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# SAWTRI BULLETIN



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SOUTH AFRICAN  
WOOL AND TEXTILE RESEARCH INSTITUTE  
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Vol. 20

JUNE 1986

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SOUTH AFRICAN  
WOOL AND TEXTILE RESEARCH INSTITUTE  
OF THE CSIR

Telex: 24-3203  
Telephone: 532-131



P.O. Box 1124  
Port Elizabeth 6000

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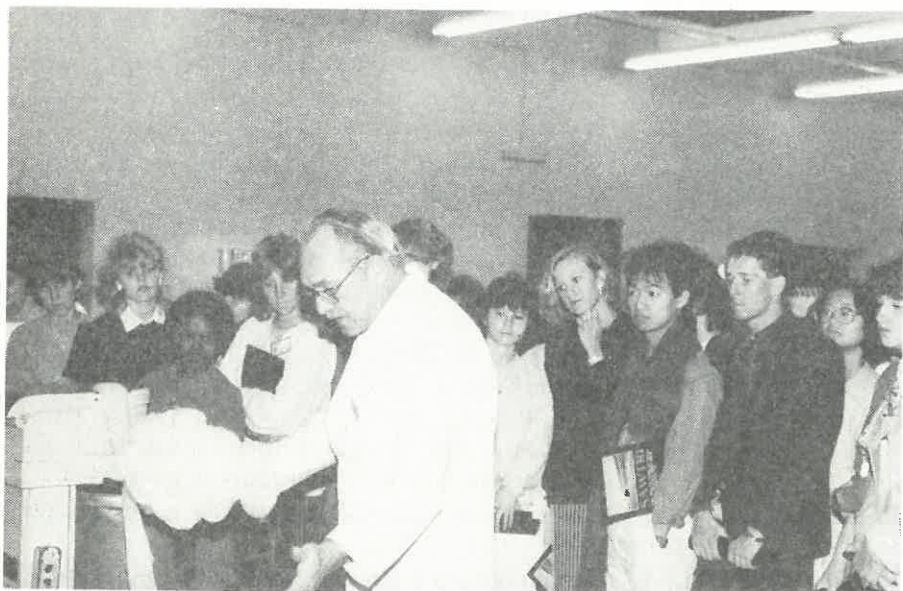


**Captured in jovial mood at the start of their visit to the Institute, is a group of New Zealand mohair producers. Appearing with them is Mr N J Vogt, Group Leader for Publications, Information and Industrial Liaison (second from left) who hosted the visitors.**

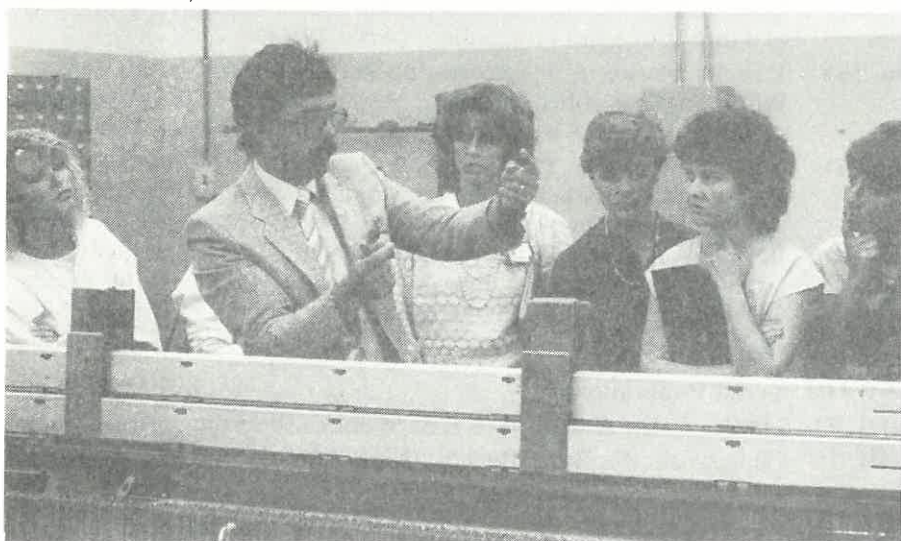
of clothing factories with whom he had very fruitful exchanges of ideas on matters of common interest to these factories and SAWTRI.

### **Visitors to SAWTRI**

Since the previous edition of the Bulletin, the following visitors called at the Institute to discuss matters of mutual interest with some members of staff: Mr R Weatherall, Shirley Developments, U.K.; Mr Y Kimishima, Kanagawa Co. and Mr Y Shimizu, Nagota Co., both from Japan; Mr A Ireland, Australian Wool T.A.; Dr G Valli and Prof M Manfredini, both from Bologne University, Italy, accompanied by Mr J Malan, member of the Wool Board; Mr L E Way of G H Michell & Sons, Australia. Towards the end of May a group of mohair breeders from New Zealand was taken on a conducted tour through the Institute. SAWTRI also received two groups of students from the P.E. Technikon in this period — a group of clothing design students accompanied by their lecturer, Mrs H Visser and a group of textile design students accompanied by lecturers Mrs G Esterhuizen and Miss E Ferreira.



**Mr A H Adriaanzen of the Carding and Combing Department explaining an aspect of carded slivers to a group of students from the P.E. Technikon.**



**Mr P Horn, Head of Publications and Information, in conversation with a group of PE Technikon Clothing and Textile Design students on some aspects of weaving.**

## SAWTRI PUBLICATIONS

Since the previous edition of the Bulletin, the following papers were published by SAWTRI:

### Technical Reports

- No. 575 Bathie, L. A., Rotor-spinning of Cotton Waste Blends. (April 1986).
- No. 576 Sanderson, K. W., The Ginning of South African Cottons. Part II: Processing Performance and Yarn Properties. (May 1986).
- No. 578 Thierron, W., Studies on the Dref III Spinning System. Part V: The Measurement and Effect of Yarn Twist. (April 1986).
- No. 579 Thierron, W., Studies on the Dref III Spinning System. Part VI: Yarns and Fabrics for Tenting. (May 1986).
- No. 580 Garner, E. and Barkhuysen, F. A., Continuous Dyeing Using Radio Frequency Energy. Part V: Laboratory Studies Involving Energy Frequency and Dye Liquor Conductivity. (April 1986).
- No. 581 Galuszynski, S. and Robinson, G. A., Fusing of Polyester/Viscose Fabrics. (May 1986).
- No. 582 Bathie, L. A., The Spinning of Cotton Waste Blends on the Dref II System. (May 1986).
- No. 583 Van der Merwe, J. P., Processing Performance of South African Wools on the Woollen System of Manufacture. Part II: The Effect of Fibre Properties on Carding. (April 1986).
- No. 584 Van der Merwe, J. P., Processing Performance of South African Wools on the Woollen System of Manufacture. Part III: The Effect of Fibre Properties on Hosiery Yarn Properties. (May 1986).
- No. 585 Van der Merwe, J. P., Processing Performance of South African Wools on the Woollen System of Manufacture. Part IV: The Effect of Fibre Properties on Plain Knitted Fabric Properties. (May 1986).
- No. 587 Barkhuysen, F. A. and Van Rensburg, N. J. J., Continuous Dyeing Using Radio Frequency Energy. Part VI: The Effect of Anode Current and Dyeing Auxiliaries on the Dyeing of Wool. (May 1986).

### SAWTRI Special Publications

- WOL 74 Mozes, T. E., A Review of Raw Wool Carbonizing. (April 1986).
- WOL 76 Galuszynski, S., Seam Pucker. (May 1986).

### Papers by SAWTRI Authors Appearing in Other Journals

Manich, A. M., Barella, A., Castro, L. and Hunter, L., Messung der Durchmesserungleichmässigkeit von Garnen, *Melliand Textilber.*, 67, 106 (1986).

Barella, A., Manich, A. M., Castro, L. and Hunter, L., La aplicación del vellosímetro "Digital ITQT" a la medida de la irregularidad de la vellosidad de los hilos. *Invest. e Inform. Textil. y de Tensioact.*, XXVIII, No. 4, 189 (1985).

Weideman, E. and Smuts, S., A Study of Scale Geometry and Friction of Wool and Mohair. Proceedings of the Twenty-fourth Annual Conference of the Electron Microscopy Society of Southern Africa, University of Natal (Pietermaritzburg), 15, 51 (December 1985).

Hunter, L., Braun, A. and Gee, E., The Coefficient of Variation of Fibre Diameter of Commercial Raw and Scoured Mohair and Mohair Tops, *J. Text. Inst.*, 76 (4), 289 (1985).

Barella, A., Manich, A. M., Castro, L. and Hunter, L., A First Approach to the Study of the Spinnability of Ring-spun and Rotor-spun Cotton Yarns, *J. Text. Inst.*, 76 (4), 292 (1985).

# A NOTE ON THE EFFECT OF STORAGE TIME ON ALMETER LENGTH RESULTS FOR MOHAIR

by

H. J. VAN AARDT

## ABSTRACT

*Mohair, of three length classes, was stored over a period of 19 weeks. Each week, samples were drawn and Hauteur measurements done on an Almeter A1-100. A trend of slightly decreasing Hauteur with storage time was noticed.*

## INTRODUCTION

Mohair topmakers would always like to supply tops of the highest quality. The fibre length of a top will have an effect on its quality and therefore price. At times, situations could exist where tops have to be stored for extended periods and the question arises as to whether storage time affects the measured fibre length.

An experiment was carried out to establish what effect storage time has on Almeter length measurements for mohair.

## METHOD

Three tops, representing short, medium and long mohair length classes, which had been in storage for some considerable time, were re-combed on a rectilinear comb at a close gauge to produce a fresh top (see Table 1).

From each freshly processed top, a number of 1 m length samples were taken and stored in a relaxed state (i.e. under no tension). A second set of 1,2 m length samples were taken from each top, twisted in accordance with the specifications for Almeter testing<sup>1</sup> for wool and stored in plastic bags. The

TABLE 1  
FIBRE DATA

LENGTH CLASS	FINENESS ( $\mu\text{m}$ )	LENGTH HAUTEUR (mm)
Short	24,0	67,2
Medium	30,4	97,2
Long	36,5	110,5



remainder of the tops were stored in ball form. All samples were stored under ambient conditions of 65% RH and 21 — 22°C. For a period of 19 weeks, samples were tested weekly for length on an Almeter AL-100 using a Fibroliner Automatic grip. In the case of the tops in ball form, two samples were taken each week. One sample was tested as is, and the other sample was steamed before testing.

## RESULTS AND DISCUSSIONS

From Table 2 it can be seen that, for the untwisted samples, all three length groups decreased in Hauteur with storage time. In the case of the other samples (twisted, ball form and steamed), however, the three length groups did not behave in a consistent manner.

According to Table 3, the change in Hauteur after a total storage period of 19 weeks, was generally small, the average decrease for the three length groups being 3,2 mm in the case of the untwisted samples, 2,1 mm in the case

**TABLE 2**  
**LINEAR REGRESSION CORRELATION COEFFICIENTS FOR**  
**ALMETER LENGTH RESULTS AGAINST STORAGE TIME**

SAMPLE STATE	CORRELATION COEFFICIENT (r)*		
	Short	Medium	Long
Untwisted	-0,47	-0,62	-0,36
Twisted	0,10	-0,53	-0,41
Ball form	-0,45	-0,39	0,09
Steamed	0,06	0,29	-0,40

\*r > 0,44 significant at 90% level of confidence

r > 0,51 significant at 95% level of confidence

**TABLE 3**  
**RATE OF CHANGE OF HAUTEUR**

SAMPLE STATE	CHANGE IN HAUTEUR (mm/week)			
	Short	Medium	Long	Average
Untwisted	-0,11	-0,25	-0,15	-0,17
Twisted	0,02	-0,19	-0,15	-0,11
Ball form	-0,07	-0,12	0,04	-0,05
Steamed	0,01	0,08	-0,1	-0,003

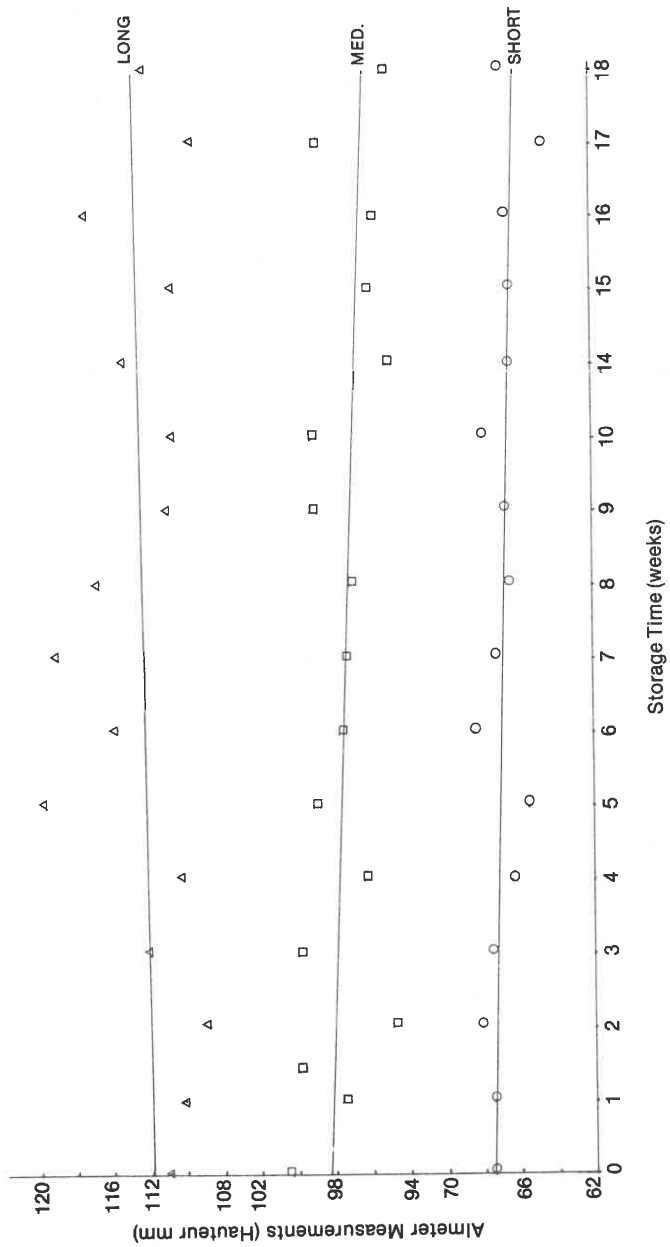


Fig. 1: The Effect of Storage Time on Almeter Results for samples taken from the top.

of the twisted samples and 1 mm in the case of the samples in ball form. Considering the scatter of the results as illustrated by Fig. 1, and the correlation coefficients in Table 2, it can be concluded that the effect of storage on Almeter length results is apparently small, and of little practical consequence when tops are stored in ball form.

Using the 15 measurements of steamed top samples, a coefficient of variance (CV%) (and confidence interval (CI%)) of 2,28% (1,18%), 1,66% (0,86%) and 1,33% (0,69) was calculated for the short, medium and long length classes, respectively. This compares favourably with the values obtained when the Sub-committee for Test Methods and Values of I.W.T.O. performed an experiment to obtain the coefficient of variance of Almeter Hauteur results within one laboratory for wool<sup>2</sup>. They calculated a CV of 1,80% and CI of 1,27% for 8 measurements.

### **ACKNOWLEDGEMENTS**

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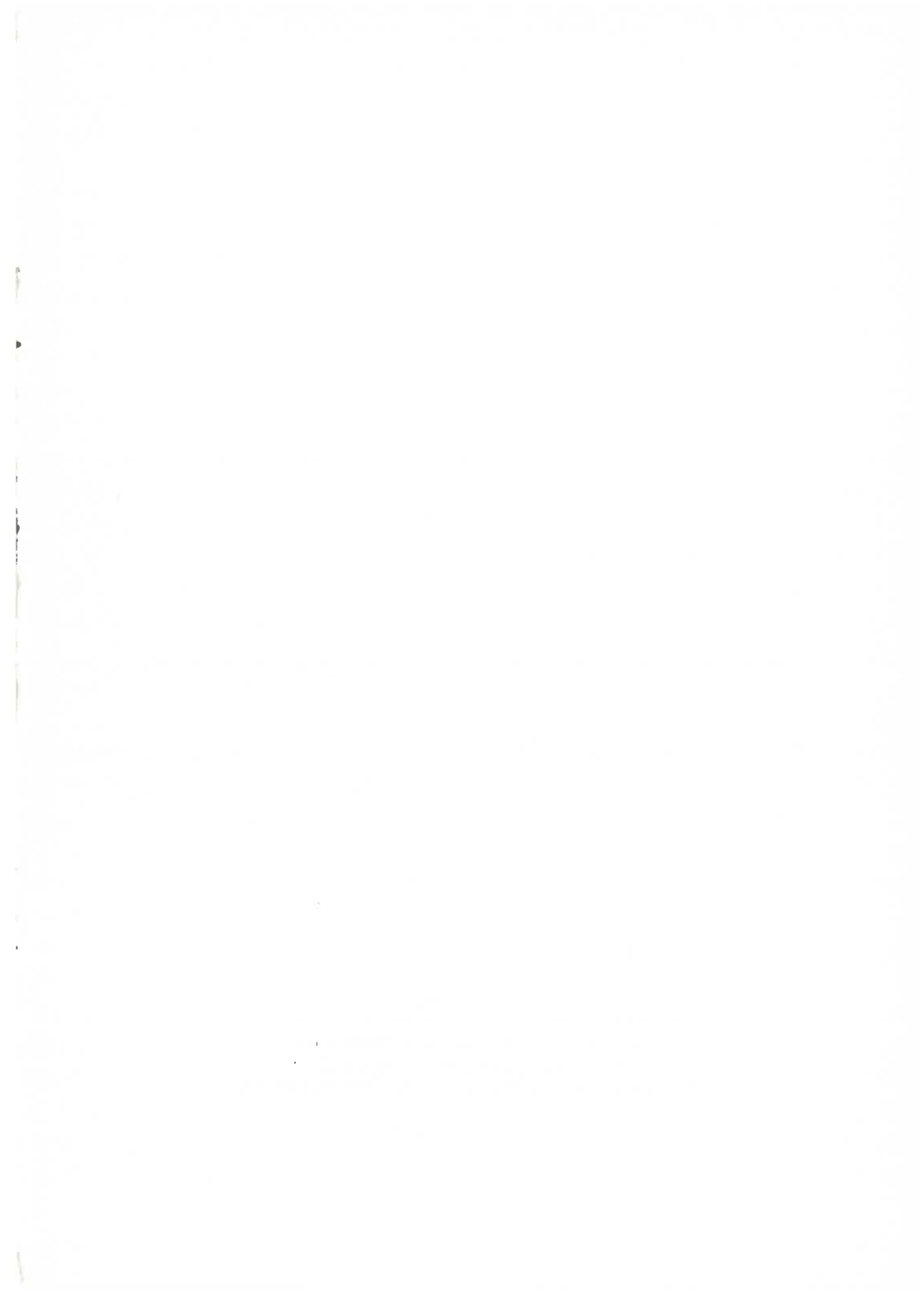
### **USE OF PROPRIETARY NAMES**

The names of proprietary products where they appear in this report are mentioned for information only. This does not imply that SAWTRI recommends them to the exclusion of other similar products.

### **REFERENCE**

1. Sub-Committee for Test Methods and Values, I.W.T.O.-17-85(E), p 3.
2. Sub-Committee for Test Methods and Values, I.W.T.O.-17-85(E), p. 15.





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