



COTTON

The cotton sector is smaller in production than other Kansas crops, ranking 14th nationwide, but production and ginning in the state has increased significantly since 1996. There are more than 220 active cotton growers, who together have exceeded 2.4 million bales since 1996. Several infrastructure investments, including four gins and two warehouses, have extended the potential for the crop in the future. Cotton offers farmers a highly water-efficient crop which works well as part of a rotation management system.

Despite the success cotton has seen in recent years, several barriers still pose challenges for farmers who are interested in pursuing expansion into the cotton market. Cotton is a very susceptible crop to 2,4-D and is subject to possible crop loss due to herbicide drift. Increasing the availability of 2,4-D tolerant cotton is key to reducing future crop loss. In recent years, the status of cotton in the farm bill has varied, creating uncertainty for producers. This lack of certainty makes cotton seem a risky option, especially when considering the high cost of inputs and high capital cost of custom harvesting equipment for this specialized crop.

As we face a future with an ever-depleting water supply, a crop like cotton could be a profitable alternative. A long-term growth strategy to overcome the challenges will require input and discussion among key partners both public and private. Research will play a key role in this plan, examining issues of fertility, weed control and profitability, among others. Collaborative efforts from industry leaders and public organizations will be critical to development of a strategic growth plan.

STATUS

Kansas ranks 14th nationwide in production of cotton. Although a relatively small percentage of the national total, production and ginning in the state has increased significantly since 1996. As of the 2017 Ag Census there were 221 active cotton growers.

According to estimates prepared by the Kansas Department of Agriculture and based on the IMPLAN economic data model, the cotton industry in Kansas has a direct output of \$109 million. Through indirect and induced impacts, the industry creates a total economic contribution of approximately \$173.9 million.

Cotton production and ginning in Kansas has exceeded 2.4 million bales since 1996. Significant infrastructure investments have been made in Kansas cotton including the establishment of four gins located in Moscow, Pratt, Anthony and Winfield, and warehouses in Liberal and Clearwater. The number of acres planted has increased from 98,000 acres in 2017 to 110,000 acres in 2021, an 18.3% increase.

OPPORTUNITIES

In order to develop a strategic growth plan for cotton, it is important to understand the areas where Kansas has a comparative advantage and the best opportunities for growth or expansion.

Factor	Implications for Growth and Development Opportunities
Climate	The climate in the southern third of Kansas is well suited for dryland and irrigated cotton production. Cotton is a perennial plant that is drought tolerant, but heat-unit sensitive. It requires approximately 2,200 to 2,400 growing degree units from planting until harvest. Summer rainfall is sufficient for excellent yield potential on dryland acres most years. There are 1.5 million acres in Kansas that could produce cotton.
Crop Rotation	Cotton growers in southwest Kansas often include cotton as part of a rotation management system. Including cotton in a rotation with corn or other crops improves soil fertility, increases yields, supports weed resistance management, and provides excellent potential for competitive economic returns through diversified market opportunities.
Genetics & Herbicide Development	In 2016, regulatory approval provided for the release and availability of a weed control system and cotton seed varieties that will reduce crop loss to 2,4-D drift and will improve yields. Adoption of these varieties is rapidly increasing in Kansas. Kansas participates in DriftWatch, a voluntary communication tool that enables crop producers and pesticide applicators to work together to protect specialty crops. Registering cotton fields and posting information about herbicide application may reduce the incidents of loss due to drift.

Factor	Implications for Growth and Development Opportunities
<p>Water</p>	<p>Cotton produces more farm-level economic value per inch of water than any other crop in southwest Kansas. Compared to corn, alfalfa and soybeans, profitable cotton yields can be reached under irrigation with roughly one-half to one-third of the water of these crops. As a result, farmers are largely interested in growing cotton on land that has limited well capacity.</p> <p>Kansas is recognized nationwide for its proactive practices of conserving water for future generations.</p> <p>Kansas has existing water rights available and is implementing proactive water conservation practices allowing farmers and ranchers to manage their own water while still preserving the aquifer for generations to come. Kansas has developed a <i>Vision for the Future of Water Supply in Kansas</i>, which aligns the priority of growing the economy with the strategies and actions necessary to ensure a reliable water supply is available to support that growth. Several action items within the Kansas Water Vision call for opportunities to address the policy and research challenges associated with increasing cotton acres in Kansas.</p>

CHALLENGES

While Kansas is poised for expansion of production and processing of cotton, the following factors represent challenges serving as barriers to achieving the objective of the cotton growth plan.

Challenge	Details of Challenge
<p>2,4-D Loss</p>	<p>Cotton is considered one of the most susceptible agricultural crops to 2,4-D. While the availability of 2,4-D tolerant seed varieties as well as alternative weed control systems have significantly addressed this challenge, drift damage still occurs and additional information and education is needed for both cotton growers and non-cotton growers to reduce neighbor concerns and clarify the distinction between 2,4-D and dicamba tolerances.</p> <p>While Kansas participates in DriftWatch, there is no regulatory requirement to register fields or pesticide and herbicide applications. Kansas has no pesticide or herbicide drift laws.</p>
<p>Ginning Capacity</p>	<p>The real potential for significant increases in cotton acres in Kansas leads to the need for increased ginning capacity within the state. In 2022, ginning capacity stands at approximately 350,000 bales, so that a modest increase of acres at current yields could easily surpass the ability to gin the cotton in a timely manner.</p>
<p>International Trade</p>	<p>According to the USDA Foreign Agriculture Service, in 2021 the top five export customers of raw cotton fiber were Turkey, China, Pakistan, Vietnam and Portugal. Export potential exists for any country experiencing growth in its GDP.</p>

Challenge	Details of Challenge
Water	Even with focused implementation of the Kansas Water Vision, declines in the Ogallala Aquifer will continue to be a challenge for all production agriculture in Kansas.
Workforce Development	Workforce development issues impacting the cotton industry in Kansas relate to available labor and to affordable and qualified custom harvesting.

SUCCESSSES

Key successes in the cotton industry:

- The Bipartisan Budget Act in 2018 amended the 2014 Farm Bill, adding seed cotton as a covered commodity under the Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) programs.
- In 2018, the Kansas Cotton Association held informational meetings for new and existing cotton producers in Sublette and Wichita. In 2020, Cotton Incorporated Inc., in cooperation with the Kansas Cotton Association, established the Annual Great Plains Cotton Conference, held in Wichita, Kansas. At the conference, cutting-edge information from nationally recognized speakers on all aspects of the cotton industry is shared. It has been well attended by producers, ag industry, extension, and local and state government representatives.
- Several million dollars has been invested throughout the state in harvesting equipment along with a \$30 million investment in the expansion of four gins locations. These gins were expanded upon in the last two years.
- Access to PhytoGen Enlist 2,4-D tolerant cottonseed has expanded to allow for widespread use by Kansas cotton growers. Additional varieties that are more climate-appropriate for Kansas are also being developed.
- The 2018 Farm Bill includes many of the cotton industry's policy priorities, including continuation of the seed cotton ARC/PLC program, full access to the marketing loan program, full funding for textile competitiveness programs, effective crop insurance products, no reduction in arbitrary payment limits, and addressing restrictive family farm eligibility requirements.
- Plains Cotton Cooperative Association built a new warehouse in Clearwater which opened in 2021. This facility is the second facility in Kansas and will provide another storage option to help alleviate transportation issues.
- Legislation was passed in 2022 to formally establish and recognize the Kansas Cotton Boll Weevil Program, allowing Kansas to formally join the national effort to eradicate boll weevils throughout the U.S. Cotton Belt. The program was authorized to carry out statewide monitoring and rapid action, should boll weevils ever be discovered within the state.
- The introduction of the revolutionary John Deere stripper-round baler or picker-round baler harvesting equipment has transformed the harvest, storage, and transport paradigm in Kansas. It allows increased harvest efficiency and capacity, improves field and yard storage of the round bales, and affords greater ginning options to producers through cheaper transport of their cotton to the gins of their choice. This has increased competition for customers among local and out-of-state gins.
- Plains Cotton Cooperative Association (PCCA) added train-loading capabilities to its Altus, Oklahoma, location to create efficiencies in the supply chain for cotton to be exported. The intermodal train holds as much cotton as 220 trucks, reducing the 88,000 miles on the highway to 400. The facility began operation in 2021. PCCA serves Kansas, as well as Texas and Oklahoma.

Cotton

GROWTH OBJECTIVE:

Expand cotton's role as an integral part of meeting the vision for the future of the state's water supply, and grow to be one of the top 10 cotton-producing states within the next 10 years.



OUTCOMES & ACTION ITEMS

Leaders from throughout the Kansas cotton industry will continue to collaborate in the development and implementation of a long-term strategic growth strategy with input and discussion among key partners. Industry-identified desired growth outcomes, initially developed in 2016 and expanded to include action items, which will be implemented by industry and key partners and updated annually at the Kansas Governor's Summit on Agricultural Growth. Following are the proposed action items to continue building on the achievement of the cotton sector desired outcomes.

High Priority Outcomes

Ongoing education regarding the Kansas Cotton Boll Weevil Eradication Program.

ACTION ITEMS:

- Provide continuing education to producers about the mission and various aspects and components of the program through media, meetings, and publications.
- Provide grower education regarding cotton marketing philosophies, strategies and options in Kansas.

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ACTION ITEMS:

- Provide continuing education events to assist producers in understanding and more effectively marketing their cotton.

Implementation of action items in the *Vision for the Future of Water Supply in Kansas* related to cotton and herbicide, establishing cotton as a water management crop alternative and leading to a longer usable life for Kansas groundwater and surface water sources.

ACTION ITEMS:

- Address water policy issues that may limit the growth of cotton in Kansas.
- Evaluate profitability, prices and water use of cotton.
- The Kansas Cotton Association will use strategic marketing tactics to promote the action items in the Kansas Water Vision related to cotton at water conferences throughout the state.

General understanding of the role of 2,4-D tolerant cotton varieties by both cotton growers and non-cotton growers.

Increased information and education for both cotton growers and non-cotton growers can reduce neighbor-to-neighbor concerns about cotton acreage near other commodities.

ACTION ITEMS:

- Communicate information about cotton varieties through social media, field days, and other educational opportunities.
- Expand education about varieties to include dicamba and Enlist cotton and soybeans, so neighboring growers understand best management practices for herbicide application, as well as risks.
- Expand education initiatives targeted towards producers, retailers and the general public on the effects of 2,4-D and potential drift issues.

Broad knowledge of the economic impact of growing irrigated cotton in Kansas, including expanded producer surveys, yield response curves and additional cost data.

ACTION ITEMS:

- Survey Kansas farmers about irrigated crop production to compare economics of cotton versus other crops.
- Complete a detailed profitability analysis for cotton versus other crops by refining yield response data, evaluating variable costs, and analyzing past data and expected future variables.
- Publish results of the survey and profitability analysis demonstrating advantages and disadvantages of growing cotton in Kansas.
- Continue to collect more Kansas field data through KDA or Kansas State University on cotton production, inputs and economic return.
- Promote to Kansas dairies and feedyards the value-added components of cotton including seed (protein source) and the burr by-product (forage).
- Complete profitability analysis and water use for cotton versus other irrigated crops.

Increase in Kansas farmers who include cotton in their crop rotation system as part of an overall water management strategy.

ACTION ITEMS:

- Communicate results of cotton's water use and profitability more widely to encourage additional cotton acres in Kansas.
- Demonstrate through existing growers the potential water savings for growing cotton versus other irrigated crops.

Collaborative research working group to develop a strategic plan that addresses cotton research pitfalls.

ACTION ITEMS:

- Site a K-State Research and Extension specialist with cotton expertise in southwest Kansas to connect research to in-field management strategies.
- Provide education to new producers and new crop consultants that focuses on agronomy, pest management and harvest preparations.
- Identify individuals, disciplines and organizations that should be included in a collaborative research working group.
- Hold initial (and then annual) meeting of the collaborative research working group to review potential research needs and priorities such as fertility and weed control, improving cotton as a feed product, and profitability.
- Develop a strategic plan via a collaborative research working group, outlining the research needs and priorities.
- Routinely review progress towards implementing strategic research plan.
- Evaluate options to contract for additional research, through both the university and non-university researchers.

Medium Priority Outcomes

Availability of direct enrollment in DriftWatch™ program for local gins or co-ops.

ACTION ITEMS:

- Evaluate current enrollment process with KDA and identify necessary changes to allow direct enrollment of acres from gins or co-ops. KDA has internally reviewed process and criteria for enrollment and determined that a landowner signature is not required. Discuss outreach options to communicate this to cotton growers and encourage enrollment in DriftWatch.
- If changes are identified, plan for communication and outreach through co-ops, seed dealers, and cotton gins. Consider option to include the variety of seed (i.e., dicamba, 2,4-D, or other) for both cotton and soybeans in the DriftWatch™ enrollment.
- Increase enrollment of Kansas cotton acres in DriftWatch™ program. Consider option to include the variety of seed (i.e., dicamba, 2,4-D, or other) for both cotton and soybeans in the DriftWatch™ enrollment.

Low Priority Outcomes

Increased consumer desire for cotton over polyester and other non-cotton fibers.

ACTION ITEMS:

- Through a website, videos and field days, develop opportunities to increase consumer awareness and education of the cotton industry in Kansas.
- Host informational meeting for new cotton growers to discuss marketing, herbicide best management practices, etc. Coordinate with Oklahoma State University and Cotton Incorporated.

Participation of cotton growers in Kansas agricultural trade missions to provide opportunities for increased cotton markets, in coordination with the Cotton Council International.

ACTION ITEMS:

- Host discussion/scoping to identify priority trade countries.
- Develop schedule of potential trade missions to priority cotton trade countries; review annually.

Policies in this document are a reflection of industry discussion and not a representation of state government.