Buying Australian Wool

It is vital for companies to buy, process and manufacture Australian wool efficiently to ensure their continued profitability.

It is therefore advantageous for wool textile mills to have control over, and prior knowledge of, the standard of their wool deliveries. Control over what is bought for the money that is spent, is imperative for the continued success of a wool textile company. Often too much emphasis is placed on buying the greasy wool at the lowest price without considering the negative implications that this might have for efficient processing or consistent product quality.

Buying wool at the best price is a commercial decision but a mill must ensure and possess the knowledge that the wool is appropriate for their needs and that the mill is knowingly extracting the maximum from a particular raw wool combing parcel.

Over emphasis on price for Australian greasy wool combined with ambiguous or loose buying specifications can result in unwanted variation of the greasy wool which will affect processing efficiency, product quality, profitability and the image of your company.

If variation of the raw material can be reduced through improved control methods such as buying specifications that truly reflect a company's product requirements, then machinery speeds, loadings and settings can be established with greater accuracy. This will mean a decrease in downtime, an increase in productivity and product quality, which in turn should result in a higher reputation for the company.

To meet these stringent specifications requires a comprehensive understanding of the properties of the greasy wool, how to select, blend, analyse and effectively and efficiently convert to top at a competitive cost.

It is important in this process that the proper wools are selected with the end use in mind. Poor decisions at this stage can have dire consequences in later stages.

To formulate greasy wool buying specifications in order to minimise variation of the raw material we must first have a mechanism by which we can determine, with a fair degree of precision, our greasy wool deliveries. One method is to acquire an understanding of objective measurement and the TEAM formulae. The purchase of raw wool with improved buying specifications based on objective measurement has a number of benefits to wool textile mills, these include:

- Potential for detecting abnormal situations in deliveries and minimising those problems.
- Improve processing predictions and productivity.
- Monitor your capital investment.
- Monitor combing results.

By utilising full objective measurement in your greasy wool buying it is possible to obtain a more precise idea of your future deliveries and to link the purchasing decision with process monitoring and outcomes.

The combing plant needs to fully comprehend the implications of the properties and price of the raw materials purchased and how to set the machinery to obtain the best technical and economical outcome.

To achieve the best results, it is important that the following processes are all properly addressed and action taken by nominated staff where and when necessary:

- Specification of the properties of the greasy wool to meet the requirements of the final top and of the machinery and know-how in the combing plant
- The application of software tools to establish prediction data
- Setting of machinery to gain the most effective and efficient outcomes
- Communicating, and monitoring the processes and gathering the associated data
- Analysing the data, establishing relevant databases and measuring achieved results against worlds best practice as predicted by the mills own suitably modified set of prediction equations

Excellent software packages such as Topmaker and Yarnspec are available to assist in the operations described above and have proved themselves in the industrial environment.

1 TEAM Formulae

The TEAM formulae were derived by scientifically analysing the results of 600 consignments of Australian wool combed at approximately 70 different mills worldwide. Naturally the processing results of the different mills varied from one another for top length, Coefficient of Variation of Hauteur and romaine. Therefore it is important to remember that the TEAM formulae predict an average result by world standards. Some mills will be above average and some mills will be below average.

The three formulae used to predict Hauteur, CVH and Romaine are listed below.

1. Hauteur (mm length in the wool top)

0.52 SL + 0.47 SS + 0.95 D - 0.45 VM - 0.19 M* - 3.5

2.Co-efficient of variation of Hauteur(CVH)%

0.12 x (SL) - 0.41 x (SS) - 0.35 x (D) + 0.20 x 45(M*) + 49.9

3.Romaine(%)

0.11 x (SL) - 0.14 x (SS) - 0.35 x (D) + 0.94 x (VM) + 27.7

where: SL = staple length SS = staple strength
D = diameter VM = vegetable matter
M* = position of mid break

* Note: when M = <45% then M = 45 else M* = M

2 The Specifications

A mill has large financial obligations when they are buying wool, so it is prudent business practice for a mill to have as much control as possible over their greasy wool purchases and knowledge of the machinery performance. Full objective measurement incorporated in greasy wool buying specifications on their Australian merino combing consignments provides such opportunities.

The following pages set out a suggested format for an Australian greasy wool buying specification. Many companies that buy wool from Australia are using buying specifications in a similar format.

EXAMPLE ONLY

CONTRACT REFERENCE: DATE:

MEAN FIBRE DIAMETER:	Micron
Maximum range for any component lot:	+/- Micron
MEAN MILLIMETRE LENGTH (GREASY)	mm
Maximum range for any component lot:	+/- mm
MEAN STRENGTH (NEWTONS/KILOTEX):	N/ktex
Minimum for any component lot:	(Minimum)
MEAN VM BASE:	%
Maximum content in any component lot:	%
VM type exclusion:	

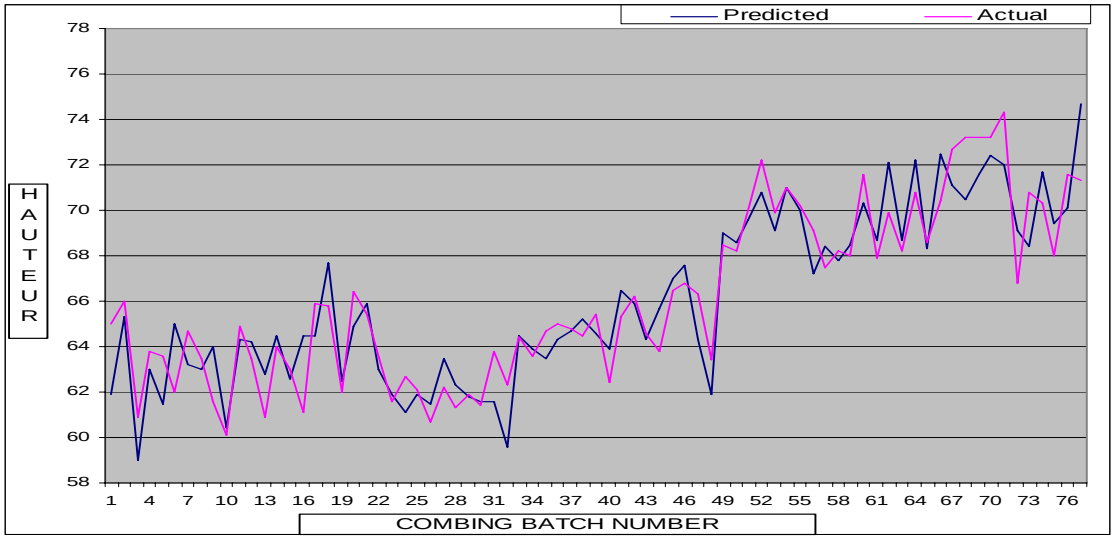
PREDICTED TOP LENGTH AS PER TEAM 2: .....mm HAUTEUR

ALL COMPONENT LOTS TO BE MEASURED FOR LENGTH AND STRENGTH

Once a mill has processed approximately 20 consignments of fully measured wool, it is in a position to begin to assess its processing performance and also link this to their greasy wool purchases.

This is achieved by calculating the predicted results of each consignment using TEAM and plotting them against the actual results for the same consignment.

This is illustrated for Hauteur in the diagram below.



Greasy wool buying specifications are the interface with suppliers and all parties involved should have a clear and concise understanding and open channels of communication of the ongoing implications before embarking on this method of buying wool from Australia.

In addition it is also the skill of the supplier, the working relationship with the supplier, availability of wool types at auction, price relativities between types, auction price movements and finally the negotiated price that have to be considered to ensure the mill's requirements are met.

Australian Wool Innovation Limited, Textile Technology Group based in Geelong, Australia can provide assistance and guidance in facets of buying, processing, monitoring & analysis.

3 Web Sites for more information

www.wool.com.au
www.awta.com.au
www.woolindustries.org