BUILDING LINES OF WOOL BASED ON OFDA2000 FIBRE DIAMETER RESULTS

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On-farm wool testing devices such as the OFDA2000 allow wool producers to objectively class their clip, minimising the errors associated with subjective classing (Brims et al. 1999). This study investigated the capability and economic viability of using the OFDA2000 in building lines of wool. A single staple was taken from the midside of 3290 merino sheep, managed as four flocks, prior to shearing between October and December 2000. The samples were tested for mean fibre diameter (MFD) on the OFDA2000 using the factory preset calibration and grease correction factor. The average MFD of the flocks and other details were entered into a software package “Virtual Woolclasser ©” (Semple and Atkins 2000) to establish optimum fibre diameter cut-off points. Fleeces were weighed at shearing and allocated to the predetermined lines. Fleeces with faults were removed from all lines. The compiled lines were submitted for testing and sold between December 2000 and January 2001. A weighted average fibre diameter was calculated for each line and these were compared to the pre-sale core test result. Prices for theoretical lines of wool (if lines from each flock had been bulked) were obtained from the Australian Wool Exchange, based on premiums and discounts that applied on the day of sale. Profit was calculated by subtracting $2.10/head (covering OFDA2000 testing, labour and extra line testing costs) from the gross increase in wool value.

The results revealed a close correlation (P<0.001) between the weighted average fibre diameter from the OFDA2000 and the core test for each line (Figure 1). The deviation of OFDA2000 MFD from the core test MFD ranged from –0.4µm to +0.5µm and averaged –0.1µm. Table 1 demonstrates that the economic outcome is variable. In this study, profitability was influenced by a tendency for the finer lines to have a lower staple strength, thus reducing their value, and reduced wool volume due to the loss of fleeces with faults into cast lines. Increased profit in subsequent years and long term genetic gain would be possible if the measurements were also used to cull broader, less productive animals.

The OFDA2000 MFD results are well correlated to certified core tests and building lines of wool utilising the OFDA2000 is feasible and can be profitable. Growers need to identify the correct market conditions to ensure the profitability of objective wool classing.


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