

Kansas Is The New Cotton Frontier

A Policy Working Paper

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Industry History:

Since farmers began to settle in southern and western Kansas the staples of their land were wheat and cattle. Today, with the addition of corn and soybeans the agricultural industry in that part of the state is roughly the same and is still dominated by wheat and cattle. However, in the past 10 years or so a new crop has begun to appear on a few farms.

Cotton is the worlds' leading textile and in the United States it accounts for more than \$25 billion in products and services, and generates over 400,000 jobs¹. Traditionally this crop has been exclusively produced in the South, but recently Kansas farmers have begun to experiment in growing it. Because of much early success, cotton acreage in the state has increased 500 percent in the past ten years². In 1996 there were 2,000 acres planted. In 2003 the state reached a peak with 120,000 acres planted, and while poor conditions have slowed production the past couple years the state still averaged 70,000 acres³.

Still, Kansas farmers seem to have caught the cotton bug. There are four gins currently operating in the state located near Winfield, Anthony, Cullison and Moscow. There are also consultants that have come from the Plains Cotton Cooperative Association in Texas to help Kansas farmers learn how to grow cotton. Groups such as the Southern Kansas Cotton Growers have also been formed, and with all of this support it seems as though cotton is here to stay.

Kansas has only recently become receptive to growing cotton because of new genetically engineered varieties. Cotton requires a lot of heat units to grow and Kansas does not stay hot enough, long enough to support normal cotton plants. With the development of early maturing varieties cotton can be harvested during Kansas' shorter summers. All of these reasons make Kansas a practical place for cotton to be grown and we are currently in the early stages of an emerging industry in the state.

Economic Advantages:

In most people's minds cotton is associated with the hot and humid conditions of the South, but there are a number of reasons why Kansas is now a viable place for it to be grown. The major nuisance to cotton farming throughout its history has been the boll weevil. It is a pest that ruins the crop and is very difficult, and expensive, to eradicate. As of now however, the boll weevil has not been able to survive in Kansas due to the cold winters⁴. This gives Kansas farmers an advantage over nearly all other cotton producing

¹ "Briefing Room: Cotton." Economic Research Service of the United States Department of Agriculture website. <http://www.ers.usda.gov/Briefing/Cotton/>

² Cockerell, Lynette. "Southern Kansas Cotton Growers 'Scouting' a New Way to Serve its Members." Plains Cotton Cooperative Association website. <http://www.pcca.com/Publications/Commentator/2004/Winter/page04.asp>

³ "Kansas, the Cotton State?" Lawrence Journal-World Online. Oct. 17, 2004. http://www2.ljworld.com/news/2004/oct/17/kansas_the_cotton/?print

⁴ "Cotton Production in Kansas." Kansas State University Agricultural Experiment Station and Cooperative

regions. This reduces the costs of pesticides by a great amount because fields usually must be treated many times each season for boll weevil. Also, because crops are not in danger of being destroyed by this pest the risk is lowered and productivity per acre is higher due to fewer damaged plants.

While the absence of the boll weevil and the development of early maturing varieties of cotton may have been the initial reason for the introduction of cotton in Kansas, time has shown us that there are many other advantages in choosing to grow cotton. For one, cotton does not need a great amount of water and is very drought tolerant. A profitable crop only needs about 8-9 inches of irrigated water compared to 15-19 inches for corn⁵. This is especially important in western Kansas where water has become an important issue. A significant switch to cotton over other more water-intensive crops would drastically reduce the drain of pumping out of the Ogallala Aquifer.

Also, because cotton does not need much water it is an excellent dryland crop. This is especially true in western areas of the state where farmers have a difficult time producing other dryland crops. One crop in particular that cotton could be a good substitute for is soybeans. In the western part of the state it is difficult to consistently produce non-irrigated soybean crops, so to be able to produce a profitable crop like cotton in its place would be a great benefit to the region⁶. Even in other areas of the state where soybeans are a traditional crop, cotton has proved to be equally, if not more profitable. Statistics from the Southeast Kansas Farm Management Association show that non-irrigated cotton had average returns of \$62.39 per acre compared to \$46.30 per acre for soybeans during 1997-2001⁷. In 2002 the difference in returns increased five-fold when cotton soared to \$150.15 per acre and soybeans dropped to \$29.60 per acre⁸. Even though this information only represents dryland fields in one area of the state, it still shows the potential for profit that cotton has. Cotton also fits in well with other crops. The growing season for cotton works well in rotation with wheat and sorghum, and this helps to improve weed control and breaks up disease cycles on fields⁹. With all of this information taken together, cotton proves to be a good option for farmers throughout the southern half of the state. The next thing will be to see if this growth will continue and if the state can do anything to help out farmers who venture into this market.

Disadvantages:

Despite all of the benefits of cotton there are still some potential problems and concerns that could hinder farmers ability to grow a profitable crop. The central issue that scares

Extension Service Crop Production Report. Oct. 1993.
<http://www.oznet.ksu.edu/library/crpsl2/mf1088.pdf>

⁵ Interview with Stewart Duncan.

⁶ Ibid.

⁷ "Southeast Kansas Farm Management Association Profit Center Analysis: 5-year average and 2002, nonirrigated cotton, nonirrigated soybeans, nonirrigated corn." Kansas Farm Management Association website. <http://www.agmanager.info/farmmgmt/income/enterprise/2003/>

⁸ Ibid.

⁹ Stewart Duncan, "Alternative Crop Series: Cotton." Kansas State University, May 2002.
<http://www.oznet.ksu.edu/library/crpsl2/ep114.pdf>

off most potential farmers is the steep learning curve associated with growing cotton. It takes a lot of management and care to treat for pests and weeds in order to have a productive cotton crop. It is also new here in Kansas, and like with all new things it takes time to get accustomed to it. One thing that some cotton growers say is that it is difficult to get away from the wheat and cattle mindset that dominates the state¹⁰. New industries are prone to problems, and this is no different with cotton. Learning new practices affects all areas of production but with time and commitment they can be corrected.

One problem with introducing a new crop like cotton in Kansas comes from the lack of infrastructure. By this we are referring to the high costs of transportation, storage and machinery for harvest. These problems are present because the industry is still so small here. Farm equipment, gins and warehouses represent huge fixed costs to farmers and can be a deterrent to entering the market. Farmers cannot just decide one year to grow cotton. They have to be able to get their product to the market and right now that is the highest cost to cotton farmers. In some parts of the state the storage and marketing costs are 17 times higher than that of soybeans and almost that much larger than corn¹¹. The statistics are similar for the use of machinery in the fields. Machine leasing costs are 4 and 5 times higher than corn and soybeans respectively¹². This is because more farmers have made investments into harvesting equipment for the other two crops and have yet to purchase machinery for cotton. Again, this is due to the fact that cotton is still a new industry in Kansas. Right now many farmers hire others who have the right equipment. This works now because there are so few growers, but as the industry grows so will the need for farmers to have their own equipment. The same goes for transportation and storage costs. According to Stewart Duncan, an agronomist at Kansas State University, it costs \$2 per loaded mile to transport cotton¹³. This can become very costly when farmers have to travel 100 to 200 or more miles to the nearest gin.

The good thing about these problems is that they can easily be fixed by a growing industry. If farmers believe that cotton is a profitable crop and that it is here to stay then they will be more apt to purchase the right machinery. While this will be very expensive to do right now, over time it will be cost-effective. The same is true of transportation and storage. As more farmers begin to grow cotton more gins and storage warehouses will be constructed to support the supply. As long as more farmers begin to see the benefits of cotton and the industry continues to grow then these short-run problems will subside.

A more permanent and not as easily correctable problem is the threat of pests and herbicide contamination. Even though we are not currently threatened by the boll weevil there are still some less dangerous pests that can harm cotton crops. Experts say this is because the lush vegetation in Kansas is a breeding ground for pests like thrips, cotton

¹⁰ Bennett, David. "South-central Kansas producers are growing cotton." Southwest Farm Press website. Jan. 7, 2005. <http://southwestfarmpress.com/news/050107-kansas-producers-cotton/>

¹¹ "Southeast Kansas Farm Management Association Profit Center Analysis: 5-year average and 2002, nonirrigated cotton, nonirrigated soybeans, nonirrigated corn." Kansas Farm Management Association website. <http://www.agmanager.info/farmmgmt/income/enterprise/2003/>

¹² Ibid.

¹³ Interview with Stewart Duncan.

quickly and with such great success¹⁸.” Dr. Friesen and his consulting group teach farmers more about cotton and how to beat the steep learning curve. SKCG has a scouting and consulting program to assist its producers with pest management. According to one Kansas farmer “it’s most definitely the only way to raise cotton if you’ve never done it before.” Programs such as this allow farmers to gain experience with the crop without losing money due to poor yields because they did not know what they were doing. The development of programs like this one could be an important factor in getting other farmers to grow cotton.

If Kansas farmers are going to continue to produce more and more cotton then more gins and warehouses must also be constructed. This has already started to come to fruition with the Plains Cotton Cooperative Association, based out of Lubbock, TX, being in the early stages of building a \$5 million, 330,000 square foot warehouse near Liberal¹⁹. This cooperation between farmers and cotton growing associations like the PCCA and SKCG are a good sign for the future development of this industry.

To this point the growth of the cotton industry in Kansas has been mostly due to the initiative of farmers and market forces. But because this could prove to be such a lucrative industry for many Kansans we believe the state should begin to support the continued development of the industry. Right now, according to Ray Hammarlund, Cooperative Development Specialist at the Kansas Department of Commerce Division of Agriculture Market Development, state assistance is available to gins and other processing developments. However, value-added loans are only available for processing which means farmers cannot take advantage of them. The Division of Agriculture Market Development has also met with the people at the Moscow gin. The Agriculture Innovation center is giving technical assistance to them to make the gin operate more efficiently. Currently, there is no state financial aide to directly help farmers grow cotton.

As we have outlined, the major costs and obstacles that farmers now face compared to other crops are machinery, transportation, and storage and marketing. Therefore, incentives to purchase equipment and build new gins would be the greatest help at this point in time. Also, supporting co-ops and other organizations that market the harvested product would ease the risks and prompt other farmers to experiment in growing cotton.

¹⁸ Cockerell, Lynette. “Southern Kansas Cotton Growers ‘Scouting’ a New Way to Serve its Members.” Plains Cotton Cooperative Association website.

<http://www.pcca.com/Publications/Commentator/2004/Winter/page04.asp>
¹⁹ “Kansas, the Cotton State?” Lawrence Journal-World Online. Oct. 17, 2004.
http://www2.ljworld.com/news/2004/oct/17/kansas_the_cotton/?print