



Alternative Crops Series

Cotton

History

Cotton, a major crop in Southern states, is a viable alternative crop in Kansas. In the mid-1980s cotton made a strong influx into the state, and it has shown a steady increase since 1995, with the implementation of the Fair Act of 1996. About 42,000 acres were planted in 2001 in Kansas. This number is expected to increase.

A perennial native of the tropics, cotton fits well into rotation with wheat and sorghum. Like those crops, cotton has a potential use in the food industry and as livestock feed, though it is primarily grown as a source of fiber for clothing and furniture.

Production

While cotton has high profit potential in good years, it also has high input costs. Production requires a high level of management. Weed control and timeliness of planting and harvest are critical.

Cotton is extremely sensitive to drift from 2, 4-D and other growth-regulator-type herbicides. In addition, several herbicides, including atrazine, Glean, Ally, Finesse, Amber, Canopy, Pursuit, Scepter, and Tordon can carry over from the previous crop and injure cotton seedlings.

Proper field selection and early planting can help avoid possible weed control and herbicide-related concerns. Tillage and herbicides are the primary methods of controlling weeds in cotton. Rotating cotton with sorghum and wheat helps improve weed control and break up disease cycles.

Cotton's planting and harvest dates fit in well with winter wheat production. Optimum planting dates for cotton in Kansas range from May 1 through June 1, but planting has occurred as late as June 15.

Cotton seed used for planting must be delinted. Kansas cotton growers plant cotton seed that has been chemically delinted. This process may also destroy harmful disease organisms on the seed surface, and thus promotes excellent stands from early planting in cool, wet soils.

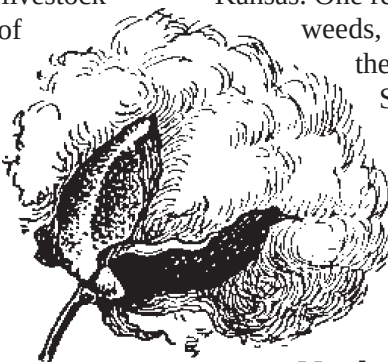
Kansas' relatively short growing season makes it suitable for cotton varieties that mature within about 120 days. The short-season cotton varieties grown in Kansas are mechanically harvested by stripper machines. Strippers remove all the bolls from a plant. Due to the high cost of

harvesting equipment, custom cotton harvesting is a popular alternative to owning equipment. A cotton gin removes burs, sticks, dirt, leaves and other foreign matter to obtain clean lint and seed.

Cotton plants, like soybeans, abort many flowers even under ideal conditions. Only 35 to 40 percent of blooms make bolls. A good yield goal is one bale of cotton per acre under dryland conditions and two bales under irrigation.

Currently there is little or no organic cotton grown in Kansas. One reason for this is that cotton doesn't tolerate weeds, and weed control is very difficult without the use of at least some chemical herbicides.

Secondly, countries such as India are producing relatively large quantities of organic cotton at low prices. California's organic cotton industry took a hit when India offered high-quality organic cotton that was hand-picked and hand-cleaned at lower prices.



Market

Cotton produced in Kansas can be sent to one of two gins in the state: the Southern Kansas Cotton Growers in Winfield and Johnston's OK-Kan Gin in Anthony. The lint is packed in bales weighing 500 pounds and stored until purchased by textile mills. The seed goes to oil mills or is rolled, crushed, or fed whole to cattle.

Cotton has ranged from \$0.39 to \$0.71 per pound over the last 5 years, depending on the loan deficiency payment (LDP). Each bale of cotton has a loan value, based on the quality of cotton in the bale. Quality is determined by several factors including fiber length, color, maturity, and tensile strength.

The Plains Cotton Cooperative Association (PCCA), a farmer-owned cotton marketing cooperative headquartered in Lubbock, Texas, is one of the largest handlers of U.S. cotton, marketing 2.5 million to 3.0 million bales annually. Producers often get a better price for their cotton by contributing cotton to the pool and letting the PCCA market for them.

Kansas cotton is primarily used to make denim for blue jeans. The quality of Kansas cotton has been very good. Length and fiber strength have been good and the color is usually exceptional.

Though cotton is primarily grown as a source of fiber for clothing and furniture, its oil and seed meal have uses as well. Cottonseed oil can be used as both a light salad oil and a light industrial oil for making paints and lubricants. The crushed seed meal is a highly condensed feed that contains about 40 percent protein and 6 percent fat. The meal can be fed to cattle, sheep, and horses, but is toxic to swine. Whole cottonseed is an excellent feed supplement for dairy cattle and receiving ration for stocker cattle. The seed hulls also can be spread on fields as cover and fertilizer.

K-State Research

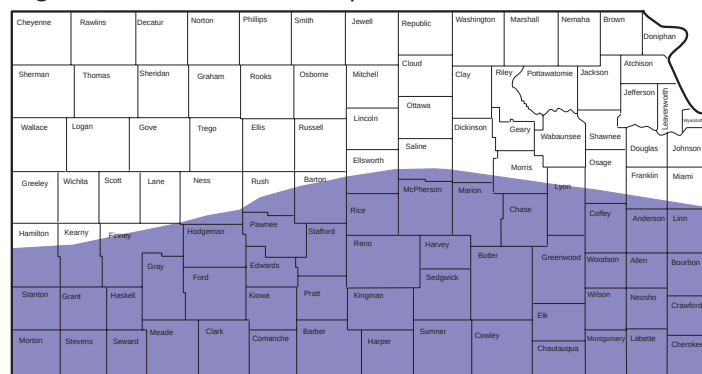
K-State Research and Extension conducts performance tests on cotton varieties every year. Information on the different varieties is available at www.ksu.edu/kscpt.

K-State is also conducting a date-of-planting study in three locations — Parsons, Wellington, and Hutchinson. This research is funded by National Crop Insurance Services. These studies will help determine, over time, the length of actual growing season in Kansas. This would enable researchers to estimate the potential yields a producer can expect when planting within a certain time frame.

A study concerning yield and quality loss based on harvest date is continuing at the South Central Experiment Field near Hutchinson. Previous studies indicated that delayed harvest usually leads to fiber loss and weathering of the fiber, but these losses have yet to be duplicated in Kansas.

Another study conducted at the South Central Experiment Field is investigating the effectiveness of boll opening agents and plant defoliants and desiccants. Results should help producers determine how and whether to terminate the crop for earlier harvest.

Figure 1. Cotton area of adaptation in Kansas



A study comparing seed treated with insecticide(s) to in-furrow insecticide treatments, or no treatment, is ongoing at the K-State research site near Wellington. Early season insect feeding on seedling cotton has sometimes led to delayed or reduced fruit set on lower boll positions. The early bolls generally are where the bulk of the Kansas crop will be made. This study will help determine the consistency and cost effectiveness of insecticide treatment to increase early boll set.

To learn more about cotton production in Kansas call:

Stewart R. Duncan

Agronomist, South Central Area
(620) 663-5491

Oklahoma State University has a variety of Extension cotton publications at:

<http://agweb.okstate.edu/pearl/plantsoil/crops/cotton.htm>

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