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A STUDY OF COTTON AGING - PART III In the past two issues of *Textile Topics* (Vol. XII, Nos. 11 and 12), we presented some of the results of a research project conducted at the Textile Research Center that investigated the effects of cotton aging. We have given fiber testing results and information on spinning and yarn testing, and in this final portion of the report we are presenting graphs to illustrate the influence of age on selected fiber and yarn properties.

The graphs on the following page show the effect of time on cotton fiber strength, the yellowness index, and yarn strength as measured by count-strength-product. It will be seen that as the fiber tenacity decreased with time, the count-strength-product for both the Ne 6 and 22 yarns declined at approximately the same rate, while the yellowness index of the fiber increased significantly. We are not showing yarn tenacity, as the data might be misunderstood unless the complete results are thoroughly examined. As we pointed out in the August issue of *Topics*, the single-yarn tenacity for both the Ne 6 and 22 yarns tested during 1984 showed an increase over the level measured when testing was done through May 1983. We explained that the instrument for the single-yarn test was changed in late 1983, and the new instrument -- a Uster Tensorapid -- was used for the 1984 testing. We feel the increase in yarn tenacity is due to changing instruments rather than to any characteristic of the cotton fiber itself. We believe this is quite apparent, for the fiber tenacity and the count-strength-product of the yarn continued to decline with age, whereas the single-yarn tenacity was the only measurement to show an increase in strength. Therefore, we attribute this one contradiction to an assignable cause -- a change in the testing instrument.

We trust the information given here and that presented in the past two issues of *Topics* will be of interest to cotton textile manufacturers. We believe our results show that while there is a decline in cotton fiber strength with age, which may result in weaker yarns, no drastic loss in yarn strength should be experienced. The results of this study indicate that textile manufacturers really have nothing to fear when using cotton that is as much as three years old.

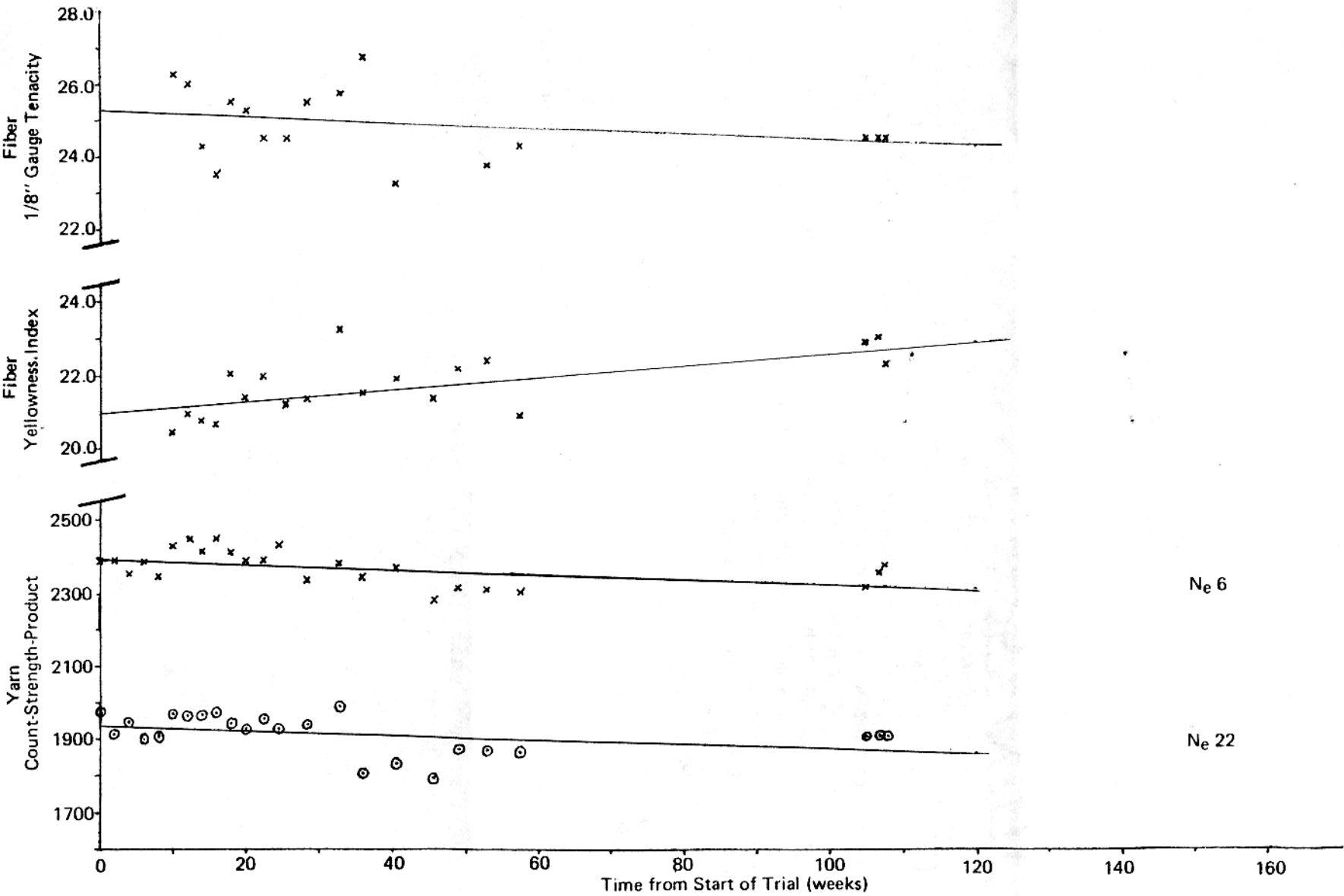
We would like to mention again that this research was sponsored by the Natural Fibers & Food Protein Commission of Texas. We greatly appreciate the support given to our research by that organization.

NEW CLASSIMAT II INSTALLED The Textile Research Center recently installed a new Uster Classimat II Yarn Fault Classifying System. This will be used in conjunction with our other yarn evaluation instruments including the Uster Tensorapid single-yarn strength tester and a Uster Evenness Tester with its control, spectrograph and imperfection indicator. The Yarn Fault Classifying installation is fitted to a new Chavis Model 1206 six-spindle winder.

The Classimat II has a number of features that will give a more thorough analysis of the quality of yarns tested at the Center than we have had previously. It has seven additional classes compared to those available with the Classimat I. One of these measures all the long thick place faults which are larger in size than +100% and longer than 8 cm. In the range of thin place faults, two new length classes are available; one of these measures yarn faults in the length range from 8 to 32 cm, and the other records faults of 32 cm and longer.

We are very pleased to have this new instrument, for the research at TRC involves yarns received from industry and those spun here on conventional ring frames, 8 different types of rotor spinning machines, worsted spinning, and two Repco twist/untwist machines. We feel this addition will be valuable in assisting with our research and continuing our service to the textile manufacturing industry. The Classimat II is installed in the Center's No. 2 physical measurements laboratory and will be used under the direction of Mrs. Reva E. Whitt, head of our materials evaluation section.

INFLUENCE OF TIME ON SELECTED FIBER AND YARN PROPERTIES



RESEARCH REPORT READY FOR DISTRIBUTION In the May 1984 issue of *Textile Topics* (Vol. XII, No. 9), we announced that we were preparing a report on a research program designed to determine the relationships between cotton fiber properties, ring and rotor-spun yarn properties, and yarn dyeability. We stated that the 36 cottons used in the study were tested on high volume instrument systems as well as on individual instruments such as the Pressley, Stelometer and Digital Fibrograph. The research was completed earlier this year and the report is now ready for distribution.

As this research was an in-depth study requiring about 2½ years, the report is quite complete and larger than we first anticipated. It contains more than 650 pages of explanation of the program, tabulations of data, charts and graphs. It has been organized into four basic parts. The first part records the work performed to relate fiber properties to rotor and ring-spun yarn properties. The second gives comparative dyeings of the yarns produced at standard specifications. The third portion records the experiences in rotor spinning at low twist and the relationship between fiber properties and spinning performance. The final part is an exhaustive analysis of the relationships between properties of the cottons studied and color measurements of the fabrics produced from them.

As mentioned in the May announcement, there is a charge for this report. We are requesting \$35.00 per copy. Those wishing to purchase a copy should send their order to The Textile Research Center, P. O. Box 5888, Lubbock, Texas 79417, USA and enclose a check or other form of payment with the order. No attempt is being made to recover the thousands of dollars spent on the research itself and the report preparation, for we are more interested in disseminating the information resulting from this study than we are in recovering our expenses.

This research was sponsored by the Natural Fibers & Food Protein Commission of Texas. Those involved in it at the Center included a number of our department heads and technicians. We would like to give special recognition to John B. Price, head of our open-end spinning research, because of the great amount of time and effort he contributed to the collection and evaluation of data and the preparation of the report.

VISITORS Visitors to the Textile Research Center during September included Luther Bird, Texas A&M University, College Station, TX; M. A. Malik, Bangladesh Agricultural Research Institute, Ohaka, Bangladesh; Lee Ching-cho, Beijing Agricultural University, Beijing, People's Republic of China; Walter Rozelle, Textile World, Atlanta, GA; John A. Maguire, III, Cotton Council International, Washington, DC; Gordon Wilson and Cotton Nelson, National Cotton Council, Memphis, TN; Arlie L. Bowling, The Cotton Board, Memphis, TN; John Kirsh, Union Carbide, Danbury, CT; Debbye Horton, Union Carbide, Triangle Research Park, NC; Barbara Shaeffer, Motion Control Inc., Dallas, TX; Eiji Imai and Saiko Oya, Tsuzuki Spinning Co., Nagoya, Japan; David Hand, New Mexico Cotton Co., Artesia, NM; Alred Klose, J. H. Blachmann (GmbH & Co.), Bremen, Federal Republic of Germany; and M. H. Vndeem, K. Samjalbk, S. M. Shabber Zaidi, Asim Aziz Bajwa, S. A. Aziz, Kausar Jayed, S. A. Zafar, S. A. Hussan Zaidee and S. T. Raza Rizvi, all from Cotton Export Corporation of Pakistan, Karachi, Pakistan.

HOLIDAY CLOSING The Textile Research Center will be closed from December 24, 1984 until January 2, 1985 so that our employees may enjoy Christmas and New Year's Day with their families. We would like to use this opportunity to extend best wishes for the holiday season to our many friends throughout the world.