

SGS Wool Testing Services

Info-bulletin

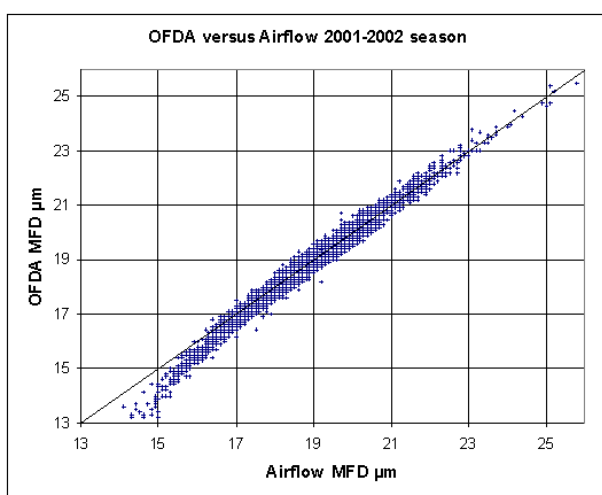
OFDA, Airflow & Laserscan on raw wool - the NZ 2001/02 season

Introduction

Info-bulletins 3.3 and 3.5 discussed the relationships between airflow, OFDA and Laserscan diameter measurement results in 1995 and 2001 respectively. Since the beginning of 2001, the two new instruments have used a consistent calibration environment, in which the calibration samples are treated in the same manner as the samples to be measured. (The airflow method still employs the same calibration preparation for measurements on both sliver and raw wool.)

During the 2001/02 wool season, most NZ merino wools sent for auction were been tested for all three diameter measurements, although the Laserscan result was the default.

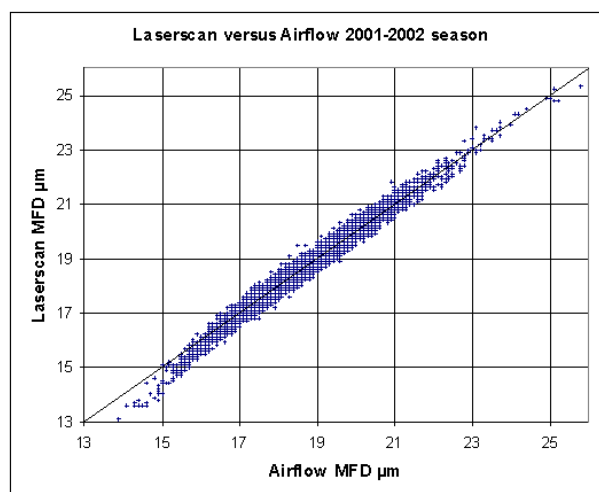
This bulletin summarises results obtained in the SGS laboratory over the majority of this season (Jul 2001 to Feb 2002 inclusive), and covers some 6300 samples in total.



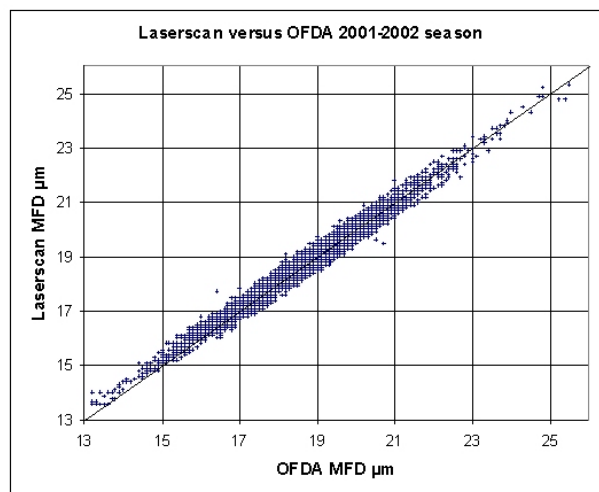
Results

In these plots, the diagonal line represents a 1:1 relationship. As we have learnt to expect, the OFDA gives somewhat finer diameter measurements below approximately 17 μm , but above this level, there was good agreement with airflow on average. Over the total number of comparisons shown here, the average difference between airflow and OFDA was 0.10 (sd 0.26) μm , this difference mainly being due to the trend below 17 μm .

A similar picture was evident with Laserscan and airflow. The overall average difference between the Laserscan and airflow results was 0.03 (sd 0.26) μm .



Comparing the OFDA and Laserscan diameter results shows, as expected, a more satisfactory picture. Despite calibration changes, this still indicates a tendency for the Laserscan to be slightly coarser than the OFDA on ultrafine wools, although to a lesser extent than previously.



The average difference between these two sets of diameter measurements was 0.07 (sd 0.26) μm over this data set.

Agreement on coefficient of variation of diameter was excellent, with the average difference being only 0.11 (sd 0.98) % (OFDA lower). On comfort factor, the OFDA gave on average a slightly higher value, by 0.36 (sd 0.41) %.

Conclusion

For the majority of NZ's merino clip, there was very little or no systematic difference overall between the 3 diameter measuring systems, although there was some divergence on ultrafine wools.