



**SYMPOSIUM PLANS NEAR COMPLETION** We have previously mentioned in *Textile Topics* that we have scheduled a symposium on **Recent Developments in Cotton Fiber Testing and Spinning Technology** in Lubbock on November 17-19, 1987. We are outlining below some of the details of this meeting, although most of the presentations and their titles will be announced later.

There are several aspects of the symposium we would like to call to your attention. After a full morning of technical papers on November 17, participants will travel by bus on a tour of cotton harvesting, module building, ginning, and a visit to USDA's Lubbock classing office. We feel this is important, for we have learned that some textile managers and executives are not completely familiar with the handling of cotton between the field and the mill. The Texas area in particular uses compressed modules for storing cotton in the field prior to ginning. Also, all of the cotton classed in Lamesa and most of the cotton classed in Lubbock is evaluated by high volume instruments. We feel an afternoon spent observing these activities will be of value to those attending the meeting.

The morning of November 18 will be given primarily to the dedication of the new Textile Research Center and a tour of its facilities. After lunch, the symposium will resume and will include presentations on late developments in classing, the development of finer and stronger cotton to meet today's spinning needs, and a comparison of rotor-spinning performance and yarn quality of cottons from four areas of the United States.

## RECENT DEVELOPMENTS IN COTTON FIBER TESTING AND SPINNING TECHNOLOGY

November 17-19, 1987

Lubbock Plaza Hotel

Lubbock, Texas

### November 17:

8:00 a.m. - 12:00 noon

Registration

9:00 a.m. - 12:00 noon

SESSION I

- Call to Order and Welcome
- Keynote Address: Charles G. Scruggs, Editorial Chairman,  
Southern Progress Publications
- Four presentations on cotton and processing

1:30 p.m.

SESSION II

- Symposium participants depart by bus for a tour of cotton harvesting, module building, ginning, and a visit to USDA's Lubbock classing office

6:00 p.m. - 7:30 p.m.

- Hospitality Hour-and-a-half

### November 18:

9:30 a.m.

SESSION III

- Buses depart Lubbock Plaza Hotel for Dedication and Tour of new Textile Research Center

11:45 a.m.

BARBECUE LUNCH AT TRC

November 18 (cont'd):

1:30 p.m. - 5:00 p.m.

SESSION IV

- Symposium resumes at Lubbock Plaza Hotel

6:00 p.m. - 10:00 p.m.

SESSION V

- West Texas Tornado Party:
  - Buffet and Beverages
  - Music by Tiny Lynn Western Band

November 19:

SESSION VI

9:00 a.m.

- Survivors of previous evening's activities are invited to visit the PCCA denim plant at Littlefield, Texas
- Buses depart Lubbock Plaza Hotel for Littlefield (37 miles northwest of Lubbock)

12:00 noon

- Buses return to Lubbock Plaza Hotel
- Symposium Concluded
- (Transportation to Lubbock Airport can be arranged directly from PCCA denim plant or from Lubbock Plaza Hotel)

In Session I of the symposium, *Mr. Robert L. Hale, Vice President and General Manager of the PCCA Textile Division*, will speak on *"Effective Utilization of Technology for the Production of High Quality Denim."* Mr. Hale's presentation will detail the operation of the denim plant at Littlefield and will discuss the cotton selection procedure for making top quality denim. Inasmuch as the plant has purchased cotton on the basis of HVI tests since its beginning in 1976, management has utilized these results most effectively to produce quality rotor-spun yarns and finished denim.

Included in Mr. Hale's report will be a description of PCCA's procedure for bale laydowns based on micronaire and fiber strength. He will discuss O-E rotor speed versus yarn strength, changes in rotor types and spinbox types. Additionally, Mr. Hale will review the effects of various types of combing rolls, including short versus long pins, diamond coated, wire covered, and life expectancy of the combing rolls versus yarn strength.

Another speaker in Session I will be *Mr. H. H. Ramey, Jr., Chief of the Fiber Technology Branch, USDA-AMS Cotton Division*, who will speak on *"Maturity of the Cotton Fiber."* He will point out that the term "maturity" as applied to the cotton fiber does not refer to age or stage of development but to how well the cell wall fills the fiber or how thick the cell wall is. The cotton fiber is an outgrowth of an epidermal cell of the cotton seed. It elongates for about twenty days after the flower blooms and then deposits secondary cell wall for an additional twenty or more days. Environmental conditions during this latter time period affect the amount of secondary wall deposition. Adverse conditions curtail the deposition and cause less mature (or immature) fibers. Mature fibers are produced when conditions are favorable for cell wall deposition.

A definition of fiber maturity that is biologically sound and technologically meaningful is needed for the development of a useful measurement for this property. Wall thickness, relative wall thickness and degree of thickening have been proposed as measures of fiber maturity. The merits of these and other descriptors will be discussed in order to identify the most appropriate one.

Measures of fiber maturity and fineness will also be discussed. The familiar micronaire reading is a combination measure of fineness and maturity. When biological fineness is within a narrow range, the micronaire reading is a reasonable estimate of maturity. With a wider range of biological fineness, the micronaire reading has no simple explanation except that it is an indicator of the surface per volume of the fiber. Other measures of maturity and fineness such as sodium hydroxide swelling, causticaire and linear density will be described.

During the afternoon of November 18, *Mr. Jesse Moore, Director, USDA-AMS Cotton Division*, will speak on *"Cotton Classing in Transition."* Mr. Moore's presentation will give the status of cotton classing in its transition from manual to high volume instruments. A report will be made on the use of a trash meter in the HVI line. Additionally, Mr. Moore will review the progress of an industry-wide advisory committee

which is studying the development of a total instrument classing system without the human factor present with manual classing.

This presentation will also report on a USDA-sponsored program to determine the relationship between the quality of raw cotton and the quality of yarn and fabric made from it. This will include a multi-year study of cotton color and its effects on processing efficiency and end-product quality.

**WOOL SPINNING EQUIPMENT DONATED TO TRC** The Wool Bureau, Inc., the U.S. branch of the International Wool Secretariat, has donated two prototype wrap spinning machines to the Textile Research Center for development studies. One unit is a two-spindle machine for worsted fibers, and the second has eight spindles for short-staple processing.

Additionally, Wool Development International has donated Sirospun conversion parts for the Center's worsted spinning machine and our Platt Saco Lowell Magna Draft frame. The Sirospun System allows the spinning of two-ply type yarns in one spinning operation, greatly reducing the cost of plying the yarns at a later process. There are presently over 100,000 worsted spindles worldwide producing Sirospun yarns. The Siro System has allowed mills to spin weavable wool worsted yarns in fine counts up to 2/100s Nm without the need for slashing.

Although the Siro System has been proven by industry to be an excellent system for producing quality long-staple yarns, very little research has been carried out on short-staple yarns. The Textile Research Center will evaluate the properties of short-staple yarns and explore the possibility of manufacturing cotton yarns with sufficient weaving strength to eliminate slashing. The Wool Bureau, Inc. is cooperating in these evaluations.

**VISITORS** Visitors to the Textile Research Center during June included John E. Eckert, The Wool Bureau, Inc., Woodbury, NY; Cynthia Kradjel, Technicon Instruments Corporation, Tarrytown, NY; Roger Bolick, Allied Plastics & Fibers, Hopewell, VA; Don Brown, Allied Corporation, Petersburg, VA; Jim Yamauchi and Kuzuo Kawasaki, Omi Georgia, Columbus, GA; Dean Pelczar and Ken Cobb, Cotton Incorporated, Raleigh, NC; James E. Reynolds, Basagene Inc., New York, NY; Barnett Greenberg, North Texas State University, Denton, TX; Frank Dobisky, Dobisky Associates, Keene, NH; James W. Boswell, J. G. Boswell Co., Los Angeles, CA; Mary Simone, Rock Springs, TX; Kristie Jones, Business Journal of the Permian Basin, Abilene, TX; Royce Beights, Custom Ag Service, Inc., Loraine, TX; and Al Martinez, Graico International, Dallas, TX.

Also visiting were Mr. & Mrs. Walter Fraser, South African Wool and Textile Research Institute, Port Elizabeth, South Africa; Celso Maeda, Industria e Comercio Maeda S.A., Itumbiara, GO, Brazil; Jorge Maeda, Agro Pecuario Maeda S.A., Ituarava, SP, Brazil; and Derek Shaw and David Farley, Colly Farms Limited, Collymongle Station, Collarenebri, NSW, Australia.