

# 2011 National Agri-Marketing Student Competition

## Executive Summary



**TEXAS A&M**  
UNIVERSITY

Presented by the Aggie Marketing Consultants

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## Introduction

Cotton producers are experiencing tremendous success as a result of higher prices and better technology. While technology exists that allows producers to monitor and improve cotton yield, there are currently no products on the market that comprehensively monitor cotton quality, an important determinant of producer revenue. Armed with cotton quality information, producers can adjust management practices including moisture control, application of nitrogen fertilizer, and debris reduction, all of which directly influence cotton value. There is unexplored potential for producers to capitalize on substantial gains in profitability by improving cotton quality through monitoring and customizing management practices.

United Crop Solutions (UCS) has developed a cotton fiber quality sensor utilizing technology exclusively licensed from Texas A&M University. This sensor collects samples of cotton and analyzes fiber quality during harvest using near-infrared cameras. When combined with GPS technology, the sensor and associated software returns data in the form of quality and moisture maps of the harvested field. This information assists producers in more accurately forecasting revenues, making important production decisions, and customizing farm management practices in future years.

## Market Analysis

### Cotton Industry Trends<sup>[1] [2]</sup>:

- Number of acres planted from 2009 to 2010 increased 19%
- Southern US had largest acreage gain from 2009 to 2010
- Cotton prices increased 150% during the last 18 months
- US cotton demand expected to be 25% higher in 2011
- Sales of harvesting equipment and accessories increasing
- Direct subsidies to farmers declining annually since 2008
- Future of US cotton programs might be in jeopardy due to World Trade Organization cotton case

### Market Size<sup>[2]</sup>:

- Approximately 18,600 cotton farms operating in the US
- Southern US contains 86% of US cotton farms
- More than 18,000 cotton harvesters owned in the US
- The top five states based on acres harvested in 2009 are located in the Southern US
- Four of the top five states in terms of cotton value in 2009 are located in the Southern US

### Cotton Producer Survey Results

*Questions asked by Aggie Marketing Consultants in a February 2011 telephone survey of US cotton producers pertaining to UCS' new sensor. Average responses follow each question.*

**Would you be interested in this type of technology?**

95% favorable response

**What is your expected payback period on capital investments?**

4 years

**What is your primary source of information for improving farming practices?**

44% crop consultants

44% extension service

12% other

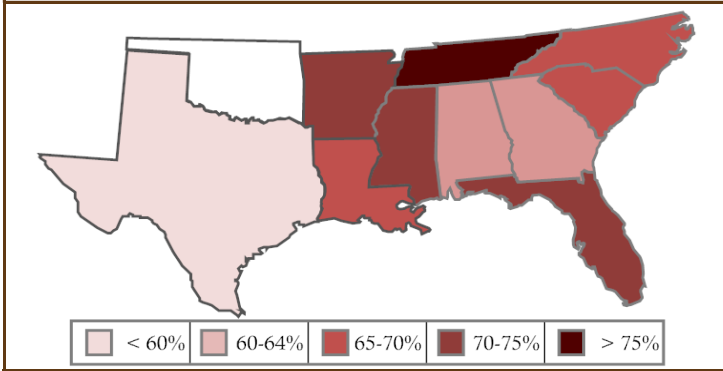
**Cotton Farms, Acres Harvested, and Value by State in 2009<sup>[2]</sup>**

State	Number of Farms	Acres Harvested (1000s)	Cotton Value (\$1000s)		
Texas	7,225	3,518	1,409,280		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Top 5 States in Acres Harvested         </div> <div style="text-align: center;">  Top 5 States in Cotton Value         </div> </div>
Georgia	2,577	990	569,587		
Arkansas	915	500	243,024		
North Carolina	1,308	370	203,558		
Mississippi	980	290	126,276		
<b>U.S. Total</b>	18,600	7,529	3,735,564		

[1] "Cotton Farming in the US," IBISWorld, 2010.

[2] National Agriculture Statistics Service, USDA, 2010.

## Precision Agriculture Technology Adoption Rates by State<sup>[3]</sup>



## Market Potential<sup>[3]</sup>:

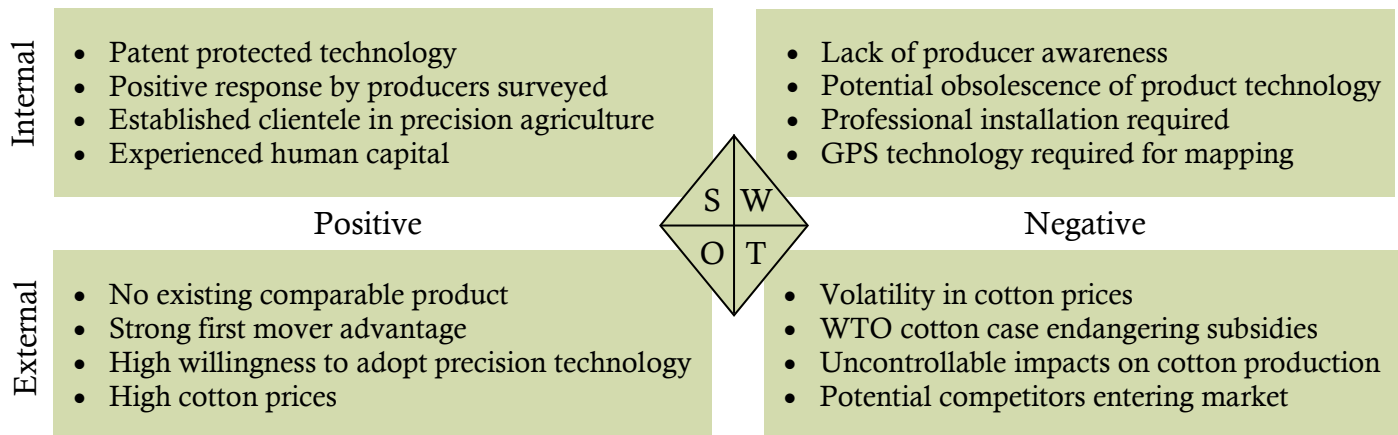
With high cotton prices, producers are earning higher revenues and are more likely to increase capital investments including precision agriculture technology. A survey conducted by the National Cotton Council of 1,692 cotton producers classified 63% of producers nationwide as precision farming adopters. Of these producers, the highest rates of adoption were among farmers in the Southern US. Technology adoption and cotton prevalence in this region suggests significant market potential in the Southern US.

## Competitor Analysis

There are currently no direct competitors for UCS' sensor. However, research conducted by other universities has led to the development of comparable cotton quality sensing technologies that could become direct competitors. Research on similar technologies suggests that the equipment is complicated and more invasive to install on existing harvesters compared to the sensor developed by UCS.

Monsanto, a potential indirect competitor, is currently developing biotechnology to enhance the quality of cotton with a new strain of genetically modified cotton seed. While using this seed to improve quality is easy for producers to incorporate, the product is not yet available for purchase and is not likely to be available in the next three years.

## SWOT Analysis



## Customer Profile

### Target Market: Cotton Producers

After considering all potential targets, cotton producers in the Southern US will be UCS' ideal target market for the cotton fiber quality sensor. This market segment was selected because it contains the majority of cotton farms and has many of the highest precision agriculture adoption rates in the US. In addition, this market segment indicated a willingness to purchase UCS' sensor provided a payback period of less than four years.

Cotton Producer Demographics <sup>[4]</sup>	
<b>Gender</b>	95% male
<b>Age</b>	Average age: 55.2 years old (74% under the age of 65)
<b>Size</b>	Average size of farm: 1,312 acres
<b>Income</b>	Average value of sales: \$437,107 Average government payments: \$60,960 Average net cash farm income: \$159,397

[3] "Status of Cotton Farming in Twelve Southern States," National Cotton Council, 2010.

[4] Cotton Industry, Census of Agriculture, 2007.

# Business Proposition

## Key Planning Assumptions:

- UCS is the exclusive licensee of the technology from Texas A&M University and will remain so for five years
- Competitors are at least three years away from launching products that use similar technology
- On average, producers will be able to utilize the data to increase cotton quality by 40% in subsequent crop years
- Product manufacturing will be outsourced and the manufacturer will uphold the terms of the contract

Market Capture Objectives by Year	
Total Farms in Southern US	16,005
Year 1 (1.5%)	240
Year 2 (1.5%)	240
Year 3 (3%)	480
Total (6%)	960

## Marketing Goals and Objectives:

- *CottonVision* will capture 1.5% of the market in year one, an additional 1.5% in year two, and an additional 3% in year three
- *CottonVision* will achieve brand awareness of 75% by year two and 85% by year three among the target market
- The sales staff for *CottonVision* and the product itself will receive a customer satisfaction rate of at least 90% annually

## Strategy Statement:

In order to achieve the marketing goals and objectives, UCS' cotton fiber quality sensor will be marketed as "*CottonVision: Profits You Can See!*" Emphasis will be placed on how the data generated from this cutting-edge technology enables producers to improve crop management, thus increasing profitability.

# Action Plan

*CottonVision* is compatible with both cotton strippers (left) and cotton pickers (right).



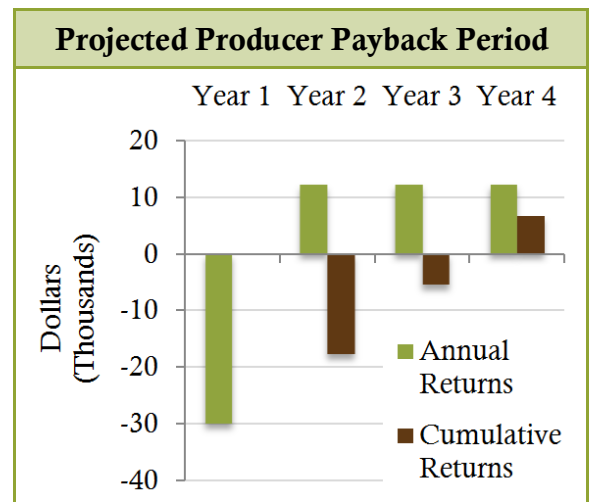
## Product Positioning:

*CottonVision* will be positioned as the industry standard of cotton quality measuring devices. The *CottonVision* package includes two camera units and user-friendly software allowing producers to collect and interpret fiber quality data. The collected data helps producers make management adjustments to improve profitability. Installation is included and performed by a member of UCS' sales team. This package also includes a one year warranty that covers all manufacturing defects. Customers will have continual access to technical support for any questions regarding *CottonVision*.

## Price:

Based on the market conditions, *CottonVision* will be priced at \$30,000. This price is based on four factors: production costs, willingness to pay, payback period, and sales objectives.

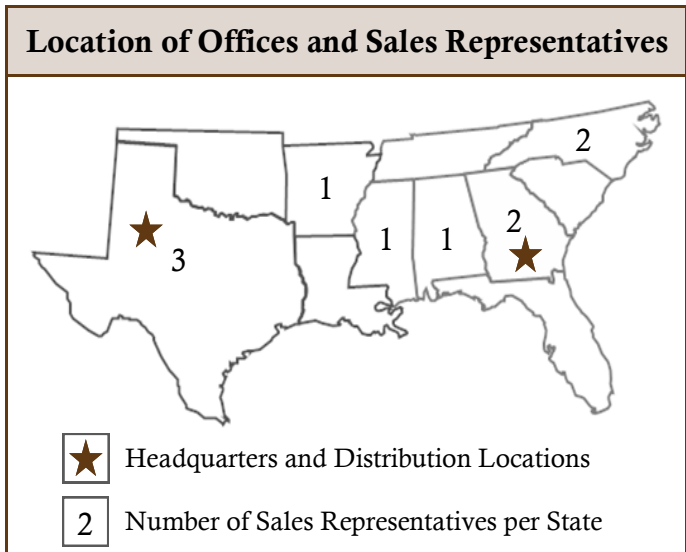
- With per unit production costs totaling \$20,000, a 50% markup makes the per unit price \$30,000.
- Based on a survey of the target market's willingness to pay \$30,000 for the package, producers indicated a 7.8 on a scale of 1 to 10 (10 being very willing to pay).
- With a price of \$30,000, producers should recover their costs in the fourth harvest season (as depicted in the graph to the right).
- *CottonVision* is strategically priced to accomplish the aggressive sales objectives.



**Place:**

The distribution system for *CottonVision* is designed to efficiently reach the target customer while providing the service and personal contact required for gaining a willingness to adopt this technology. *CottonVision* will be manufactured by the contracted supplier and delivered to UCS’ existing distribution center in Cotton, GA.

In years one and two, UCS will employ ten sales representatives who will be assigned a territory based on the number of cotton farms in each targeted region. Three additional sales representatives will be hired in year three. Sales representatives will primarily be responsible for garnering sales, delivering and installing products, and training customers.



**Promotion:**

The promotional strategy for *CottonVision* will focus on communicating the benefits of this technology to cotton producers. A combination of direct, print, and web promotional tools will be utilized and built around the slogan, “*CottonVision: Profits You Can See!*”



*CottonVision* will be promoted directly to producers through six Southern farm and trade shows annually, including the Beltwide Cotton Conference and Ag Connect Expo. UCS will host a launch party to introduce *CottonVision* the day before the Beltwide Cotton Conference in the first

year. The event will include refreshments for conference attendees and sales representatives will demonstrate how the product works along with the potential benefits.

Crop consultants serve as a primary information source for the target market. Sponsorships of the Certified Crop Advisors’ training program will be used to reach these key influencers. Additional sponsorships and training programs will be provided for the members of the National Alliance of Independent Crop Consultants to educate them about the product.

*CottonVision* will be advertised in major trade and industry publications including *Southeast Farm Press*, *Cotton Grower*, and *Cotton Farming*. UCS will sponsor the section in *Cotton Grower* titled “Cotton Vision” which discusses the future of cotton farming. The *Southeast Farm Press* and *Delta Farm Press* blogs will be utilized for online targeted advertising.

The *CottonVision* website will serve as an additional medium for communicating with producers. The website will include product documentation, video demonstrations, software tutorials, financial worksheets, and customer testimonials. Social media will be incorporated into the website design as an additional source of information.



As a public relations tool, *CottonVision* packages will be donated to state extension agencies. Extension agents will be able to try the product and communicate the results, benefits, and impacts through extension bulletins and through direct communication with cotton producers.

## Financials

	Year 1	Year 2	Year 3
Units Sold	240	240	480
Unit Price	30,000	30,000	30,000
<b>Gross Sales</b>	<b>7,200,000</b>	<b>7,200,000</b>	<b>14,400,000</b>
Less Discounts (15%, 10%, 10%)	1,080,000	720,000	1,440,000
<b>Net Sales</b>	<b>6,120,000</b>	<b>6,480,000</b>	<b>12,960,000</b>
Production Costs (\$20,000/unit)	4,800,000	4,800,000	9,600,000
<b>Gross Margin</b>	<b>1,320,000</b>	<b>1,680,000</b>	<b>3,360,000</b>
<b>Marketing Expenses</b>	<b>368,700</b>	<b>316,650</b>	<b>348,600</b>
Farm & Trade Shows	75,700	41,650	47,600
Beltwide Conference Launch Party	30,000	0	0
Crop Consultant Sponsorships	40,000	40,000	40,000
Print Ads in Industry Publications	98,000	114,000	130,000
Online Ads on Farm Press Blogs	10,000	20,000	30,000
Website Design & Maintenance	15,000	1,000	1,000
State Extension Product Demos	100,000	100,000	100,000
<b>Operating Expenses</b>	<b>987,000</b>	<b>1,002,000</b>	<b>1,556,000</b>
Sales Representatives' Commission	351,000	351,000	702,000
Sales Representatives' Salary	300,000	300,000	390,000
Administrative Expenses	130,000	130,000	180,000
Employee Benefits	156,000	156,000	204,000
Monitoring and Measuring	50,000	65,000	80,000
<b>Total Expenses</b>	<b>1,355,700</b>	<b>1,318,650</b>	<b>1,904,600</b>
<b>Net Profit Before Taxes</b>	<b>(35,700)</b>	<b>361,350</b>	<b>1,455,400</b>
Marketing Expenses % of Sales	5.12%	4.40%	2.42%
Profit Margin	-0.50%	5.02%	10.11%
Return on Marketing Expenses	-0.10	1.14	4.17

The financial projections were made based on the following information. Discounts include costs associated with any manufacturing defects and returns. UCS will attend six farm and trade shows in year one and add new shows in each following year. Quarterly full-page, full-color ads will appear in three magazines during year one and increase each year. Ten sales representatives are employed in year one with a base salary of \$30,000 and a 5% sales commission. Administrative expenses include one marketer, one technical support expert, and one administrative assistant. A second technical support expert will be hired in year three. While UCS realizes a negative net profit in year one, the losses are offset in year two. Marketing expenses account for 5.12% of gross sales revenue in year one, 4.40% in year two, and 2.42% in year three.

## Monitoring and Measurement

Area	Monitoring Methods	Contingency Plan
<b>Market Capture</b>	<ul style="list-style-type: none"> <li>Analyze sales numbers in each state quarterly</li> <li>Evaluate changes in market size annually</li> <li>Monitor development of potential competitors</li> </ul>	<ul style="list-style-type: none"> <li>+ Reevaluate pricing and market goals</li> <li>- Provide additional incentive to sales team to close gap</li> </ul>
<b>Brand Awareness</b>	<ul style="list-style-type: none"> <li>Conduct target market focus groups and surveys</li> <li>Attain feedback from sales representatives</li> <li>Survey extension agents and crop consultants</li> </ul>	<ul style="list-style-type: none"> <li>+ Consider expansion into new markets</li> <li>- Increase promotions, advertisements, and attendance at farm shows</li> </ul>
<b>Customer Satisfaction</b>	<ul style="list-style-type: none"> <li>Gauge customer satisfaction through sales team</li> <li>Examine complaints and returned products</li> <li>Study effectiveness of technical support</li> </ul>	<ul style="list-style-type: none"> <li>+ Encourage word of mouth promotion</li> <li>- Provide additional training and technical support to customers</li> </ul>

## Summary Statement

*CottonVision* provides economic benefits using state-of-the-art technology by allowing producers to analyze and adjust management practices based on cotton quality information. Extensive analysis of market data, industry trends, and the target market strongly suggests *CottonVision* has the potential to address the critical need for a quality sensor in the cotton industry. By implementing the marketing strategy developed by Aggie Marketing Consultants, *CottonVision* will gain prominent brand recognition. This will allow UCS to meet the goal of capturing 6% of the targeted market with a 10.11% profit margin by the end of year three, substantiating *CottonVision* as a profitable enterprise.

