



2006 U.S. Organic Cotton Production & Marketing Trends

by Sally Pick, SJP Environmental Consulting, LLC
Consultant to the Organic Trade Association
November 2007

Survey background and overall trends

In 2007, the Organic Trade Association mailed a survey to forty-nine locations believed to be farming organic cotton. Surveys were sent to Arizona, California, Missouri, New Mexico, Tennessee, and Texas, thought to represent the states with all growers of organic cotton in the United States in 2006. OTA identified growers from a list of farmers of organic cotton from the prior year's survey, state agencies and certification programs, a cooperative extension office, several commodity commissions, and organizations in the U.S. that work with organic farmers. Cotton Incorporated funded the survey.

The surveyed population totaled forty-nine farmers identified as organic cotton farmers in 2006 or included on a list of 2006 organic cotton growers or processors but not reached to confirm their farming status. Seven of the forty-nine who were sent a survey were removed from the survey population because they were found not to have grown organic cotton in 2006 or are no longer growing organic cotton. A total of twenty-five people from California, Arizona, Missouri, New Mexico, and Texas responded to the survey by mail or were reached by telephone or e-mail. Of those contacted, twenty farmers returned their completed surveys by mail, telephone, or e-mail. Six of the twenty completed surveys were not included in the data for this report because these six responding farmers did not grow organic cotton in 2006; they are counted among the seven eliminated from the survey population.

Fourteen of the respondents qualified for and were included in the survey results because they grew organic cotton in 2006. Of these fourteen, ten members of the Texas Organic Cotton Marketing Cooperative (TOCMC) replied to the survey. Four of the fourteen completed, qualifying surveys were from farmers not associated with TOCMC. TOCMC has a total of twenty-one farmers growing organic cotton in Texas in 2007.

All fourteen of the farmers in the report have operated certified organic farms for at least two years. Eleven of these farmers have been organic producers for between eight and sixteen years; another wrote that their farm has been certified organic for ninety-one years (though certification has only been available recently). Excluding the respondent who wrote "91" years, farms have been certified organic for twelve years, on average.

Acreage farmed by these farmers in 2007 included 16,163 acres planted as organic, and 8,879 acres managed conventionally, 285 of which is in transition to organic; total acres farmed organically and conventionally equaled 25,042. Of that managed organically, 6,786 acres were planted in 2007 for organic cotton production (this number includes 500 acres that were noted as hailed out and assumed to be but not indicated as planted; an additional 260 acres are in transition to organic). Fields and total acreage ranged in size from 25 to 6,350

acres across all acreage data for 2007. An additional 312 acres of organic cotton was planted in 2007 (excluding 115 in transition to organic), according to completed surveys not included in the survey data and from data collected in other communication with farmers on the list who did not complete a survey. On average, qualifying respondents farmed 485 acres of organic cotton per farm in 2007. Survey data shows a total of 1,954 acres in transitional organic production, counting all crops, pasture, livestock, etc.

In 2007, twelve respondents grew other organic crops in addition to cotton; other crops ranged in size from 60 acres to 3,699 acres per farm. Surveyed farmers farmed a total of 9,377 acres of *other* organic crops, averaging 670 acres per farm. Total acreage per farm of both organic and conventional crops ranged from 375 acres to 6,350 acres, and averaged 1,789 acres.

Other crops and products grown organically included corn, soybeans, small grains (such as oats, barley, rye and wheat), garlic, onions, chilies, tomatillos, processing tomatoes, wine grapes, peanuts, pecans, walnuts, sesame, peas and black-eyed peas, beans, alfalfa, hay, Sudan grass hay, seed crops, and sunflowers. Eight farmers produced peanuts; six grew small grains; two grew corn; two black-eyed peas; two alfalfa; and the rest were grown by individual farmers. None of the farmers produced meat animals or ran dairy farms.

As in prior years, most surveyed farmers grew organic *upland* cotton in 2006, and a few grew organic *pima* cotton (specific numbers are not indicated to protect responding farmers' confidentiality).

Of the fourteen surveys, three farmers chose not to answer questions regarding farm sales figures in 2006. Ten farmers reported total gross, annual farm sales of over \$100,000; one reported \$50,000 to \$99,999 in gross, annual farm sales. Nine farmers had gross annual sales from their organic cotton of over \$100,000, and one reported \$50,000 to \$99,999 in gross annual organic cotton sales. One farm had gross annual sales from organic cotton of \$5,000 to \$9,999.

Acreage and Production of Organic Cotton

ACRES PLANTED & HARVESTED

According to results of this year's survey of organic cotton farmers, in 2006 farmers planted 5,971 acres of organic cotton, a decrease of 6% from the 6,325 acres planted in 2005. 2006 survey results indicate that the farmers planted 5,352 acres of organic upland cotton and 619 acres of organic pima cotton. One farmer grew organic cotton in 2006 but did not provide acreage data; this could account for the small decrease compared to 2005 acreage. An additional 122 acres was in transition to organic production.

According to the survey, 4,621 acres of 2006 organic cotton were identified as planted only in Texas (one Texas farmer did not include their acreage), with 1,350 acres grown in California, New Mexico, and Texas (some Texas data was combined with acreage data from other states where farmers grew in both states). To maintain the confidentiality of each farmer, the data do not specify acreage grown on a per state basis, with the exception of Texas. A very small number of the responding farmers grew color-grown organic cotton in 2006 and 2007; the exact number is withheld, again, for the sake of confidentiality.

Table 1 highlights trends in acreage of organic cotton *planted*. The 2006 and 2007 acreage listed in Table 1 includes only *planted* acres indicated on the qualifying survey replies,

including ten TOCMC members, but not additional acreage from Texas Organic Cotton Marketing Cooperative farmers who did not reply to the survey. Acreage data is unavailable from TOCMC.

As indicated in Table 1 below, planted acreage increased by 14% from 2006 to 2007. The table shows a general upward trend since 2003. However, from a broader perspective, 2007 acreage is a 72% decrease from peak production in 1995 (from earliest available data) when total acres in production equaled 24,625. In ten years, planted acreage has decreased by 25%. Data from 1990 to 2002 is provided by OTA's *2003 Beltwide Presentation* referred to in the reference section below. Data from 2003 to present is from annual OTA survey reports during that period.

Table 1. Estimated U.S. Organic Cotton Acreage Planted: Trends

Year Planted	Planted acres	% change from prior year
Acres Planted in 2007	6,786	+14%
Acres Planted in 2006	5,971	-6%
Acres Planted in 2005	6,325	+14%
Acres Planted in 2004	5,550	+37%
Acres Planted in 2003	4,060	-55%
Acres Planted in 2002	9,044	-22%
Acres Planted in 2001	11,586	-17%
Acres Planted in 2000	13,926	-17%
Acres Planted in 1999	16,785	+79%
Acres Planted in 1998	9,368	+4%
Acres Planted in 1997	9,050	-16%
Acres Planted in 1996	10,778	-56%
Acres Planted in 1995	24,625	+55%
Acres Planted in 1994	15,856	+28%
Acres Planted in 1993	12,402	+97%
Acres Planted in 1992	6,306	+92%
Acres Planted in 1991	3,290	+266%
Acres Planted in 1990	900	N/A
Percent Change 1997 - 2007		-25%
Percent Change from 1995 peak – 2007		-72%

When organic cotton fields are not planted in cotton, responding farmers plan to grow the following organic crops on those same fields: eleven will grow cover crops; of those, five will grow rye, one vetch, one hay grasses. Eight will grow peanuts; five wheat (three identifying it as a cover crop); four peas; three corn; two alfalfa; one chilies; one tomatillos; one soy; and one a wide assortment of crops including walnuts, seed crops, alfalfa, corn, processing tomatoes, garlic, onions, and Sudan grass hay.

Farmers *harvested* 5,811 acres of organic cotton in 2006, 160 less than what was planted (the same as the previous year); according to responses, six farmers said the small decrease was due to weather and one due to seedling disease. One noted, "lack of rainfall" as their weather challenge. Harvested acreage totaled 5,212 acres of organic upland cotton and 599 acres of

organic pima cotton. This represents a 6% decrease over the 6,165 acres harvested in 2005, again possibly reflecting the acreage of the farmer who completed a qualifying survey but did not provide harvested acreage data. The numerous responses to the question about what caused a decrease in yield contradict the data that only 160 fewer acres were harvested than planted, perhaps instead suggesting that planted acreage data already reflected reduced harvest acreage from weather problems and disease.

BALES HARVESTED

Table 2 features the total number and details of 2006 harvested *bales* of organic cotton identified between this farm survey and the TOCMC data. Survey data show a total of 7,124 bales of organic cotton harvested in 2006, with 6,468 bales of upland cotton (plus 21 transitional cotton bales) and 656 bales of pima. All but one farmer responded to this question, and that farmer referred to TOCMC for their data.

In 2006, TOCMC reported a total of 5,944 bales of organic upland cotton from their farmers, in contrast to 8,456 bales recorded by TOCMC in 2005. TOCMC believes that the 30% decrease in bales reflects the fact that many of their members have no irrigation, and, therefore, their production varies significantly from year to year depending on rainfall. 2006 was a drought year, according to TOCMC, so lower production numbers are to be expected.

Accounting for duplication among the survey respondents from Texas who belong to TOCMC, the 2006 survey identified an additional 1,516 bales of organic upland cotton. A total of 7,460 harvested bales of *upland* cotton were identified between this survey and TOCMC's data, for 2006. Texas harvested the largest number of bales, with New Mexico and California harvesting significantly fewer bales. Because of the small number of farmers in the survey population, the harvest data is not provided on a state-by-state basis to ensure the confidentiality of farmers who responded to the survey.

Adding the 1,516 organic upland bales from surveyed respondents who are not TOCMC members, to the TOCMC total of 5,944 bales of organic upland cotton and 656 bales of organic pima cotton from survey data, the total harvest of both organic, upland and pima cotton in 2006 was approximately 8,116 bales, as indicated in Table 2.

Table 2. Harvested bales of organic cotton in 2006

Source of data on harvested bales	Total bales harvested
TOCMC organic upland cotton data	5,944
OTA farm survey organic upland cotton data, excluding TOCMC organic upland cotton data in the survey	1,516
OTA farm survey organic pima cotton data	656
Total harvested bales of organic cotton in 2006	8,116
Total harvested bales of organic cotton in 2005	9,630
Percent Change bales harvested 2005-2006	-16%

Comparing the 9,630 total bales harvested in 2005 to the 8,116 total bales harvested in 2006, the total number of bales decreased by 16% in 2006. This is likely the most accurate reflection of the overall change in production in organic cotton because it reflects data from all TOCMC members. The total *acreage planted and harvested* only reflects 2006 data from the survey respondents because TOCMC data on acreage is unavailable. Trends in bales harvested over the years are as follows in Table 3 below, based on prior OTA surveys and the *Beltwide Presentation* in the reference section.

Table 3. Harvested bales of organic cotton 2001-2006

Year harvested	Total bales
2006	8,116
2005	9,360
2004	6,814
2003	4,628
2001	9,897

[Note: No 2002 data available.]

Sales & Marketing

Nine farmers responding to the survey indicated that they sell their organic cotton directly to a farmer cooperative such as TOCMC (eight of these indicating 100% sales to a cooperative), three sell all of their organic cotton directly to a mill, and one said they sell their organic cotton for the production of T-shirts. Farmers use the following marketing techniques: a total of ten farmers use word of mouth to market, two simply checking “word of mouth” as a general category, five selling to TOCMC and three checking the “other” category under “word of mouth” but not specifying their marketing technique; one exhibits at trade shows, fairs, and other public events; one markets with a listing on OTA’s *The Organic Pages Online* directory; one noted, “begging” in the “other” category.

One sells 98% of its organic cotton in the U.S., selling the remainder internationally, and two sell 100% to international markets. One sells 100% to domestic markets. Eight responded that they were not sure if their markets are domestic or international. TOCMC is selling 25 to 30% of their organic cotton to international markets and the remainder to domestic markets.

Eight responding farmers know where their organic cotton gets processed, one does not and four are not sure. When asked where their organic cotton is processed, responses varied widely: two in North Carolina, one in Texas, one in the U.S., one “abroad,” two at mills, one at

a coop, one in Switzerland, and one in Japan.

Six checked that they have no challenges to getting their organic cotton to market. Three respondents indicated that competition from international organic cotton producers presents their biggest challenge in getting their organic cotton to market. Another wrote that their biggest marketing challenge is "management." One has difficulties finding a market that will pay value-added costs of organic products; another's positive challenge is that his production is not large enough to meet his buyer's needs.

Farmers indicated the following when asked what their greatest barriers are to *planting* more cotton in 2008. Seven cited production challenges: "labor" (two replies), "quality labor," "weeds, insects, weather," "weed control, drought," "educating new farmers" and one did not specify. Four checked, "Competition from international organic cotton producers." Three cited "other" reasons: "desire and ability to keep working your butt off," "other competitive organic crops," and "defoliation, weed control." One checked "Finding a market for the cotton," and another checked, "Finding a market that will pay value added costs of organic products." Four checked, "No challenges."

The survey data indicated that the average price per pound received by farmers ranged from \$0.85 to \$1.25 for organic upland cotton in 2006, compared to \$0.80 to \$1.05 for 2005 organic upland cotton. Organic pima cotton prices ranged from \$1.65 to \$2.09.

Farmers suggested the following changes to the national organic standards to enhance their ability to market organic cotton: "Police the imports." "Allow sodium chlorate to defoliate." "None, the issues are trade related." Two answered, "None." "Tariff imports to help pay for program." "Weed control (chemical) material." "System to deal with perennial weed that could be pulled out and treated then recertified after clean up." "Allowing marketing and labeling of products that contain transitional organic fiber."

Educational and Economic Resources

The survey continues to indicate ongoing educational and economic challenges and opportunities related to organic cotton production. Most surveyed farmers do not view cooperative extension offices as resources on organic production. As in 2005, only two respondents work with their local cooperative extension agents on organic farming issues; twelve indicated that they do not work with extension. Two respondents felt that their extension agents were not knowledgeable about organic practices; two farmers checked that extension is "somewhat knowledgeable." Five farmers reinforced this perception, indicating that there has not been an increase at extension in educational resources about the National Organic Program since last year. Only one regards their extension agents as very knowledgeable on organic practices. Two said there has been an increase in educational resources on the NOP rule at extension since last year, and eight were not sure.

Farmers have stayed current with organic standards using the methods indicated in Table 4 below, with most farmers communicating with other farmers and many reading Organic Trade Association resources.

Table 4. How farmers stay current with organic standards

Methods for staying current with organic standards	# Respondents
Communicate with other farmers	8
Use Organic Trade Association resources	6
Read trade publications: 1– <i>Organic Business News</i> , 1-CCOF	4
Check related web sites: 1-USDA website	3
Other methods: 1-Texas Department of Agriculture, 1- Local meetings	2
Use extension resources	1

Organic cotton farmers have used a range of government agencies and programs for information or funding in relation to organic production. Six used the organic certification cost-share program, two used other means (the Texas Department of Agriculture and USDA), two used the Farm Service Agency, one used Cotton, Inc. and one ATTRA. Some farmers worked with more than one agency or program.

Farmers stated that they could use help from USDA for their organic production. Seven would like research, with some specifying the following types of research needed: “organic herbicide, foliar fertilizers guidelines,” “weed control alternatives,” “weed control,” “organic herbicides,” research “that includes organic options for weed/insect management,” “seed contamination and cross pollination of GMOs.” Seven also checked off “conservation funds,” making the following suggestions: “Possibly an ‘Organic Tier’ in CSP (although not likely to happen since farm bill is already out of House),” “tax credits for organic production,” “EQIP funds for water conservation,” “what we qualify for as organic producers,” “allowing organic with soil building, etc. to qualify for levels within EQIP.” In the “other” category, one remarked, “Police imports.”

Farmers rated USDA as very effective (one respondent), somewhat effective (four respondents) and not effective (seven respondents) in addressing their concerns on organic production. Three checked, “Does not apply/ Not sure.” One checked two categories.

Responding farmers work with the following certifiers: eleven use the Texas Department of Agriculture, and the remaining farmers use California Certified Organic Farmers or the New Mexico Organic Commodity Commission.

When asked what would prevent conventional cotton farmers from adopting organic farm practices, they responded as follows:

- “Learning and practicing a different philosophical approach for farming—more management and time intensive.”
- “1. Loss of income/high risk. 2. Large labor force needed.”
- “Workload is increased and they are afraid of giving up their chemicals.”
- “Intense management and high risk.”
- “I call it ‘Roundup withdrawal.’ Chemical dependency.
- “3 years of all the problems and no advantages.”
- “Weed control, defoliation. Also insect control. Lack of variety improvements.”
- “Paper work.”
- “Dealing with labor.”
- “Fear of change.”

- “Labor.”
- [From a survey excluded from the data:] “Hassle, lack of available organic inputs.”

Respondents provided the following replies when asked what would entice farmers to adopt organic farm practices:

- “The price and demand should, but it doesn’t seem to.”
- “\$2.00/# and a long term contract.”
- “? I have come with contract in hand and there are still no takers.”
- “Allow an entry level certification.”
- “Higher prices.” (two respondents)
- “Higher prices for organics.”
- “Weed control measures.”
- “Money.”
- “Fewer labor laws and high commodity prices.”
- “Loosen labor laws and have more labor available.”
- “It would have to be a combination of stable sales at sustainable prices and education.”

One farmer knows other cotton farmers who are interested in converting their farms to certified organic farms, and one knows cotton farmers who have adopted certified organic farm practices on conventional farms in the past year. Two mentioned TOCMC as a resource for information on conventional farmers who have adopted certified organic farm practices in the past year or are interested in converting their farms to certified organic farms.

When asked what could be done to improve support for the long-term economic sustainability of U.S. organic farms, farmers made the following comments:

- “I think it is pretty good right now, but I know the 2002 farm bill was very helpful to producers.”
- “Continue to offer good premiums over conventional.”
- “Tax imports to competitive level.”
- “The retention of U.S. mills and true fair international trade.”
- “Price (ability to stay profitable).”
- “Build long term markets for lint and seed.”
- “Stable demand and price.”
- “More education throughout the supply chain.”
- [From surveys excluded from the data:] “Parity prices. No tariffs.” “Many ideas, advertising, a change in the new Farm Bill, development of effective weed control products, defoliation products for cotton.”

One farmer suggested the following ways to improve USDA programs regarding organic production (twelve left this question blank and one said, “None.”): “If imports are allowed without meeting standards then they should make provisions for U.S. farmers to have level field with cert. standards. I.e. U.S. takes 3 years so no new cotton farmers but we get China overnight.” Three respondents excluded from the data had the following comments: “USDA should simply pay the certifiers directly—not require all this paperwork for the farmer.” “We need research dollars for developing organic weed control products.” “List of acceptable organic fertilizer and herbicide.”

Survey respondents provided the following additional comments for helping promote the profitable production and marketing of organic cotton in the U.S.: “Let’s not bash conventional cotton for organic—Let’s go after the polyester market instead.” And this from a completed survey not included in the data: “I am a first year farmer and all the organic cotton markets will help me get started.”

General Trends & Conclusions

Survey data show an overall upward trend of planted organic cotton acreage since 2003 totaling a 67% increase in that time.

In 2008, farmers project a total increase in organic cotton acreage of as much as 883 acres above 2007 planted acreage of 6,786, according to survey data.

Over the next five years, respondents project a small total increase in organic cotton acreage of as much as 181 acres; this reflects some decrease due to farmers approaching retirement. One farmer is increasing production up to 25% because of better demand. Another is a young farmer planning to increase his farm to around double its current size. One farmer explained an intent to increase organic cotton production up to 25% because he is “finally able to be profitable.” Several completed surveys excluded from the data indicated that they expect to grow organic cotton in the coming five years, some of which will be on land coming out of CRP.

Total bales harvested are the most accurate reflection of production changes because TOCMC tracks that data from all of its members and not all TOCMC members responded to this survey. TOCMC believes that production decreases from 2005 to 2006 among TOCMC farmers is a reflection of the fact that many of their farmers do not have irrigation and that 2006 was a dry year. Production of harvested bales among TOCMC members decreased by 30% from 2005 to 2006, while total harvested bales of organic cotton production decreased by 16%, according to survey data when combined with TOCMC data.

While 2005 to 2006 harvested bales showed a downward trend, weather might have been the primary factor. Other indications point to a continued increase in organic cotton production in the coming years.

In 2007, TOCMC anticipates a harvest of 10,000 bales of organic upland cotton because of above normal rainfall. That alone would amount to more harvested bales than indicated by the 2005 survey totals of 9,630, that included both TOCMC and survey data.

Another factor that may lead to more organic cotton production is that most states are in post-eradication for boll weevils. As a result, there will be less pressure to spray with pesticides, and this may open opportunities for organic cotton, according to one state official.

In addition, the Organic Trade Association has developed an online clearinghouse of resources, www.HowToGoOrganic™.com, to help farmers interested in transitioning to organic production find the resources they need.

Prices in 2006 increased from 2005, with the average price per pound ranging from \$0.85 to \$1.25 for organic upland cotton in 2006, compared to \$0.80 to \$1.05 for 2005 organic upland cotton. Organic pima cotton prices ranged from \$1.65 to \$2.09; no pima prices were provided by the 2005 data for comparison. If the market sustains these higher prices, they may support an expansion of organic cotton production.

Although organic cotton production in the U.S. has shown a 14% increase in *planted* acreage from 2006 to 2007 to 6,786 acres and consistent increases since 2003, the overall acreage is still well below peak production acreage of 24,625 planted in 1995. For organic cotton production to grow and outpace 1995 peak production, farmers reiterated the need for stable organic cotton prices that are high enough to allow them to make a profit and for trade policies that maintain an even playing field in the strong and competitive global market for organic cotton. In addition, challenges related to labor and increased farm management demands came up several times as a likely barriers that would prevent conventional farmers from converting to organic production. A number of farmers expressed the need for the development of better organic weed control options to ease weed problems on organic fields.

Global production of and demand for organic cotton is growing rapidly. According to Organic Exchange, global production of organic cotton increased by 53% from 2005/2006 to 2006/2007; global organic cotton product sales are projected to skyrocket from \$583 million in 2005 to \$2.6 billion by the end of 2008. The *Organic Exchange Organic Farm and Fiber Report 2007* reported 265,517 bales of organic cotton produced in 24 countries. Based on the Organic Trade Association's organic cotton bale 2006 totals in this report, U.S. production makes up 3.06% of global organic cotton production.

Organic Exchange's report indicates that "The top ten organic cotton producing countries were (in order by rank): Turkey, India, China, Syria, Peru, the United States, Uganda, Tanzania, Israel, and Pakistan. Nearly half (44.9%) of the organic cotton was grown in the Middle East (Turkey, Syria and Israel), while approximately one-third (32.9%) of organic cotton was grown in Southeast Asia (India and Pakistan)."

Acknowledgements

This survey is only possible because U.S. organic cotton farmers generously contributed their limited “free” time to complete the farm survey and respond to telephone calls and e-mails. Their time and sharing of data about their farming operations are greatly appreciated. Many have contributed information on a yearly basis, making this annual survey a reality.

Many thanks to Anita Morton and Kelly Pepper of Texas Organic Cotton Marketing Cooperative for sharing their time and information on the cooperative, which were invaluable in developing an accurate profile of 2006 organic cotton production trends.

Most importantly, thanks to Cotton Incorporated, which made this survey possible with a grant to the Organic Trade Association.

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