HAVE NSW WOOL PRODUCERS TAKEN HEED OF MARKET SIGNALS AND REDUCED THE AVERAGE FIBRE DIAMETER OF THEIR WOOL CLIPS?

S. HATCHER, K.D. ATKINS and K.J. THORNBERRY

NSW Agriculture, Orange Agricultural Institute, Forest Rd, Orange, NSW 2800

Since the removal of the reserve price scheme for wool in July 1991, the demand for finer wool by both consumers and the wool processing industry has manifested itself through clear-cut micron premiums for fine wool compared with broader types. However, many NSW woolgrowers outside of 'traditional' fine wool environments remain reluctant to adopt processes that will allow them to reduce the fibre diameter of their wool. Objectively characterising the fibre diameter profile of the NSW wool clip will enable a determination of both the production and processing consequences of the anticipated move to finer Merino genotypes that comprise the genetic basis of the NSW wool clip and the increasing use of proactive grazing strategies to manage wool quality. It will also allow the impact of research and development strategies in the NSW wool industry to be monitored and provide a mechanism to better target technology transfer initiatives.

A database of all wool of NSW origin sold at auction between the 1989/90 and 2001/02 wool selling seasons, regardless of selling centre was used in this analysis. Only additionally measured Merino fleece wool was included. A weighted average fibre diameter for each Wool Statistical Area (WSA) was calculated and the data then collated into micron groups: Superfine (≤ 18.5 μm), Fine (18.6 – 20.5 μm), Medium (20.6 – 22.5 μm), Broad (22.6 – 24.5 μm) and Coarse (≥ 24.6 μm). The proportion of wool in each micron group was calculated using the greasy weight of each divided by the total greasy weight produced in each WSA. The data were analysed by regression (Gilmour 1993), with models including the main effects of season and WSA for the NSW analysis and the regression of season (SEAREG), WSA and the SEAREG x WSA interaction for quantifying the variation between individual WSAs.

Over the past 13 wool selling seasons, wool producers in NSW have clearly responded to market signals and reduced the average fibre diameter of their wool clip from 22.7 μm in 1989/90 to 20.6 μm in 2001/02, an annual change of -0.11 μm (r^2 = 0.71). However, the extent of the change varied considerably throughout NSW, since the SEAREG x WSA interaction was significant (P<0.005). The annual change in average fibre diameter varied between -0.06 μm in the central and south west of NSW to -0.20 μm in the northern tablelands. This indicates that those areas producing the finest wool in NSW are getting finer at a faster rate than the rest of the state. Furthermore, trends in the fibre diameter profile of the NSW wool clip provide evidence that major diameter changes are being made by wool producers. The proportions of both superfine and fine wool have significantly increased over the past 13 years at the expense of both broad and coarse wool (Table 1). There were significant differences between WSAs in the rate of change in the proportion of wool in each micron group (P<0.001), particularly in the superfine, medium and coarse wool classes.

Table 1. The changing diameter profile of the NSW wool clip.

	Superfine	Fine	Medium	Broad	Coarse
1989/90	0.3	7.0	36.8	43.3	12.5
2001/02	11.9	34.2	40.6	12.1	1.2
Annual change	0.8	1.6	-0.3	-1.5	-0.5

The next stage of this analysis is to quantify the correlated changes occurring in other raw wool traits, as well as the predicted processing performance using the TEAM formulae, and establish whether differences occur between regions of NSW. This will allow us to determine whether the traditional types of wools (ie stylish fine wools with relatively short staple lengths) are continuing to be produced or whether novel combinations of traits are beginning to appear (ie lower style, longer fine wools) and relate these changes to the requirements of the worsted processing sector of the industry.

GILMOUR, A.R. (1993). 'REG – A Generalized Linear Models Program.' (NSW Agriculture: Orange, NSW)

Email: sue.hatcher@agric.nsw.gov.au