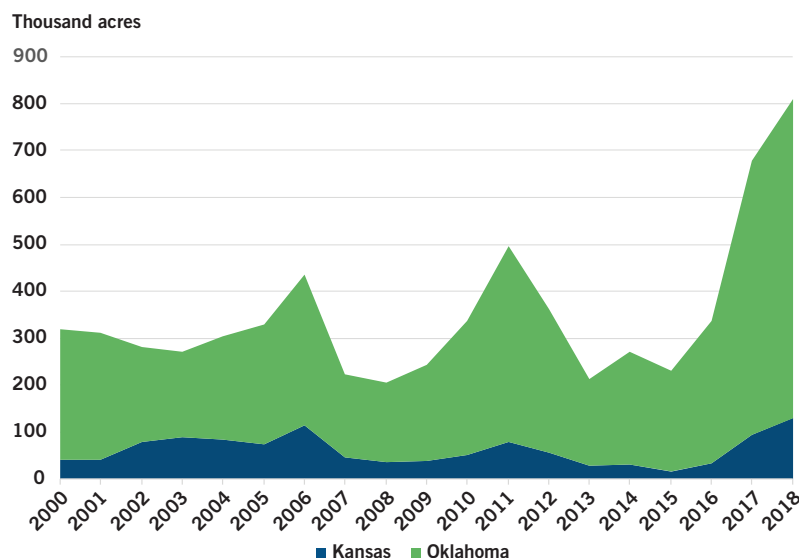
2) Declining water availability

The dropping water table of the vast Ogallala Aquifer has led to groundwater pumping restrictions. Such constraints are driving producers away from traditional, water-intensive crops. That's especially true in the Texas

High Plains, where farmers rely on the Ogallala and rainfall to water their fields. A desert crop, cotton is a less-thirsty alternative.

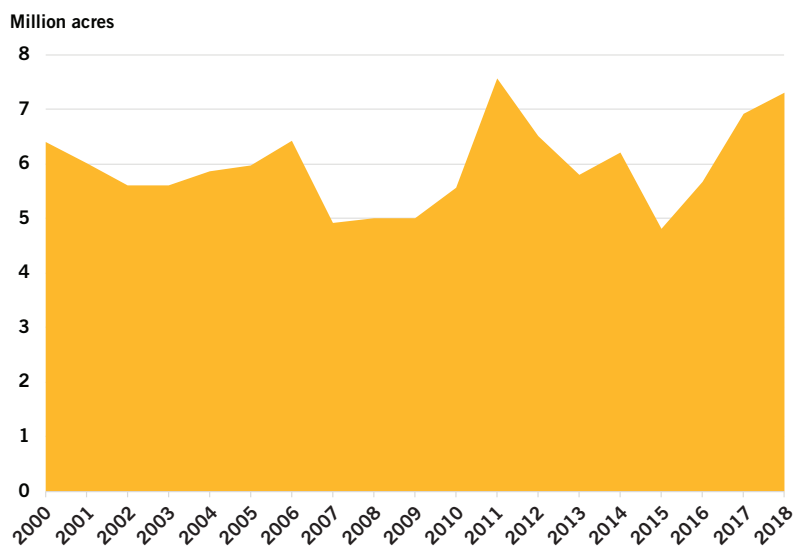
“Cotton uses one-third to one-half less water than corn,” Feist says.

EXHIBIT 1: Cotton Acres in Kansas and Oklahoma



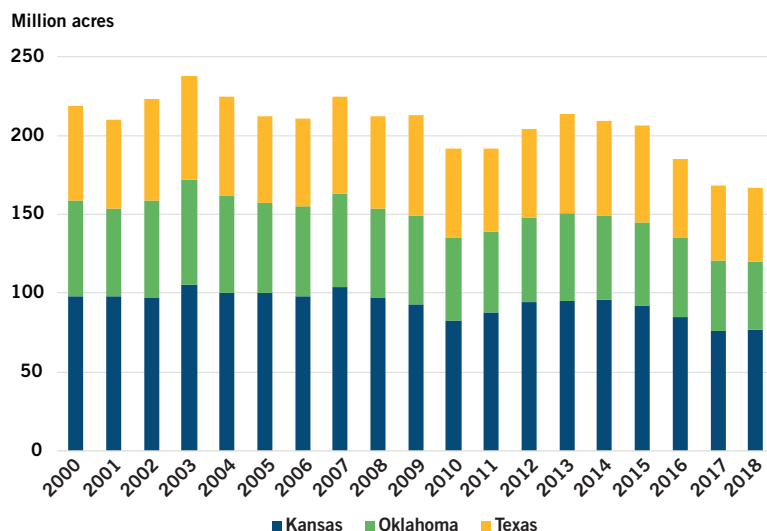
Source: USDA-NASS

EXHIBIT 2: Cotton Acres in Texas



Source: USDA-NASS

EXHIBIT 3: Wheat – Planted Area



Source: USDA-NASS

Weather also is playing a role. Texas is experiencing one of its driest periods since its 2011-12 drought – another reason the more drought-tolerant cotton is gaining acreage.

Decreasing water availability will continue to boost cotton acreage in the Panhandle's Northern High Plains (NHP), according to Bell. This is where most of Texas' cotton expansion is taking place. In 2017, the NHP planted 1.325 million acres of cotton, up 477,500 acres from 2016, USDA's National Agricultural Statistics Service reports. Some think the NHP's cotton plantings could reach 1.5 million acres this year.

3) Round-bale harvesters

This relatively new cotton equipment streamlines the harvesting operation and increases ginning and transportation efficiencies. Like a round hay baler, the harvester picks the seed cotton and rolls it into circular bales as it moves through the field. The equipment eliminates the need for a boll buggy or module maker, thus lowering labor costs. The round bales emerge from the harvester fully plastic-wrapped. That minimizes the amount of cotton lost in the field or gin yard and protects its quality.

The round bales are loaded straight from the harvester onto a waiting flat-bed truck. Each round bale holds about three 500-pound bales, compared to a module's 10-15

bales. Upgraded trailers can now carry eight to 14 round bales, making them more efficient for long distances than module hauling.

“Compared to conventional module movers, round-bale transporters take the same amount of labor and fuel to haul twice the cotton,” says David Wied, manager of New Home Cooperative Gin in Lubbock, Texas.

New round-bale harvesters, also known as round-bale pickers and strippers, are expensive: \$600,000 to \$750,000 each. Yet their numbers are growing. For example, at Farmers Cooperative Gin in Carnegie, Oklahoma, 75 percent of the cotton is now harvested with the round-bale equipment, says manager Jeannie Hileman.

Producers in Southern Kansas Cotton Growers Co-op have increased their round-bale harvesters from three last year to 20 this year. An additional eight have emerged among custom harvesters. “That’s a lot of investment, which tells me they’re pretty serious about growing cotton,” says Feist.

Robert Lacy, president of PYCO Industries, a cottonseed processor in Lubbock, agrees. “Whenever producers buy their own equipment, we know they’re all in,” he says.

4) Better varieties, including those resistant to 2,4-D drift

New upland cotton varieties are bolstering yields and aiding the crop's expansion in the three states.

Among them are 2,4-D-resistant varieties. Until recently, Kansas cotton growers had avoided growing cotton after repeated instances of crop damage from drifting 2,4-D, the herbicide used widely to control weeds in wheat.

“Everybody knew cotton would be a good crop in Kansas if they didn’t have to fight the 2,4-D problem,” says Lahey, the Kansas grower who, with family members, grows 9,000 acres of cotton near Moscow, in the southern corner of the state. Thanks to new varieties that tolerate both 2,4-D and the herbicide Dicamba, “we’re seeing zero losses from drift,” he adds.

Lahey is also excited about the improved, early-season cotton that seed developer PhytoGen has recently brought to market. “Next year, we’ll have as much seed as we need,” he says.

Improved varieties in the NHP, located mostly north of Amarillo, have helped per-acre cotton yields rise from 1.5 bales in 2014 to an estimated 2.2 bales for the 2017-18 season, Bell says. The region is best adapted to earlier maturing varieties because of the risk of late-spring and early-fall freezes.

5) Seed cotton returns to the farm bill

Cotton was excluded from the 2014 farm bill but is now back in. Although the details aren’t yet clear, many see cotton’s farm-program addition as a benefit for the crop. “That will be a huge factor in the stability in cotton acreage and production,” says Kevin Brinkley, president and CEO of Lubbock-based Plains Cotton Cooperative Association (PCCA), one of the largest handlers of U.S. cotton.

Creating a need for additional ginning capacity

Increased production in the fields is demanding additional cotton infrastructure. Several gins are either undergoing expansion or rising from the ground up.

Among them is Southern Kansas Cotton Growers Cooperative, which operates one gin in Winfield and another in Anthony. For the 2017-18 cotton season, the co-op ginned a record 92,000 bales, says Feist. That was more than double its output from the previous season.

As a result, the Kansas co-op is expanding its Anthony gin – doubling capacity, installing new steam rollers and adding more cleaning equipment. “We’ll be able to gin 45 to 50 bales an hour, compared to 22 to 26 right now,” Feist says.

At Northwest Cotton Growers Cooperative in Moscow, Kansas, a second gin is under construction next to its existing one. The new gin will have four gin stands, with room to expand to six. It’s expected to be ready to operate in late 2018.

“*Cotton uses one-third to one-half less water than corn*”

Oklahoma’s Farmers Cooperative Gin also is expanding after its cotton volume jumped from 40,000 bales in 2014 to 125,000 bales for the 2017-18 season. There, as at other gins where cotton acreage is increasing, ginning is stretching out an extra three months or more, into April and May.

“The stress on cotton infrastructure in this area is huge,” says Hileman.

Earlier this year, Farmers Co-op broke ground for added ginning capacity on an 80-acre site north of town. The co-op has installed used ginning equipment that it purchased last year from North Carolina. It has three gin stands with room for a fourth stand. This second facility will help ease the load on the original gin.

“We may not gin 120,000 bales every year, and there may be more rotation if grain prices bounce back, but I don’t see a loss of investment in the foreseeable future,” Hileman says. “Southwest Oklahoma has the right conditions to grow cotton.”

Ag Producers Co-op plans to build a gin in Spearman, Texas, that will be operational in 2019. The 2,500-member co-op operates grain, cotton, agronomy, retail and fuel divisions across the Texas Panhandle. Its new gin, located northeast of Amarillo, will produce 60 to 70 bales an hour and handle 80,000 to 100,000 bales a year.

CEO Greg Allen believes the new gin will provide the capacity and cooperative presence needed in the area. It won’t be cheap, though. The cost to build the gin is “north of \$10 million,” says Allen, and that doesn’t include purchasing the land, rolling stock and support structures the cotton facility will need.

“We believe cotton is sustainable in the NHP or we wouldn’t have considered this investment of members’ money,” he says.

Adding warehouse and cottonseed storage

Other cotton sectors also are expanding capacity to meet the Southwest's growing cotton volume. PCCA is adding new warehouses at its property in Liberal, Kansas. The co-op also owns cotton warehousing facilities in Texas and Oklahoma. This year, PCCA expects to warehouse 2.2 million bales, up 26 percent from 2017.

Farmers Cooperative Compress (FCC) also is considering an increase in storage capacity north of Amarillo. The longtime co-op warehouses about 35 percent of the cotton ginned in Texas. Its 10 locations can store a total of 2.4 million bales. But even that is not enough.

"Our membership and board are looking at either building a new plant or retrofitting a site in 2019," says CEO Ron Harkey. "It will handle up to 130,000 bales of cotton."

Likewise, Producers Cooperative Oil Mill (PCOM) is building a new cottonseed warehousing facility in Altus, Oklahoma. The project is in partnership with Farmrail, a short-line railroad that serves Altus and southwest Oklahoma. Cottonseed volume at PCOM has more than doubled in the past two years, says Austin Rose, president and CEO. The co-op is now taking in more than 200,000 tons of cottonseed annually. The seed comes from the co-op's 15 member-gins in Oklahoma and across the border in Texas.

"Our rapid cotton growth is a good thing, but it has also put a strain on us," Rose says. "We have had to store seed outside. And it's also affected the way we market."

Today, 90 percent of PCOM's seed is sold as dairy feed to California and Idaho. The added facility, which should be completed in April, will give PCOM more control and flexibility in its cottonseed sales and shipments.

Is cotton sustainable here?

As discussions and decisions on these multi-million-dollar investments continue, some wonder whether cotton's emerging role in the heartland can be sustained. Could

“Whenever producers buy their own equipment, we know they're all in”

the factors that have driven cotton's recent expansion quickly reverse themselves and propel producers away from cotton to other crops? Such a turnaround would leave farms, gins and other cotton-related businesses lacking the cotton revenues needed to support costly equipment and recent infrastructure investments.

Those who are participating in the cotton surge don't foresee such a cotton collapse.

"Our growth and volume are very sustainable," says Kansas-based Feist. "We may not see as much growth as right now. But even when economics strengthen for other crops, we'll still retain a percentage of growers producing cotton. It's a crop they want to grow."

Adds PCCA's Brinkley: "The water issue is not going away. That bodes well for cotton acreage to be stable."

PCOM's Rose agrees. "We've just got to catch up with the infrastructure," he says.

Steve Verett has been executive vice president of the trade group, Plains Cotton Growers, for more than 20 years. Over that time, he's seen "mixed experiences" with cotton in the Texas High Plains. But large investments over the past decade have significantly changed cotton's dynamics.

"Producers have more skin in the game now," Verett says. "They're looking long-term. Even if corn prices go up, we will still see cotton in their crop rotation. Because of their investments, we won't see a wholesale movement out of cotton." ■



**CoBank's Knowledge Exchange Division welcomes readers' comments and suggestions.
Please send them to KEDRESEARCH@cobank.com.**

Disclaimer: *The information provided in this report is not intended to be investment, tax, or legal advice and should not be relied upon by recipients for such purposes. The information contained in this report has been compiled from what CoBank regards as reliable sources. However, CoBank does not make any representation or warranty regarding the content, and disclaims any responsibility for the information, materials, third-party opinions, and data included in this report. In no event will CoBank be liable for any decision made or actions taken by any person or persons relying on the information contained in this report.*