



COTTON FOUNDATION 2005-2006

CHAIRMAN'S MESSAGE



The Cotton Foundation is celebrating its 50th anniversary in 2005 as The Foundation for Cotton Research and Education, the direct ancestor of today's Cotton Foundation, was incorporated in July of 1955. Just as the Foundation's original certificate of incorporation called for a half century ago, today's Foundation vigorously carries out its mission of encouraging, facilitating and conducting cotton research and education. However, the Foundation yields its support to projects that can help the [National Cotton Council](#) (NCC) carry out its mission of providing U.S. cotton industry members a world marketplace advantage. The first recorded projects of The Foundation for Cotton Research and Education included Investigations to Identify Substance(s) in Cotton Plant Which Attracts Boll Weevil for Feeding and Reproduction; A Basic Investigation of Fruiting Control in Cotton; Fundamental Study of the Resilience Properties of Chemically Modified Cotton; and Cotton Quality Evaluation Research. They were funded at a total of \$83,000.

In 1970, the name was changed to The Cotton Foundation and today's mission is providing vision and leadership to the cotton industry through research and education in support of the National Cotton Council (NCC) and allied industries. In recent years the Foundation has been able to maintain 70-plus members even in an environment of mergers and consolidations. These agribusiness firms' dues go entirely in support of 30 general research and education projects, which are being funded at a \$376,000 level for the 2005-06 Foundation fiscal year. Investments and Washington building rental income do provide a portion of the funding for these projects but member dues serve as the largest source. The 2005-06 Foundation general projects are supporting work in such important arenas as yield and quality enhancement; precision farming, pest management and air quality and other regulatory concern. For example, projects range from "Electronic Publication of the Journal of Cotton Science" to "Confronting Quality Challenges." The U.S. cotton industry is enjoying a healthy return on investment from these endeavors, too. NCC staff estimates that taking into account cash and in-kind services, the Foundation's general projects enjoy a return of about \$3 for every dollar devoted to these projects. It is hard to put a price on the payoff the industry receives from the Foundation's 12 special projects, which increased in earnest beginning in the mid-1980s. These efforts, funded by grants over and above member dues, have enjoyed unwavering support even during economic downturns that cramped member firm budgets. In addition, individual Foundation member firms continue to support the NCC's [Cotton's Week newsletter](#) and the daily Cotton eNews electronic newsletter. With the solid backing from its agribusiness allies, U.S. cotton will continue to benefit from investigations and technology advances produced by the world's foremost scientists and research institutions.

**Allen B. Helms, Jr., Chairman
The Cotton Foundation**

(Helms served as 2004-05 Cotton Foundation president)

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PROJECT SUPPORT

AGRONOMY/PHYSIOLOGY/GENETICS

Prediction and Alleviation of Crop Stress for Yield and Quality Stabilization

University of Arkansas scientists' work has shown that high night temperatures in the Delta are particularly detrimental to yield. Among specific findings thus far are that high temperature treatment did not appear to affect total number of bolls per plant, rather boll weight. They also have evaluated techniques to screen for temperature tolerance in cotton. Under the direction of Dr. Derrick Oosterhuis, the scientists will continue their efforts on understanding extreme and unpredictable yield variability by: 1) evaluating and quantifying high temperature and drought on the development of boll weight, yield and fiber quality; 2) determining the effect of high temperatures on pollination, fertilization and seed set as well as on motes and fiber quality; and 3) investigating methods of improving seed set and boll/fiber development under high temperatures. They also will develop management strategies to predict and alleviate crop susceptibility for yield stabilization, including a new anti-ethylene plant growth regulator to improve seed fertilization, irrigation cooling and new cotton germplasm.

Determination of a Method to Break the Yield Plateau

Research at the Texas Agricultural Experiment Station in Lubbock is aimed at finding out how environmental components affect yield – or the amount of fiber per seed. In 2004, 19 lines were tested and eight experimental lines out yielded the check variety. Under the direction of Dr. John Gannaway, existing breeding materials will be screened for increased weight and number of fibers per seed. Scientists will try to determine what, if any, detrimental factors are associated with increased number and weight of fibers per seed. They will conduct yield tests of promising materials to determine if increased yields occur.



Scientists are looking at how environmental conditions affect cotton yields.

ENVIRONMENT/SAFETY

Information and Research on Potential Consumer, Environmental and Workplace Risks

This ongoing project helps in the development of technical data needed in the formation of codes, regulations and rules affecting U.S. cotton industry operations and products.

For example, this information has been helpful toward: 1) favorable fire and building codes' amendments governing cotton bale storage; 2) workable flammability standards being developed for mattresses/filled bed products and upholstered furniture, 3) retaining cotton beneficial amendments to the Children's Sleepwear Flammability Standard; 4) reasonable air emission standards for vegetable oil extraction; 5) addressing potential regulations on hexane, dioxin, lead and oilseed processing products; 6) assisting EPA to regulate vegetable oil differently than petroleum oil in spill prevention regulations; and 7) avoiding unworkable cotton dust regulations involving particulate matter (PM) emissions from cotton gins.

Evaluations of EPA Approved FRM PM2.5 and PM10 Samplers

Texas A&M researchers are trying to develop an EPA-sanctioned process that will result in correction of "over estimation" of PM10 and PM2.5 concentrations of agricultural PM emitted by agricultural operations. The scientists have been able to demonstrate to EPA the errors in sampling agricultural dusts with EPA approved samplers. The samplers do not perform the same when exposed to "real world" PM that includes a wide range of particle sizes as they do in the EPA evaluations where they are exposed to mono-disperse particles (all the same size). The researchers have designed and are completing construction on a wind tunnel to allow accurate control and measurement of PM concentration and particle size distribution with poly-disperse particles. Isokinetic samplers will allow greater accuracy in quantifying the true PM concentration. They plan to acquire a Malvern Mastersizer 2000 Particle Size Analyzer, which will add greater accuracy to their evaluation of sampler performance and shifting cut-point associated with particle size distribution.

FIBER & SEED QUALITY

Confronting Quality Challenges

The objective of this ongoing project is to provide a forum to address industry quality issues and to maintain U.S. technological lead in quality measurement technology and quality preservation.

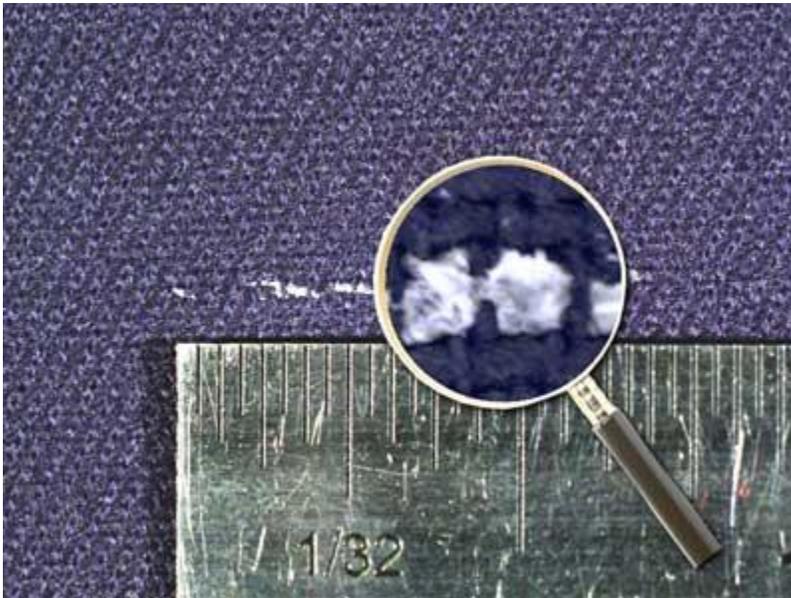
During 2004-05, the National Cotton Council's Quality Task Force (QTF) issued a directive on bale moisture that became the basis for the NCC and an industry advisory. The QTF also reinforced the ongoing initiative to prevent lint contamination. Significant effort went toward supporting U.S. interests in China's cotton classing reform efforts with China appearing to have a favorable leaning toward adopting the most important elements of the U.S. classing system. Also, under view of the QTF, the USDA is making adjustments to the Loans Premiums and Discounts schedule.

The QTF will be supported in its fall 2005 meeting where it likely will focus on such quality research priorities as loan schedule simplification, moisture management, pepper trash, and extraneous matter, including prep, short fiber measurement, sticky cotton and white flies. Among other project activities will be: 1) coordinating activities of USDA, NCC, Cotton Council International and Cotton Incorporated with the China Fiber Inspection Bureau plan for modernization of China's cotton grading system; 2) representing U.S. cotton's interests at the 2006 International Textile Federal Meeting and 3) coordinating comments for the International Cotton Advisory Committee expert panel on instrument testing.

Lint Contamination Education and Prevention Program

With a goal of zero tolerance, the NCC reviewed and updated all of its contamination prevention educational materials in 2004. That included a "Prevent Lint Contamination" brochure that was mailed to all U.S. gins, warehouses and certified interest organizations and placed on the NCC's web site along with the other materials. The "Prevent Lint Contamination" PowerPoint presentation replaced the video and was distributed prior to the start of the 2004 harvest season. In 2005, a Spanish version of the PowerPoint presentation is being developed and both versions will be placed on CD and distributed industry wide. A "Contamination Free" decal also was developed and is being distributed. NCC Member Service representatives and others are being trained on ways to use the presentations and materials.

Among other activities to be undertaken are: 1) conducting analysis of cotton fabric contaminants of unknown origin through the use of an independent lab; and 2) supporting the development of lint contamination education modules for gin schools.



Researchers are conducting analyses of cotton fabric contaminants of unknown origin.

Performance Related Test Protocols for Cotton Bale Packaging Materials

The need exists to develop and standardize simulated handling tests to more rapidly screen materials for determining worthiness for field testing. National Cotton Council packaging specialists are developing draft protocol proposals for predicting packaging performance related to floor abrasion, breakout damage, tear/snag resistance, wire-to-bagging shear, rupture propagation, vapor permeability, air flow resistance, moisture condensation and machine/materials interactions. Progress has been made toward water vapor transfer characterization of bagging and work continues on evaluation of polyethylene test methods. As a result, a report provided to the Joint Cotton Industry Bale Packaging Committee in early 2005 reinforced that panel's decision to maintain burlap as an acceptable packaging material and to recommend permeance guidelines for micro-perforated bags. Work will continue in 2005-06 at finding methods to correlate new test methods with real world handling environments and testing them for repeatability. Packaging specifications also will be reviewed with the goal of removing any unnecessary regulatory burden for bagging manufacturers and the U.S. cotton industry.

Maintaining Cotton Lint and Seed Quality During Module Building and Storage

Losses due to the reduced value of seed cotton in poorly-built or protected modules can range up to \$500 per module. This project is aimed at providing guidance to module cover manufacturers, ginners and producers about the characteristics needed to protect seed cotton stored in modules.

Researchers at the Texas Agricultural Experiment Station have made significant progress on quantifying the potential for and the cost of water penetration into seed cotton modules. For example, studies at six Texas gins' module storage yards found that 50 percent of modules allowed water to collect on top due to an area of depression. The combination of a high probability of poor module shape and the potential loss of lint quality clearly point out the need for improvements in module formation and in the covers placed over those modules. Another finding has been that covers' ability to maintain moisture penetration resistance deteriorates rapidly after prolonged exposure to sunlight and weathering.

Ultimate project goals are: 1) developing a recommendation for minimum module cover performance and suggested methods for evaluating the anticipated performance of covers; 2) publishing a document to educate ginners on the potential impact of module cover quality and a tool to evaluate the moisture resistance of existing covers; 3) refining and commercializing an operator feedback system that will improve the formation of well-shaped modules and minimize the potential for ponding of water on the cover; and 4) evaluating a prototype system for moving seed cotton mass to the center line of the module.



Small scale seed cotton modules were built in the Brazos Valley and Southern High Plains to perform testing on module cover materials.

Cottonseed Technical Issues Survey

After the NCC broadened its membership base to include virtually the entire cottonseed industry, including the whole seed sector, there is the need to ascertain those members' technical, research and regulatory priorities.

Through this project, those cottonseed sector members will be surveyed, a workshop conducted and a listing of technical issues published for in-house planning and action.

GINNING

PM Coarse (PMc) Emissions from Cotton Gins and Field Operations

Researchers at TexasA&MUniversity are evaluating the impact of a proposed coarse particulate National Ambient Air Quality Standard. It appears that proposal would define coarse particulate matter (PMc) concentrations at the difference between PM10 and PM2.5 concentrations. However, researchers already have documented errors associated with EPA's approved Federal Reference Method PM10 and PM2.5 samplers – which could lead to error prone measurements of PMc.

The researchers are evaluating the errors associated with the PM10 and PM2.5 samplers to obtain PMc concentrations and developing a method to obtain accurate PMc concentration measurements. They will develop a white paper to clarify the implications of PMc as a property-line standard.

Engineering Systems – Seed Cotton Handling and Ginning

A goal of this project is to minimize seed cotton storage costs while processing 5 million bales with 200 or fewer gins. Texas A&M University researchers are formulating a minimum of three practical scenarios for a new seed cotton handling, storage and ginning system – and that may include extending the ginning season.

They also are formulating a feasible seed cotton transport system from the field to storage area that could be implemented at a Texas location with the gin service area expanded to 100 and 150 miles. This includes studying the use of semi-tractor trailers or other systems for moving seed cotton from the turn-row to long-term storage locations near a gin.

The new seed cotton handling, storage and gin management system will be developed following a general methodology that includes the following: 1) development of a database management system, 2) mapping of cotton production areas in the state, 3) determination of geographic location of cotton gins, 4) development of a transport routine tool and 5) preparation of simulations and strategies to optimize processing of harvested cotton.

Development of a Downdraft Gasifier Fueled by Cotton Gin Trash for Heat and Power Generation in Cotton Gins

This new project will address the urgent need to develop low cost technologies for efficient conversion of cotton gin trash into heat and power generation. – due to escalating fuel and energy prices.

The specific objectives of Texas A&M University engineers will be to: 1) illustrate the positive net energy balance from the conversion of gin trash into heat and power in a given gin; 2) develop a modular gasification system that could be retrofitted to specific gin sizes; and 3) evaluate the technical and economic feasibility for the differently-sized gins.

Integrating Cotton Quality Information Between Gin and Farm

The goal of this new project is enabling cotton producers to make fiber quality maps and consider field input and other management practices with respect to fiber quality.

A Texas A&M University researcher is developing a practical and reliable methodology for using GPS to define the area from which a module was harvested. Then, a conceptual mechanism will be developed for integrating field-level GIS databases containing yield data, remote-sensing data and soil property data with bale sample/quality data. This would be done by using module location and bale-to-module relationships as the data bridge.

Gin Management & Technology (GMY) Program and Mini-Gin Enhancements

Funding will be used for making necessary enhancements at the "mini-gin" in the Pace Seed Technology Lab at Mississippi State University.

MSU's Gin Management Technology students will take the lead in making the modifications to the lint cleaning system and the feeding of seed cotton from the last cleaning machine to the extractor feeder. They will gain valuable hands-on training and experience by removing the existing lint cleaner and installing two lint cleaners so the gin will be similar to modern commercial gins.

INFORMATION/EDUCATION

Electronic Publication of the *Journal of Cotton Science*

The quarterly, on-line *Journal of Cotton Science* (JCS) now has been available at <http://journal.cotton.org>, for nine years. Published as Adobe Acrobat (PDF) files for optimum versatility and access ease, JCS offers ready access to multidisciplinary cotton research in areas ranging from agronomy to textile technology. Offering scientists a rapid outlet for their findings, JCS has received and placed into peer review some 300 manuscripts. Published manuscripts contain an abstract that explains the research's value in layman's terms.

JCS, which is copyrighted, was the first all-electronic journal to be indexed in AGRICOLA, the database of the National Agricultural Library. Patrick D. Colyer, Louisiana State University, serves as editor-in-chief.

Enhancing Cotton Industry Education and Information through the National Cotton Council Web Site

The NCC's web site, www.cotton.org, which was redesigned and launched in February, is a cost-effective method of communicating and helping the organization handle increased information demands. It also supports sites for the Beltwide Cotton Conferences, the National Cotton Ginners Association and The Cotton Foundation, including several Foundation special projects.

New server hardware enabled the site to handle increased NCC member log-in demands – now more than 1,200, and its distribution of 1,000 emails daily of Cotton eNews and 1,500-plus emails of the *Cotton's Week* newsletter. The site also was equipped to handle credit card transactions for Beltwide Cotton Conferences' and Annual Meeting registrations.

Through this project, the site will continue to be upgraded with the addition of content management, application server and web site statistics reporting software along with server hardware.

Support for the 4th World Cotton Research Conference

The 4th World Cotton Research Conference, to be hosted by the United States in 2007, will provide extraordinary opportunities for 1) interested U.S. personnel to obtain information from international researchers and 2) showcasing the U.S. cotton industry's leadership in research, quality and efficiency.

This project will support the efforts of the International Organizing Committee which is making arrangements for the four-day event in Lubbock, TX. Following the Conference, proceedings will be published and provided to registered attendees.

NEW PRODUCTS

Cotton Based Chemical Warfare Decontamination Nonwoven Wipes: Testing and Technology Transfer

Scientists at Texas Tech University's Nonwoven Lab have developed a "flexible cotton decontamination wipe" for human and sensitive equipment decontamination.

Immediate objectives are to test and validate the protective capabilities of the wipe against toxic chemicals. Positive results will enable the marketing of cotton nonwovens for defense applications, including homeland security. This could mean increased market share and use-value for U.S. upland cotton.



Researchers are developing and testing a nonwoven cotton decontamination wipe.

Value-Added Uses of Cottonseed

Texas A&M University scientists, in collaboration with USDA Agricultural Research Service scientists in New Orleans and College Station, TX, continue to explore additional non-food and non-feed applications of cottonseed products such as a cancer-inhibitor and a concrete mold releasing agent.

The 2005-06 objective will explore improved formulations of motor oil and other fuel additive applications; determine the gossypol composition in the foliage and leaves of cotton plants; and determine how larvae of herbivorous insects, such as *Helicoverpa zea*, are affected in terms of survival, larval weight and days to pupation when raised on artificial diets containing gossypol.

Novel Value-Added Pesticide Protective Cotton Denims from U.S. Cottons

Texas Tech University researchers are trying to develop a novel value-added denim product – one that is protected from pesticides and toxic chemicals – in order to help the U.S. textile industry compete from the flood of textile and apparel imports. The high-end denim product would be made from U.S. Upland cotton and include the application of a novel enzyme finishing. That finish would not only counters toxic chemicals' effects but enhance the denim's smoothness.

PEST MANAGEMENT

Cotton Pest Loss Survey

Annual estimates of cotton losses due to specific disease, insect and weed pests are made broadly available to public and private sectors. The Cotton Belt data, gathered at the Coordination Center at Mississippi State University, are useful for: 1) analyzing the market potential for new plant protection products, 2) establishing the importance of currently registered products that are threatened by cancellation or use restrictions and 3) setting research and educational priorities. The databases of 1978-2004 insect loss and weed loss data and the 1952-2004 disease loss data have been completed, and a consultant will incorporate the 2005 results into the database. The information is published in the Beltwide Cotton Conference Proceedings, available on CD-ROM, and placed on the NCC web site for downloading.

Field Evaluations and Varietal Screening for Fusarium Race 4

In this ongoing project, University of California researchers have noted that susceptible Pima cottons are more severely affected from *Fusarium oxysporum* in terms of foliar damage, stem vascular staining and plant stunting and mortality, but Acala and non-Acala Upland varieties can be affected, too.

Field and greenhouse evaluations, in coordination with USDA Agricultural Research Service scientists, are being conducted in 2005 on a range of Acala, non-Acala Upland and Pima varieties to determine how broadly susceptible these cottons may be to the *Fusarium oxysporum* in the San Joaquin Valley. Plant samples under field conditions are being evaluated to verify the presence or absence of the race 4 strain of the *Fusarium oxysporum*; and greenhouse and in-soil screening of commercial varieties and germplasm is being conducted in order to identify more resistant plant material. Growers in areas affected by this pathogen also are now able to utilize field trial results to select what so far appears to be a highly-resistant Pima commercial variety to lessen impacts on crop yield and reduce production of additional inoculum.



Field and greenhouse evaluations are being conducted on a range of Acala, non-Acala Upland and Pima varieties to determine how broadly susceptible they may be to the *Fusarium oxysporum* in the San Joaquin Valley.

Cotton Reniform Nematode Web Page Development

Coordinated by Don Blasingame, all existing reniform nematode management options will be examined, integrated into a total management package and placed on The Cotton Foundation's web site for producers to access.

Among information to be contained on the completed page will be the pest's biology, life cycle and symptoms; updated loss data; and management recommendations that may include such practices as crop rotation, variety trials, cover crops and fertility management.

The page, scheduled for completion in late 2005, is being developed in cooperation with the nematologists in Alabama, Arkansas, Georgia, Louisiana and Mississippi.

Cotton Pest Management Workshop

Cotton is among the most intensely-managed crops in the Mid-South, and pest management mistakes cost producers millions of dollars annually.

Under the direction of Dr. Ralph Bagwell at the Louisiana State University AgCenter and a program planning committee, a new training program is being developed for consultants, county agents, scouts and others involved in helping Mid-South cotton producers.

A workshop will be held at the Agricenter International in Memphis on November 1-2. An interactive, hands-on training format will be used to impart cutting-edge pest management information, strategies and technologies. Among topics already identified for the workshop are uses of palm computers in the field, sampling methodology and pest identification/symptomology.

PRECISION AGRICULTURE

Validation of Reduced Production Cost and Dissemination of Variable-Rate Cotton Production Systems Knowledge

This ongoing project has demonstrated on-farm input costs savings and increased yields through the use of a total-farm variable rate management program in the Mid-South.

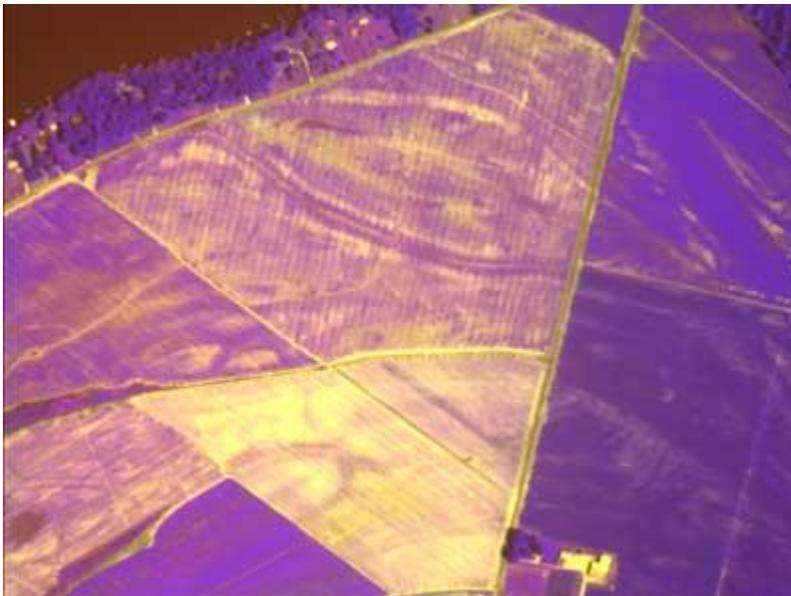
Work will continue on: 1) evaluating the variable-rate application systems in both dryland and irrigated cotton producing systems in western Oklahoma; 2) reducing cotton production cost by greater than 30 percent per acre; 3) introducing producers to the successful usage of multispectral imagery with variable rate crop input applications; 4) developing a broad based system for farm wide variable rate crop input applications in cotton production; and 5) creating one or two new variable-rate "Technology Demonstration Farms" to expand producer exposure and knowledge gained in previous studies.

The 2005 season work at Oklahoma State University under the direction of Tim Sharp will focus on refining the nitrogen, plant growth regulator and crop termination treatments. COTMAN data will be used, and the expectation is to further increase yield, reduce cost and improve harvest efficiency.

Multiple Farm Demonstration of Spatially Variable Pesticide Application Based on Remote Sensing

Spatially variable rate (SPV) technology based on remote sensing was demonstrated on 13 farms in Louisiana. Louisiana State University researchers found that SVP application of plant growth regulators and defoliants resulted in considerable savings from reduced chemical usage.

The researchers want to: 1) demonstrate SVP treatments based on remote sensing to commercial pesticide applicators; 2) introduce spatially variable insecticide treatments based on historical yield; 3) increase industry awareness of the various technologies associated with spatially variable inputs; 4) develop a better understanding of the economics of spatially variable inputs; 5) adapt the current prototype application system and evaluate performance on a commercial aircraft; and 6) validate the use of these technologies on multiple farms using various production strategies.



In Louisiana, multi-spectral images of agricultural fields were used to determine variable rate applications of plant growth regulator and defoliants in 2004 and for pesticide application in 2005.

Precision Farming Technology for Developing Subsoiling Guidelines in Arkansas

Preliminary data analysis shows that both remote sensing and soil electrical conductivity have the potential to indicate soil compaction.

University of Arkansas scientists will continue to evaluate VERIS and remote sensing technology for identifying and mapping soil compaction levels in the field. They also will develop subsoiling guidelines for cotton agriculture in Arkansas based on the VERIS and/or remote sensing data.

Remote Sensing Support of Precision Farming in the Texas High Plains

Researchers at Texas Tech University will continue data collection during the 2005 growing season to help delineate management zones within fields for variable-rate Pix and defoliant application. Yield mapping data will be analyzed for the variable-rate and uniform treatments using GIS software to determine significant differences and to evaluate the potential benefits of variable-rate versus uniform application.

Fiber quality will be mapped for several fields from samples taken during harvest and analyzed by the International Textile Center. Prior to harvest, plant mapping will be performed at the fiber sampling locations and will be used to investigate the relationship between fiber quality and boll maturity. Differences in crop canopy growth will be monitored using remote sensing.

Results of these experiments will be used to formulate a method for site-specific management to manipulate boll maturity and improve fiber quality in parts of fields that are prone to discounts. The study information will be used to evaluate differences in net income between precision agriculture and conventional crop management.

Improving Water Use Efficiencies in Cotton Production with Variable Rate Irrigation Systems Coupled to Remote and Local Sensing Systems

From 2002-2004, University of Georgia researchers collected detailed information on five Variable Rate Irrigation (VRI) pivots located in different areas of Georgia. Along with millions of gallons of water savings, they noted an increase in yield due largely to not over watering the boggy field sections and being able to apply more water to the very sandy spots. In 2004, 20 fields in southwest Georgia were selected to be equipped with the VRI system to evaluate its impact on cotton yield and quality and on water use efficiency.

A key 2005 objective is to develop a second generation VRI system that is capable of using wireless Internet reception and data transmission. The VRI control system will be coupled to sensing systems to enhance field operations. A third objective is to develop a rapid, cost effective system that can give producers a reliable estimate of the impact a VRI system would have on a field.

Report and Evaluation of Advanced Hyperspectral Remote Sensing for Detection of Cotton Water Stress and Irrigation Refinement

This University of California research continues to evaluate the remote detection of crop water stress in California cotton and assess its accuracy for use in irrigation scheduling. They have found, for example, that chlorophyll content and water stress indices were shown to spatially correspond to water content – information that could be integrated into farm management practices (water content maps) if the system becomes operational.

In 2005, project scientists are refining and validating current remotely sensed spectral indices to improve the accuracy in predicting irrigation demand. Included will be measures of the plant water content before and after defoliation.

SPECIAL PROJECTS

Special projects are funded by Foundation members over and above their regular dues. Grant amounts listed for the special projects are per-year amounts. Some projects have been funded for a specific length of time while others are ongoing.

Cotton Leadership Program

DuPont Crop Protection Grant: \$115,000

The Cotton Leadership Program seeks to identify potential industry leaders and provide them with developmental training. A class comprised of four cotton producers and one member from each of the other six industry segments participates in five, week-long sessions. These provide: policy and issue discussions with current and former industry leaders; observation of production and processing and key research across the Cotton Belt; visits with lawmakers and government and regulatory officials in Washington, DC; attendance at the National Cotton Council (NCC) annual and mid-year meetings; and communications training.

Many of the 230 men and women who have participated in the program since its inception in 1983 have provided leadership in state, regional and national interest organizations. Some have served in the top positions of the NCC, Cotton Council International and The Cotton Foundation.

The leadership program's alumni are active and the program maintains a web site at <http://leadership.cotton.org> that provides description, application forms and other useful information.



2004-2005 Cotton Leadership Class participants are front row (l-r): Dale Cougot, Justin Cariker, Robert Oppenheim, Max Denning and Ron Lee, and back row (l-r): James Askew, Carlo Bocardo, Adam Hatley, Craig Moore and Debra Barrett.

Congressional Staff Education/Orientation Program

Monsanto Grant: \$110,000

House, Senate and committee staffers get to see U.S. cotton's production and processing infrastructure by visiting farms, gins and other facilities across the Cotton Belt. The program's overall aim is to raise lawmakers' awareness of an efficient U.S. cotton sector and its contributions to this nation. Another message conveyed during the tours is the U.S. cotton industry's need to compete profitably in the global marketplace.

In 2005, a group of Washington, DC-based Congressional staffers will see cutting edge cotton production and processing operations, tour public and private research facilities, and visit with industry leaders on key issues facing the nation's No. 1 food and fiber crop. The first tour will be in the Lubbock, TX, and Phoenix, AZ, areas, August 22-25 while another group will make stops in Raleigh, NC; Memphis, TN; Greenville, MS; and New Orleans, LA, August 30-September 2.

Cotton Counts

Bayer CropScience Grant: \$50,000

The goals of this NCC educational campaign are increasing consumers' understanding of U.S. cotton and appreciation of the industry's contributions to the nation's economic health and quality of life.

With a particular focus on students, the campaign is targeting the growing number of urban Americans who have lost their familiarity with production agriculture. The grant also helps the NCC provide communications and other training to National Cotton Women's Committee members. The NCWC officers participated in a national Ag in the Classroom Conference and workshops in Indianapolis.

Armed with facts such as U.S. cotton's value-added retail impact of \$120 billion to the U.S. economy, these volunteers are carrying cotton's message from the schoolhouse to the state fair. Updates on NCWC members' activities and other campaign news and information can be found at www.cottoncounts.net.



Pennee Murphree, NCWC Southwest regional director, prepares to staff a Cotton Counts booth at the National Ag in the Classroom Conference in Indianapolis.

Producer Information Exchange (P.I.E.)

Bayer CropScience Grant: \$125,000

Nearly 750 producers from across the Cotton Belt have benefited from this program – one that encourages its participants to maximize production efficiency and speed the adoption of proven technology and farming practices. During four tours, cotton producers travel to one of the four specific Cotton Belt production regions to get face-to-face interaction with their peers and observe production techniques and technology in regions different from their own. Participants also are able to share information with each other on the week-long tours. This enables them to get new ideas and perspectives in such areas as land preparation, variety selection, planting, tillage, fertilization, pest control, irrigation and harvesting.

All P.I.E. alumni are encouraged to attend the annual Beltwide Cotton Conferences as a way to further their knowledge of innovative technology and farming methods.



Mid-South producers toured San Joaquin Valley operations in 2005.

Cotton Council International (CCI) COTTON USA Advantage Program

Monsanto Grant: \$75,000

The COTTON USA Advantage Program supports CCI's overarching effort to increase demand for U.S. cotton fiber and cotton products – a vital endeavor as the U.S. cotton industry's profitability hinges on increased exports.

This program enables CCI to leverage funds from USDA through the Market Access Program and from other global partners to carry out retail promotion, advertising and trade servicing activities under CCI's supply-push/demand-pull strategy. Included is the "Cotton Gold Alliance" program in which CCI is partnering with Cotton Incorporated to stimulate demand for U.S. cotton and cotton products in countries where traditionally healthy manufacturer and consumer cotton consumption has been blunted by man-made fibers.

Uniform Harvest Aid Performance Evaluation

DuPont, FMC, Nichino America, Uniroyal, Valent Grant: \$70,000

Researchers continue to evaluate standard defoliation and desiccation treatments and newer practices and products. The goal is to use findings to develop effective, contemporary harvest aid recommendations that contribute to harvest efficiency.

The scientists' initial findings were included in The Cotton Foundation Cotton Reference Book - *COTTON HARVEST MANAGEMENT: Use and Influence of Harvest Aids*. It and other volumes in that series can be purchased from the Foundation by visiting <http://www.cotton.org/cf/reference-books.cfm>.

Policy Education Program

Syngenta Crop Protection Grant: \$60,000

Nearly 100 NCC producer members have been given the opportunity to learn more about the NCC's policy development and implementation process. As a result, many of those participants are involved in U.S. cotton's central organization today.

Up to four producers from each major Cotton Belt region are chosen to attend the NCC's annual meeting. In July, they visited NCC's Washington, DC, operations and met with key Congressional members.



While in Washington, DC, 2005 Policy Education Program participants attended a pro-CAFTA rally and visited with key lawmakers and Administration officials, including Agriculture Secretary Mike Johanns (front row, third from right).

Cotton Nematode Research and Education Program

Bayer CropScience Grant: \$50,000

Cotton Belt nematologists and plant pathologists meet annually to discuss their research and report on their nematode population surveys. The overall aim is to curb losses to nematodes across the Cotton Belt.

Information on nematodes, their distribution and control methods can be found in the updated booklet, "Cotton Nematodes: Your Hidden Enemies" and at the project's web site, www.cotton.org/tech/pest/nematode. Reports given at the Beltwide Cotton Conferences, such as those presented at the 2005 Cotton Disease Council, also help further the efforts to increase awareness of the nematode threat and the available controls.

Cotton Seedling Disease Research and Education Program

Bayer CropScience Grant: \$50,000

This program helps determine losses to the seedling disease complex. That complex took 4.02 percent of the 2003 crop - a value of \$336.6 million. The conditions in the Mid-South were especially severe in 2003 with Arkansas, Louisiana, Mississippi and Tennessee accounting for more than 50 percent - or \$181.2 million - of the reported Cotton Belt losses. The program also helps identify the basic disease spectrum in each locale and offers fungicide use and application methods in each state. More information is available to producers, consultants and others through the brochure, "Know Your Seedling Diseases," and at that project web site, www.cotton.org/tech/pest/seedling.

Technology Transfer through News Media

Monsanto Grant: \$18,000

Rapid adoption of proven technology and cultural practices is essential for U.S. cotton producers to maintain optimum efficiency and maximize profit potential. This program provides journalists with a well-equipped newsroom to enhance their information gathering and dissemination at the annual NCC-coordinated Beltwide Cotton Conferences. The 60-plus contingent of writers and broadcasters who cover this forum help transfer needed information to industry members ahead of the Conferences' proceedings.



Writers and broadcasters take advantage of the newsroom operation to file stories from the 2005 Beltwide Cotton Conferences in New Orleans.

Beltwide Cotton Conferences Internet Quickstop

Syngenta Crop Protection Grant: \$7,750

Strategically placed kiosks at the conferences contain computers that provide Internet access. This enables Beltwide Cotton Conference attendees to check their email and browse the World Wide Web.

Ongoing Special Project Contributions

Several special projects continue to help strengthen the U.S. cotton industry even though the projects' annual grants have ceased.

Some special projects are still assisting the U.S. cotton industry even though the projects' annual grants have ceased. The Foundation continues to distribute volumes in its Cotton Reference Book Series, which can be [ordered online](#).

A number of other Foundation activities are considered special projects and supported by specific member firms. In the Chemical Evaluation Project, for example, USDA Agricultural Research Service scientists at the Southern Insect Management Lab in Stoneville, MS, are analyzing insecticides and application methods with the goal of helping producers lower their insect control costs.

Some other efforts helpful to cotton's overall research and education effort include: the artificial rearing of southern crop insects and the cotton insect rearing and distribution programs; the ginning lab fiber analysis and the periodic development and distribution of various NCC-produced educational videotapes.

AWARDS AND ENDOWMENTS

Harry S. Baker Distinguished Service Award For Cotton

The award, named for the late California industry leader and NCC President Harry S. Baker, is presented annually to a deserving individual who has provided extraordinary service, leadership and dedication to the U.S. cotton industry. Former Texas Congressman Charlie Stenholm was honored as the 2005 award recipient. First elected to Congress in 1978, he embarked on what was to become a distinguished and highly productive career as the Representative of Texas' 17th Congressional district. Stenholm, a cotton producer, worked tirelessly to build broad coalitions, including production agriculture, nutrition and conservation, including helping to steer the 2002 farm law through Congress. He also was deeply involved in crafting U.S. fiscal and budgetary policy. Prior to his work as a legislator, Stenholm served the industry as: an executive vice president of the Rolling Plains Cotton Growers, a leader in the foundation of the NCC's Producer Steering Committee (now the American Cotton Producers) and a Cotton Incorporated director.



2004 National Cotton Council Chairman Woody Anderson, left, presents loving cup to Harry S. Baker Award recipient Charles Stenholm.

Oscar Johnston Lifetime Achievement Award

The late James E. "Jim" Echols, a long-time Memphis cotton merchant and a former National Cotton Council chairman and industry leader, was the recipient of the 2005 Oscar Johnston Lifetime Achievement Award. This award is presented to an individual, now deceased, who served the industry through the NCC, and who demonstrated character and integrity as well as perseverance and maturation during that service. Echols, whose dedication and commitment to the cotton industry was known across the country, served the industry for 43 years, and was the fourth merchant to hold the NCC's top leadership position. He also served as president and chairman of Cotton Council International and was a past president of the Southern Cotton Association and the American Cotton Shippers Association. He began his career at Hohenberg Brothers in 1960 and retired as their president in 2003, a post he had held since 1990. He also had been the chief executive officer of the Worldwide Cotton Product Line, which included the merchandising firm Ralli Brothers and Coney based in Liverpool, England.

High Cotton Awards

Farm Press Publications Grant: \$15,000

Conservation tillage was the watchword for the recipients of the 2005 High Cotton Awards - the program that for 11 years has honored full-time who produce a profitable, high quality crop while meeting the best standards of environmental stewardship. The winners were: Shep Morris, Shorter, AL; Southeast states; Bruce Bond, Portland, AR, Mid-South states; Mike Tyler, Lamesa, TX, Southwest states; and Mike Cox, Brawley, CA, Far West states.

Robert and Lois Coker Trustees Chair in Molecular Genetics

Endowment: \$1,000,000

The Coker Chair has helped Clemson University obtain general assembly appropriations for biotechnology research. The chair itself attracts not only a top-notch faculty member to fill it but additional exceptional faculty as well. The resulting momentum helps attract state investments in facilities such as the new science and technology center and the state-of-the-art greenhouse complex at Clemson. The Chair currently is vacant and a university search committee is seeking a replacement.

The C. Everette Salyer Fellowship in Cotton Research

Endowment: \$300,000

This fellowship was inaugurated to honor the late California producer-ginner and former Cotton Foundation president, C. Everette Salyer. Doctoral and post-doctoral level students are able to study and conduct research geared to the sciences of producing and marketing cotton. It also provides funding for recipients to attend the annual Beltwide Cotton Conferences, where they are able to share their results with industry leaders. Randy Clouse, a graduate student in Texas A&M University's department of biological and agricultural engineering, was the fellowship recipient until August 2005. He developed and evaluated management strategies for a site-specific irrigation system for cotton crops. His research was aimed at optimizing water application to cotton, based on water availability and the cotton's physiological status.

Cottonseed Oil Clinic

Endowment: \$60,000

Proceeds from a Mississippi Valley Oilseed Processors Association endowment support the Annual Conference of the Oilseed Processing Clinic. The clinic is jointly sponsored with the USDA Agricultural Research Service's Southern Regional Research Center and the National Cottonseed Products Association.

George A. Slater Memorial Scholarship Fund

A scholarship fund at Texas A&M University-Kingsville supports a student in a cotton-focused discipline. The fund was created from memorial scholarship funds commemorating the service of the late Foundation executive director, George Slater.

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