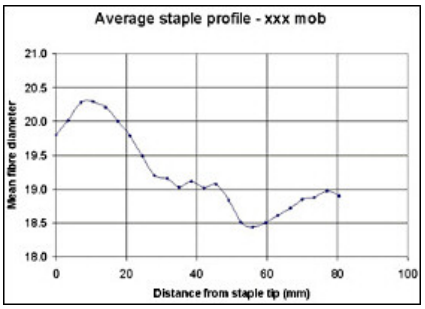
DIAMETER LENGTH PROFILE



The average fibre diameter at increments along the length of wool staples may be important for managing sheep flocks, and in the future may assist in predicting processing performance (see Info-bulletin 1.5) A fact sheet on the prediction of hauteur for farm lots, published by the West Australian Department of Agriculture can be found here.

Essentially as an animal is fed more, it produces more fibre, which may be both longer and of greater fibre diameter.

An animal which is fed in a non-uniform manner, or suffers stress at some stage, is likely to have a Diameter-length profile that shows a significantly-diminished diameter at the part of the staple corresponding to the low-feed or stressed period. This section of the staple is most likely to be where the fibre breaks in processing, and therefore feed management can sometimes be used to control or minimise adverse characteristics (such as staple strength or position of break) that may show up in processing.

Fibre diameter-length profiles are attracting increasing interest now that they can be obtained economically. Three principal uses have been documented - the use of feed management to improve staple strength, the possibility of significantly-improved prediction of processing length, and the selection of wools with enhanced fibre ends characteristics. The last of these applications relies on the observation that enhanced next-to-skin comfort can be achieved using wools with finer than average fibre ends.

These potential advantages provided much of the stimulus for development of the OFDA2000 instrument.

These applications are best served by determining an average diameter-length profile for a management group, or for a representative number of samples or animals from a sale lot or consignment. Whilst there have been some suggestions made for the use of diameter-length profiles for animal selection, on the basis that some animals demonstrate greater tolerance to environmental stress than others, the economic benefits for such practices have not yet been clearly demonstrated. In contrast, however, there has been some interest in building lots with enhanced fibre ends characteristics for next-to-skin applications (see Info-bulletin 3.11). For this application, there may be some benefit in selecting wool from individual animals.

SGS Wool Testing Services can determine diameter-length profiles for individual animals or the average for a group of animals run as a single mob, using either traditional snippet sectioning or more economically using the OFDA2000.

FOR ENQUIRIES

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