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Animal Production Science

Supplementary Material

Using alpacas as guardian animals in Australia: a survey of sheep producers

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Survey referred to in journal article including the questions asked and response options. Responses were either multiple choice or open ended.

Question	Response options
Which state/territory are you from?	New South Wales Queensland South Australia Victoria Northern Territory Western Australia Australian Capital Territory Tasmania
Would you describe your property as...	Pastoral Zone (150-400mm rainfall) Wheat-sheep zone (400-700mm rainfall) High-rainfall zone (500-1000mm rainfall)
Which of the following best describes your production enterprise?	Wool Meat Dual purpose/mixed Hobby Exotic breed Other (please specify)
What is the size of your property (hectares)?	Open ended question
What is the landscape of your paddocks (from flat to hilly)?	0-10
What is the percentage of vegetation cover (trees, shrubs, etc.) of your paddocks (0%= no vegetation cover)	0-100
On a scale of 0-10 how problematic are the following pests to you (10 being the most problematic)? Foxes, wild dogs, birds of prey, wild pigs, other (please specify)	0-10 for each species
What pest control measures do you employ? You may choose more than one answer	1080 baiting Trapping Shooting Fencing Other (please specify)
What is the percentage of vegetation cover (trees, shrubs, etc.) of your lambing paddocks (0%= no vegetation cover)	0-100 rating
Do you run alpacas with every mob of ewes at lambing?	Yes no
What is your ratio of alpacas to sheep at lambing? For example: 1:50 (1 alpaca to 50 sheep)	Open ended
Do you run alpacas with the sheep outside of lambing periods?	Yes no
If you run your alpacas with sheep outside of lambing what is your ratio of alpacas to sheep during this time? For example, 1:50 (1 alpaca to 50 sheep)	Open ended

Why did you choose to use alpacas? You may choose more than one answer	Negative experiences with other pest control measures. Other producers advised you to use alpacas Have heard that they work well with sheep as pest control from the media/internet. Have used other guardian animals and they were effective. Have used other guardian animals but they weren't effective and wanted to try a different guardian species. Other (please specify)
Have you encountered any of the following management issues with alpacas? You may choose more than one answer.	Mustering the sheep/lambs and alpacas to different paddocks Using working dogs around the alpacas Shearing the alpacas Specific health needs relating to alpacas (e.g. disease) No issues Other (please specify)
What type of alpacas do you use?	Huacaya (short, dense, sheep like fiber) Suri (silky, dreadlock like fiber)
How many alpacas do you use as guardian animals?	Open ended
Please provide information on the alpacas you own including their gender and age. You can choose multiple answers (e.g. if you own both males and females)	Female (choice of <2 years, 2-5 years or 5+years) Castrated male (choice of <2 years, 2-5 years or 5+years) Entire male (choice of <2 years, 2-5 years or 5+years)
Where did you purchase your alpacas from?	Alpaca Breeder Sheep producer Other (please specify)
How did you introduce the alpaca/s to your sheep?	Place them in an adjoining paddock before putting them in a mob Placed the alpacas in the mob of sheep straight away Other (please specify)
When did you introduce your alpacas to your sheep?	Before lambing At lambing After lambing
If you introduced your alpacas before lambing, how long before lambing did you introduce them?	1-4 weeks 5-10 weeks More than 10 weeks
Approximately how long did it take for the alpacas to bond with the sheep (i.e. interact with the sheep and appear to be part of the mob)?	Straight away 1-4 weeks 5-10 weeks More than 10 weeks Not sure
Which of the following behaviours have you witnessed the alpacas displaying to a predatory threat? You may choose more than one answer.	Spitting Chasing Stomping Killing threats Staying close to lambs Vocalisations

	Other (please specify)
Since introducing guardian alpacas to your flock/s has your lamb survival...	Increased Decreased Stayed the same Unsure
Have you witnessed fewer predators and/or instances of predation in the vicinity of your property since introducing alpacas with your mobs?	Yes No
On a scale of 0-10, how would you rate alpacas as effective guardian animals (10 being most effective)?	0-10
Would you recommend alpacas as guardian animals to other producers?	Yes No Undecided
On a scale of 0-10 how cost effective is owning alpacas as guardian animals compared to other control measures (10 being the highest rating for cost effectiveness)?	0-10
Respondents gender	Male Female Other
Respondents age	Less than 30 31-60 61+
Respondents level of education	Secondary School Vocational education and training (VET) Tertiary
How long have you been involved in the agricultural industry?	Less than 5 years 5-20 years More than 20 years
Is there anything else you would like to add?	Open ended

Summary text for the Table of Contents

The use of guardian animals to protect livestock is becoming an increasingly popular form of predator deterrent. The results from this survey, examining how Australian sheep producers use guardian alpacas, consistently showed the producers believed alpacas were an effective form of predator deterrent, noting their worth as guardian animals by increasing lamb survival. In addition to highlighting alpacas' possible worth as guardian animals, these findings also provide knowledge, such as how these animals are being managed with sheep and information for producers looking to invest in guardian alpacas.