OFDA2000

INTRODUCTION

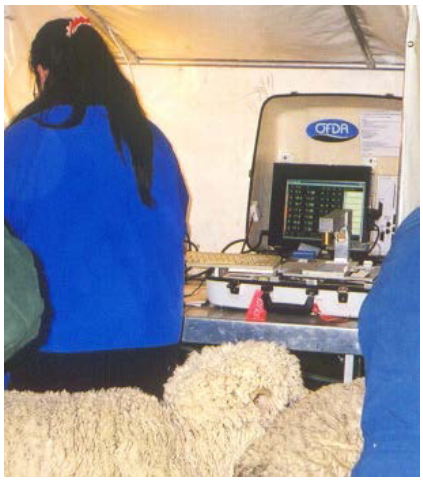
The OFDA2000 instrument was purpose-designed for the measurement of greasy fleece samples on farm. A trained operator using the instrument is capable of 100 tests per hour or more, each delivering measurements of mean fibre diameter, diameter variability, fibre curvature, staple During the 2000 fleece testing season SGS Wool Testing Services carried out extensive laboratory and on-farm investigations of the performance of the OFDA2000 system. As a result, improvements were made to the instrument software late in 2000. Further work confirmed that for all parameters excellent correlation is now obtained between greasy measurements and the equivalent measurements on cleaned staples.

INSTRUMENT OPERATION

In use, a staple or group of staples is selected from a consistent location on each fleece or animal, and the specimen is prepared by gently teasing out micro-staples and laying these, with tips aligned, on the slide, placed over the fan assembly. The slide is then transferred to the instrument, the space bar pressed on the keyboard, and the instrument commences measurement. Identification information required can be entered whilst the measurement is being undertaken.

The diameter measurement algorithms used by the instrument are identical to those used in the OFDA100 (see Info-bulletin 3.2). An optional accessory converts the stage to carry standard glass slides and allows the instrument to operate as an OFDA 100. The OFDA2000 differs principally in the way the sample is presented to the instrument, and the manner in which the sample is scanned. The instrument measures at intervals of 5 mm along the staple length.

The greasy wool measurements provided in real time by the OFDA2000 include:



Selecting sheep in a race using OFDA2000

- Mean fibre diameter (including a distribution histogram).
- Co-efficient of variation of diameter.
- Percentage of fibres less than 30 micron (comfort factor).
- Curvature and standard deviation of Curvature.
- Staple length- diameter profile.
- Staple length.
- Position of finest and broadest sections along the staple.
- Average diameter of fibre ends
- Estimated Hauteur
- In NZ, estimated bulk

APPLICATIONS

On-farm applications include:

Objective classing of fleeces after skirting

- Culling for broad micron, coarse fibres and other wool characteristics.
- Ranking and genetic selection.
- Preparation of wool for sale.
- Setting up sheep sale lines.
- Nutritional management practises (utilising along-staple diameter profile data), for optimising mean fibre diameter and staple strength.

The OFDA2000 was approved for use in certifying wool in the laboratory using the snippet mode, and its use is now included on IWTO-47.

Users have demonstrated that using the technology close to shearing, primarily as a tool to assist with genetic selection, gives the added advantage that data has then been gathered which allows growers to split lines of wool, based on objectively-measured mean fibre diameter as well as style grades. Selection can be done in the race in the yards a few hours or days before shearing. By doing the selection just prior to shearing a muster can be saved when compared to the traditional mid-side sampling system. A side benefit to this system is that the sheep can be shorn in micron groups, thereby relieving the pressure on the wool room.

PERFORMANCE

Extensive trials have shown that using the recommended procedures, trained operators can achieve the same or better precision for micron with this instrument than is normally obtained by a typical fleece testing laboratory.

There are a number of factors that affect the overall accuracy when used for preparing wool for sale. Whilst it cannot be guaranteed in all cases, evidence has shown that under the right conditions, sale lots may give certified results within ± 0.3 µm of a correctly-calculated estimate based on the results of on-farm fleece testing using this instrument.

FOR ENQUIRIES

Email us at NZ.wool@sgs.com
Or contact us at:
48 Kemp Street, Kilbirnie
PO Box 15062
Wellington, New Zealand
Tel: + 64 4 387 8565
Fax: + 64 4 387 8651
www.sgs.com/agriculture