



# TEXTILE TOPICS

INTERNATIONAL CENTER FOR TEXTILE RESEARCH AND DEVELOPMENT

TEXAS TECH UNIVERSITY / LUBBOCK, TEXAS / U. S. A.

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## EFFECTS OF DRAWING AFTER COMBING (Part 3 Conclusion)

In the two preceding issues of Textile Topics, we reported on research conducted at the International Center to evaluate the benefits of drawing after combing. We mentioned that we prepared three lots of cotton from the same source for this program, with all three lots ultimately being spun into an Ne 50 yarn on ring machines. One lot, used as a control, was not combed but was carded and drawn twice prior to roving and spinning. The second lot was combed and drawn only one time, while the remaining lot was combed and given two passes through drawing.

The October 1991 issue of Topics presented graphs comparing the uniformity of the three yarns showing thin places, thick places and neps per 1000 yards. We found it interesting that while the two combed yarns were far superior in uniformity to the carded yarn, there was actually very little difference in the combed yarns that had one and two drawings. Generally, the yarn

drawn twice was slightly superior to that subjected to one drawing, but in a few cases the yarn produced from single drawing was better than that from two drawings.

We are concluding our report in this issue of Topics. By way of review, we are giving a tabulation of the comparative yarn strengths and uniformity measurements. The accompanying table gives the average strengths measured in count-strength products and single yarn tenacity, and the CV% of the uniformity.

As we have indicated previously, both combed yarns had a greater strength than the carded yarn, which is to be expected. There was very little difference in the strength of the two combed yarns, although the average single-strand tenacity of that spun after one drawing was slightly greater. The yarn spun after two drawings had better uniformity, although here again there was not much difference between the two yarns.

YARN TESTING RESULTS (Ne 50)

Yarn	Break Factor CSP	Single Yarn Tenacity G/Tex	Uniformity CV%
Carded - Two Drawings	2783	17.13	23.51
Combed - Single Drawing	3033	18.66	20.20
Combed - Two Drawings	3034	18.59	19.72

It does not seem necessary to give conclusions to this report, for the charts and tabulations presented demonstrate the effects of drawing after combing. However, it might be well to state the following as a review.

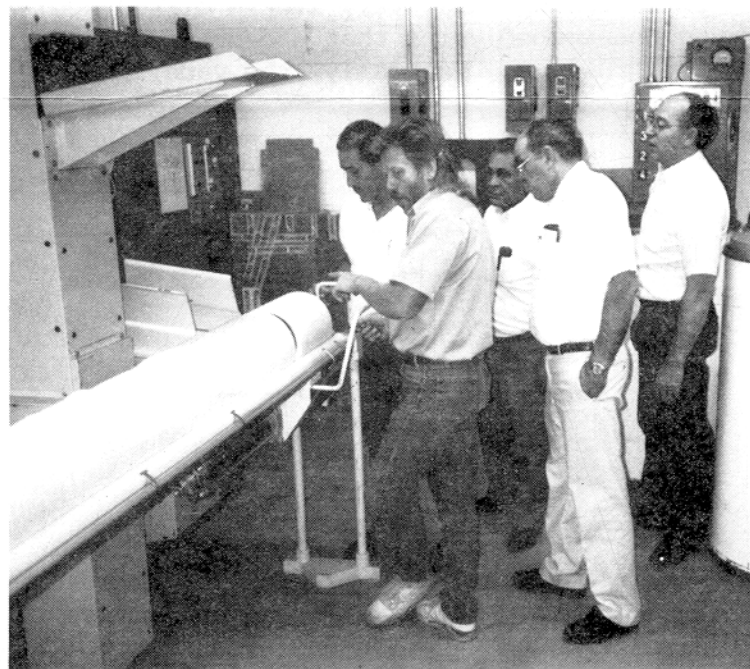
1. The data developed in this study clearly show the superiority of combed yarns over carded yarns.
2. The effect of passing the combed sliver through two drawing processes—as opposed to one—had little influence on the tensile properties of the resulting yarns.
3. The yarn produced from two drawings showed an improvement in evenness due to a reduction of neps and thick places.
4. Based on these results it would seem that combed yarn manufacturers might wish to evaluate their drawing-after-combing procedure to determine whether the cost of a second drawing is justified by improvement in yarn quality.

We hope the information presented in this and previous issues of Topics is of interest to our readers. We realize that every textile company does not have combing, but for those that use this process, perhaps this information will be useful.

This program was sponsored by the Texas Food and Fibers Commission. The research at the International Center was supervised by John B. Price, assistant director, and William D. Cole, head of spinning technologies. They were assisted by Felix Torres, Danny Rodriguez and Ramon Ortiz.

In the September 1991 issue of Textile Topics, we stated that a new Volkmann VTS-05 two-for-one twister had been installed at the International Center. The twister was purchased from Saurer Textile Systems of Charlotte, North Carolina. In this issue, we want to report the latest additions of state-of-the-art equipment. We recently installed three new machines obtained from the Rieter Corporation, Spartanburg, South Carolina. Now in operation are an RSB 851 Drawframe, an E5/3 Unilap Lapper, and an E7/6 Comber. As we have had research on combing for open-end yarns planned for quite some time, we are pleased to have these machines ready for utilization in that program and a number of others.

The following photographs present some of the activity involved in the installation of these machines. The first shows Mr. Rudi Probst (second from left) demonstrating the operation of the lapper to several of our employees. Standing behind Mr. Probst to the left is Joe Louis DeLeon. To the right is Ramon Ortiz, Rainey Speed, and Bill Cole. This training involved the operation of the lapper and demonstrated its automatic features. (The small laps being produced at the time of this photo were the result of processing

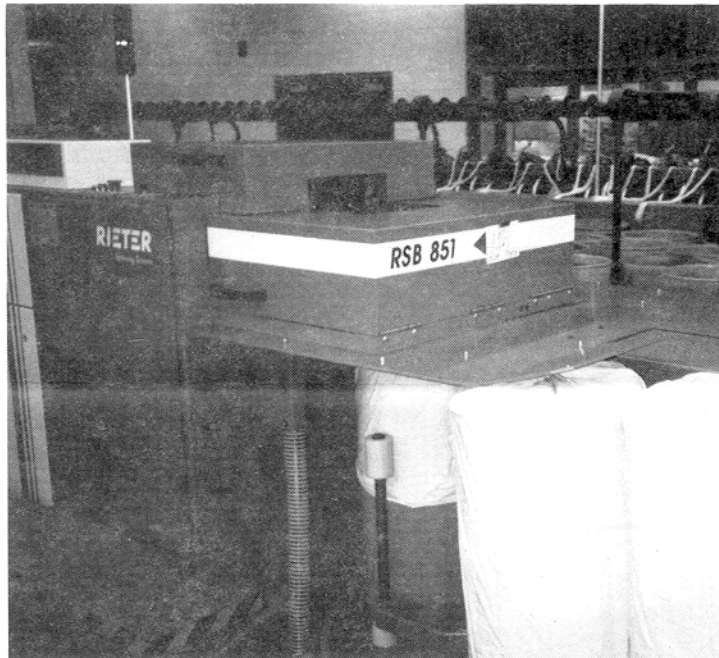




a limited amount of cotton into combed sliver. The fiber received from the research sponsor was restricted to a minimum number of pounds and necessitated the diminutive laps.)

The photograph to the left shows Mr. Probst (leaning to the right) demonstrating the method of feeding laps to the new comber. At his left are Joe Louis DeLeon and Ramon Ortiz. The third photograph (below) shows the RSB 851 drawframe in operation.

The combination of these three machines has already demonstrated the value of utilizing them in the production of combed yarns. We have such a great volume of research just at this time that our program for combing prior to rotor spinning will have to be delayed until the first half of 1992. We will report our findings as soon as we have results of interest to our readers.



## VISITORS

We were pleased to have a number of visitors come to the International Center during November. These included William A. Gibbs, West Point Foundry and Machine Company, West Point, Georgia; Rudolph Probst, Rieter Corporation, Spartanburg, South Carolina; Mohamad Zaki Ab. Rahman, University Pertanian Malaysia, Selangor, Malaysia; Jean-luc Chanselme, International Center for Agronomic Research and Development, N'Djamena, Chad; R. Eric VonWiller, American Truetzschler, Inc., Charlotte, North Carolina; and Oliver Maetschke, Trutzchler GMBH & Co. KG, Aachen, Germany.

Other visitors were members of the Agriculture Committee of the Texas House of Representatives. These were Pete Patterson, Committee Chairman, Paris; Charles Finnell, Vice Chairman from Holliday; Layton Black, Goldthwaite; Renato Cuellar, Chairman of Budget and Oversight, from Weslaco; Jerry Johnson, Nacogdoches; and David Swinford of Dumas. We were very pleased to have these legislators visit with us, and we hope they will come by again whenever there is an opportunity.