Sheep management practice change in Western Australia 2011-2018

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Longitudinal research was conducted of WA sheep producers on flock characteristics, breeding and management; enterprise characteristics; use of Australian Sheep Breeding Values; participation in training; mulesing practices; and use of management resources and labour-saving technologies. While the full report summarises survey results and comparisons over time (Curnow and Conte 2019), this paper focuses on changes in livestock and pasture management and marking rates.

A selection of Western Australian Medium Rainfall Zone and Cereal Sheep Zone producers with more than 500 sheep were surveyed by telephone over seven years with many questions based on the previous year's season. Sample sizes for the 2011, 2014 and 2018 surveys were 369, 368 and 389 respectively with 2018 survey respondents running a total of 1,637,626 sheep and an average flock size of 4210. More respondents were male (89%) and the majority identified as wool and prime lamb producers (63%), compared to 27% wool producers and 10% prime lamb producers. The data was analysed using Microsoft Excel. The research built on *Lifetime Wool* research on attitudes and practice adoption that developed four levels of livestock and pasture management skills ranging from 'opportunistic visual assessments in the paddock' to 'formal condition scoring, weighing of ewes and feed management in accordance with targets for joining, lambing and weaning' (Rose *et al.* 2005). The nationally-accredited Lifetime Ewe Management (LTEM) training was developed under *Lifetime Wool*. LTEM has been shown to increase participants' whole-farm stocking rates by 14%, increase lamb marking percentages by 11-13% and decrease ewe mortality rates by 43% (Trompf *et al.* 2011).

A number of significant differences in management practices were found over the timespan of the three surveys. Scanning for litter size significantly increased over the seven years from 9% to 17% (P<0.05) with the top 25% of producers, by flock size, more likely to scan for litter size that the smallest 25% of producers (P<0.05). However 50% still chose not to scan for pregnancy status or litter size. Sheep pregnancy scanning for litter size is promoted as best practice because it provides information on potential lambing allowing producers to adjust feed accordingly for pregnant ewes. The percentage of producers visually and condition scoring ewes also significantly increased over the same timespan, from 24% to 40% (P<0.05). Monitoring ewe condition is promoted as best practice in accurate feed budgeting and improving reproduction. While level 4 'formal condition scoring' is considered best practice, the increase in level 2 'visually and condition scoring ewes' shows a significant shift over time in the broader population of producers. As a result of these increases in pregnancy scanning and monitoring ewe condition, marking rates significantly increased from 84% in the 2010 season to 92% in the 2017 season in Merinos and from 92% to 97% in meat lambs (P<0.05). The 2018 survey results showed that higher marking rates were achieved by those that scanned for either pregnancy status or multiples and changed their management accordingly (P<0.05).

LTEM had a higher level of resultant practice chance (81%) compared to RamSelect (70%), Bred Well Fed Well (78%) and the Lamb Survival Initiative (61%), reflecting a national LTEM evaluation in which 90% reported making significant changes as a result of their participation (Jones *et al.* 2011). Significantly more producers in the largest flock quartile attended LTEM than the smallest producers (33% compared to 7.5%, P<0.05). In addition, a higher percentage of the largest flock quartile of producers had undertaken specific steps to improve their lambing percentages than the smallest quartile (78% and 59% respectively, P<0.05).

The longitudinal data on WA sheep livestock and pasture management confirms earlier research on the impact of LTEM on adoption of best practice and that changes in management practices such as pregnancy scanning, condition scoring and subsequent feed management have a significant impact on marking rates.

References
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