PRODUCING CONVENTIONAL COTTON AGAIN-AN AGRONOMIST'S PERSPECTIVE

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Abstract

During the past five years, Texas cotton producers have planted as little as 47,815 acres in 2012 and up to 453,000 acres of conventional cotton in 2008. Acres planted to conventional cotton varieties have decreased significantly during the past two years. Pros and cons exist for either planting or not planting conventional cotton varieties in Texas. Conventional cotton varieties reduce seed cost per acre since there is no technology fees. However, risks are higher because they do not give you as much flexibility under high weed and insect pressure situations. Lint yield of conventional cotton varieties were equal to transgenic cotton varieties in five large plot and six small plot cotton variety trials. Currently there are at least five seed companies that provide conventional cotton varieties.

Introduction

The reason for producer interest in planting conventional cotton varieties in the state of Texas is based on several reasons or factors. These reasons for planting conventional cotton varieties include seed cost, low weed and insect pressure, low yielding environments or years, and low cotton prices.

Seed cost for conventional cotton varieties is less because there is no technology fee involved. Also, farmers that have fields with low weed or grass pressure have stated that they do not need the technology fee associated with applying an over the top application of glyphosate or ignite. One of the reasons for low weed pressure is that in many regions of the state, cotton fields are rotated to grain sorghum the following year which greatly reduces weed problems by rotating different herbicide modes of action. In many years, insecticide applications are not made for bollworm or budworm control; thereby, it is hard to justify investing in Bollgard II or Widestrike technology. Also, many of the cotton producing regions of Texas are predominantly dryland and experience yields of less than 500 pounds of lint per acre. When you combine low yields with low cotton prices, cotton producers often times prefer planting a conventional cotton variety over a transgenic cotton variety.

However, there are risks associated with planting a conventional cotton variety. In wet years or in the high rainfall areas of the state, weed and insect control can be more of a problem because of wet fields or having less time to ground apply herbicides and insecticides. Transgenic cotton varieties have allowed producers in these more high rainfall areas of Texas to farm more acres of cotton. Also, transgenic cotton varieties have allowed producers more options and more profitability in growing cotton in weedy and grassy fields. Historically, bollworm, budworm, and fall army pressure in Texas have been less when compared to states located in the Southeast and Delta Regions of the Cotton Belt. However, there have been years on the east side of the state when it was more profitable to have planted a transgenic cotton variety that included either Bollgard II or Widestrike.

Another issue that is involved with planting conventional cotton varieties is how much planting seed is available. Often times in the past, farmers would buy and plant a conventional cotton variety the first year and catch the seed at the gin and plant it the following year. In this situation, commercial cotton seed companies have very little incentive to develop, market, and sell a conventional cotton variety.

In 2008 and 2010 systems trials were conducted comparing a conventional variety to three transgenic cotton varieties/technologies (WS/F, BG2/F, and BGII/LL). Partial budget analyses were done in both years comparing the different systems. In 2008, dollar return per acre was greatest for the conventional variety. Conversely, in 2010 all three varieties/technologies generated a greater dollar return per acre than the conventional variety.

Questions that are asked each year include the following:

1. How do conventional cotton varieties perform (yield and fiber quality) when compared to transgenic cotton varieties?
2. Where do you purchase conventional cotton varieties?
3. What varieties do I plant?

Methods

To address or answer these questions asked by producers the following trials were implemented. Five trials were conducted from 2009-2011 comparing the performance of conventional cotton varieties to a transgenic cotton variety in the Rio Grande, Coastal Bend, and Upper Gulf Coast Regions of Texas. In each of the trials a popular or widely planted transgenic cotton variety was included for comparison. These trials were conducted on-farm in producer's fields. Each variety was replicated or planted three to four times in a randomized complete block design. In all five of the trials, there were conventional cotton varieties that yielded the same as the transgenic cotton variety.

Since 2008, six small plot trials have been conducted along the Texas Gulf Coast. These trials include 40-50 varieties and consisted of conventional, BG2/Flex, WS/Flex, and BG/LL technologies. The varieties that are planted in these small plot trials are replicated or planted four times in a randomized complete block design. In all six of the trials, there were conventional cotton varieties that yielded the same as the transgenic cotton varieties.

Results of these large plot and small plot trials can be found in the 2008, 2009, 2011, and 2012 Uniform Cotton Variety Trial Report and the 2011 cotton race trials for LRGV, Coastal Bend, Brazos Bottom, Southern Blacklands, and Winter Garden Regions of Texas at http://varietytesting.tamu.edu or by contacting Dan Fromme at d-fromme@tamu.edu

Seed companies that offer conventional cotton varieties in their portfolio include Americot, All-Tex, Bronco, Concho, and Seed Source Genetics.

Summary

Lint yield of conventional cotton varieties were equal to transgenic cotton varieties in five large plot and six small plot cotton variety trials. Currently there are at least five seed companies that provide conventional cotton varieties.

Conventional cotton varieties reduce seed cost per acre since there is no technology fees. However, risks are higher because they do not give you as much flexibility under high weed and insect pressure situations.

It should be noted that during the past five years (2008-2012), Texas has planted annually between 47,815 - 453,000 acres to conventional cotton varieties (USDA-AMS). However, acres planted to conventional cotton varieties have decreased significantly during the past two years (Table 1).

Table 1. Total acres planted in cotton, total and percent of acres planted in conventional varieties, Texas, 2008-212.

Year	Total Planted acres	Total acres planted in conventional varieties	% of total acres planted in conventional varieties
2008	5,000,000	453,000	9.06
2009	5,000,000	411,500	8.23
2010	5,550,000	316,350	5.70
2011	7,550,000	75,500	1.00
2012	6,550,000	47,815	0.73

Source: USDA-AMS.

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