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A brief study on the treatment and attitudes to rams on commercial NZ farms

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Abstract

A study was undertaken to better understand the care and attitudes towards rams on NZ commercial farms. Farms (n=22) were surveyed in Otago and South Canterbury giving indicative data on the treatment and attitudes that commercial farmers have towards rams. On average (SD; Range) the number of ewes put to each ram was, for maternal and terminal sires respectively, 92 (21; 56-143) and 84 (20; 50-100). The reported difference between when rams were put to ewes and when lambs were weaned was 319 days (51; 199-359). Rams were typically put to ewes in April and early May, and weaned as early as November. Visual assessment was most commonly used to assess rams for purchase, with most farmers considering visual attributes and then figures, such as breeding values, to choose rams. The average mortality of rams was reported as 5% (7%; 0-28%). The average culling of maternal and terminal sires over the year was respectively 26 and 29%. Annual health checks by a vet were reported for 45% of the farms. A most common reason for checking was for *Brucella ovis* testing. This research will provide information to guide further studies on commercial sheep farms.

Keywords: Rams; wastage; survival; sheep

Introduction

There is a wide range of views and practices with regards to the husbandry of service rams in the New Zealand sheep industry. Some rams are believed to be run in marginal condition, with heavy culling for ill thrift and feet problems and with high death rates, whereas, others are believed to be treated well. However, there appears to be little research and/or concrete information reported on the husbandry practices of service rams, their longevity and on the main reasons for wastage, whereas ewes have been more widely studied and also from a genetic perspective (e.g. see Byun et al., 2012, Lee et al., 2015 or Mekki et al., 2009). In general, rams are considered to be probably overlooked from a care and management perspective and neglected after mating.

The ram population determines the genetic merit of our national flock, where rams may provide more than 80% of the genetic gain in a flock (<http://www.beeflambnz.com/Documents/Farm/Ram-buying-decisions.pdf>). Therefore, it is important to understand the practices that govern the use of rams. For example, if a farmer invests heavily in the purchase of rams of high genetic merit it will be useful to know what is optimal for those rams with respect to their longevity in a flock and with respect to their treatment and care. A study that examines the common causes of wastage and the management practices associated may also contribute to increasing the welfare of rams and help to avoid wastage. This important information should be of interest and help to ram breeders and the wider industry. The goal of this study was to gain indicative measures on the treatment and attitudes to rams on commercial NZ farms and to provide information about the feasibility of collecting data from individual animals on sheep farmed extensively in NZ. In the longer term, guidelines on the care of rams may also be useful.

Materials and methods

Commercial sheep farmers in the Otago and South Canterbury region were invited to participate in a survey on rams. The survey was done by on-farm visits and interview. The questions asked related to farming practice with regards to ram purchase, culling decisions, deaths animal health and general husbandry, which were defined prior to the survey in late 2015. Two Vets interviewed participants with a prescribed questionnaire and recorded their responses. A total of 22 farms were surveyed in Otago and South Canterbury, with the majority in North Otago (n=20). Most of the farms also farmed cattle and included farms that bred Merino or Merino-cross sheep. The average size of the farms surveyed was 2,738 hectares with a range of 200-12,000 hectares. Ten of the farms had some irrigation. The average number of ewes carried was 5,200 with a range of 650-15,000.

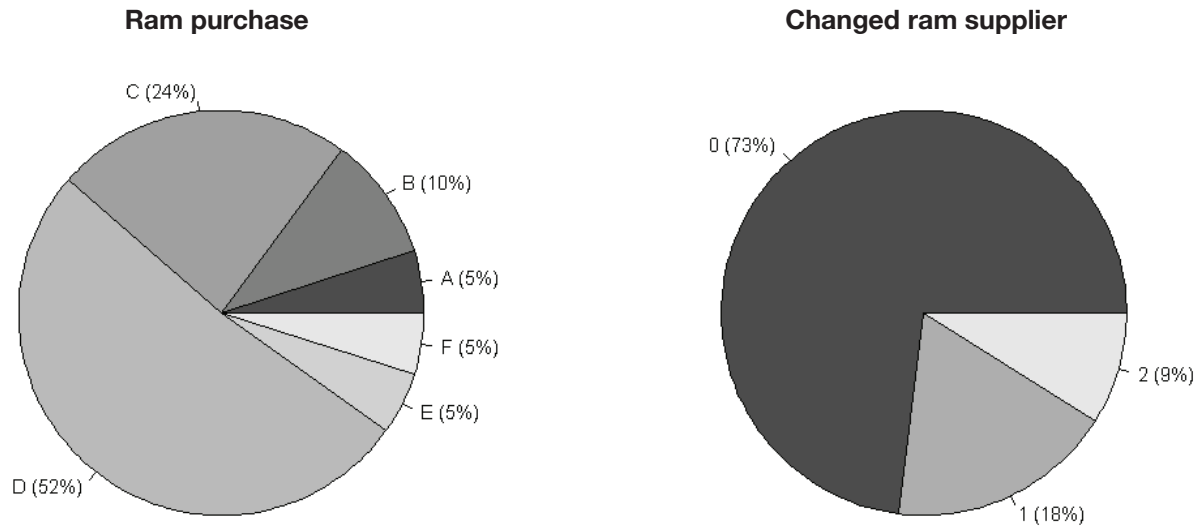
All of the responses were collated into a single spreadsheet in Microsoft Excel and this data analysed using simple descriptive statistics using R (R Development Core Team, 2012).

Results

The dates when rams were put to ewes and when lambs were weaned were reported and the average time between these two events was 319 days with a range of 199 to 359 days. All of the farms put rams to ewes in the period from the 24th March, 2014 to 12th May, 2014. Weaning of lambs occurring as early as the 5th November, 2014 and the latest date was 15th January, 2015. On average (SD; range) the number of ewes put to each ram was, respectively for maternal and terminal sires, 92 (21; 56-143) and 84 (20; 50-100), where the difference was not statistically significant.

Farmers were questioned about how they assessed rams for purchase. The responses were summarised as a

Figure 1 The responses to the questions on the assessment method used to purchase rams (left panel) and the number of times a farmer was recorded to have changed ram supplier in the previous five years (right panel) was summarised as percentages. Abbreviations for assessment method are: A=Conformation, visual and Figures; B=Figures only; C=Visual only; D=Visual and Figures; E=Visual, Figures and Recommendation; F=Visual and Recommendation. Abbreviations for the number of times the farmer changed ram supplier: 0=zero times; 1=once; 2=twice.



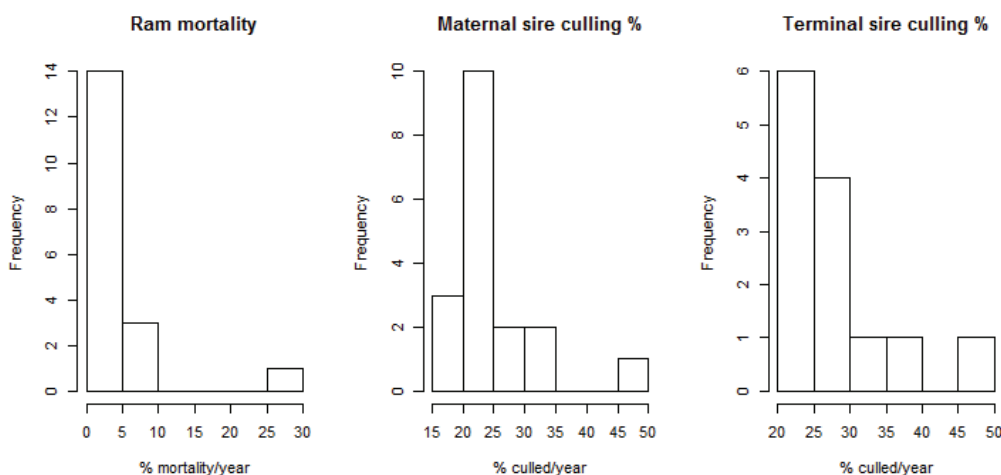
percentage and given in Figure 1 (left panel). The main overall criterion used to assess rams for purchase was by visual assessment, where five of the 21 farms used only visual assessment to choose rams. Most of the respondents stated that they considered visual attributes and then based the assessment on figures (e.g., breeding values). For the 11 farms who responded, and where the response was applicable (i.e., farmed greater than five years on that property), most did not change the ram breeder they used to purchase rams at all in the previous five years (Figure 1 (right panel)).

For the 17 farms that farmed non-Merino sheep, the maternal traits, with respect to the traits that were of importance, Number of Lambs Born and Conformation

were ranked most important, and for terminal traits, Weaning weight followed by Conformation and Meat (Yield) as most important. For the maternal traits, wool was still considered important. Amongst the respondents that farmed Merino and/or Merino-cross sheep, weaning weight was considered most important, whereas for terminal traits, conformation was considered most important.

The reported mean mortality (range) over the farms for which numbers could be determined (n=18) of rams in the year (2014-2015) was 5% (0-28%). This percentage included both terminal and maternal sires. The mean percentage (range) of culling for these same flocks for maternal and terminal sires was respectively 26% (16-47%) and 29% (20-50%). A histogram of the mortality and culling

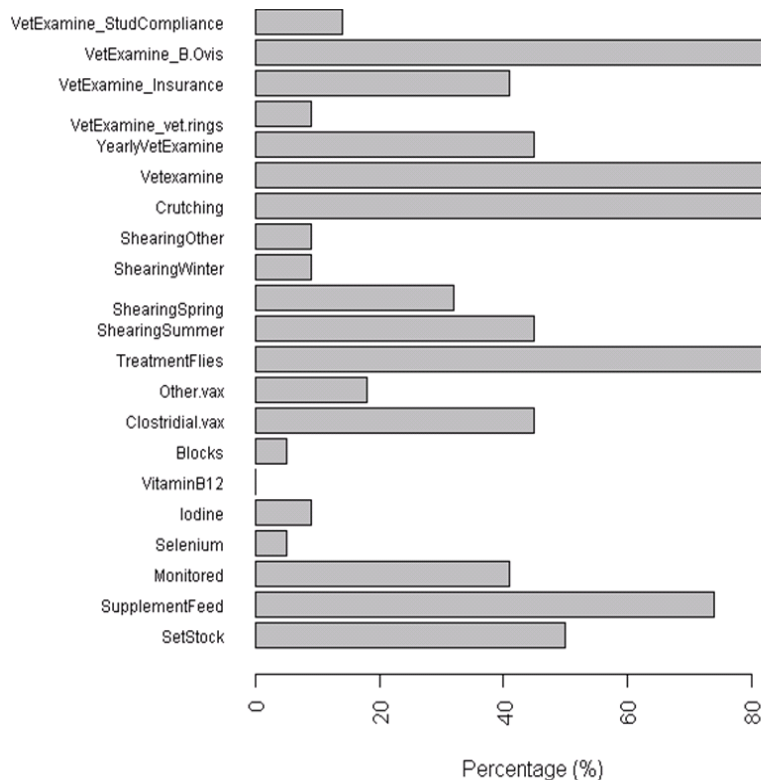
Figure 2 The reported mortality as percentages (all rams) and culling of rams, based on terminal ram and maternal rams, on a per-farm basis are shown as histograms. The mortality was for all rams (terminal and maternal sires).



percentages for each farm is shown in Figure 2. The reasons given for culling of rams were: feet (31%); age or teeth (32%); poor condition (24%); genetics (5%); breeding soundness (4%) and other (5%).

When questioned about ram wastage, 41% considered it not to be a problem, 9% a minor issue (9%) and 23% did not comment on this. The remainder did see it

Figure 3 Percentage of respondents (farms) who stated yes as opposed to no to the following treatments for their rams: SetStock=kept rams in the same paddock when not used in mating; SupplementFeed=gave supplementary feed given to rams; Monitored=monitored rams; selenium=gave supplementary selenium, Iodine=gave supplementary iodine; VitaminB12=gave supplementary VitaminB12; Blocks=gave supplementary Blocks; Clostridial.vax=vaccinated for Clostridial disease; Other.vax=other vaccinations; TreatmentFlies=treating for flies by dipping; ShearingSummer=rams shorn in summer; ShearingSpring=rams shorn in Spring; ShearingWinter=Winter shorn; ShearingOther= shearing in other time period; Crutching=crutched their rams; Vetexamine=had their rams examined by a vet at any time; YearlyVetExamine=yearly examination of rams by vet. The reason for the examination was given as: VetExamine_vet.rings=when contacted by the vet; VetExamine_Insurance=for insurance reasons; VetExamine_B.Ovis=for B.ovis; VetExamine_StudCompliance=due to compliance reasons.



as an issue, with three of the 22 farmers suggesting that it was a main concern for terminal sires. Farmers were questioned about the different criteria used to cull rams. The criteria most often given to cull rams was because of age/teeth or feet, which accounted for more than 60% of the criteria given, with poor condition accounting for 24% of the criteria. Genetics accounted for 5% of the criteria used to base culling on. With respect to lameness, three respondents commented that lameness was associated with the wastage of terminal sires and one commented it was a “big cause of ram wastage”. The reasons for culling of rams due to lameness were mainly abscesses (67%) and scald (21%). Treatments for lameness were varied and included trimming and preventative trimming, topical spray, troughing, culling and antibiotics.

A summary of the results from respondents on questions related to health and care of rams is given by Figure 3, who summarised data related to yes and no questions asked to

the farmers on the treatment and care of their rams. Of the respondents, 10 (45%) had annual health checks by a vet for their rams. Of those that did not perform an annual check, reasons for not doing this were “can do myself” (n=4), “did not get around to it” (n=3) and “did not see value in it” (n=1). About 80% of respondents had their rams examined by a vet at some time. The most common single reason was for *Brucella ovis* testing; insurance and compliance were other reasons.

The mean number of drenches for treatment of internal parasites given to rams was 1.7 (SD=1.1), with a range of 0-4. Crutching and shearing of rams was common, with most rams shorn in spring and summer. Over 80% of the respondents treated rams against flies. Vaccination against Clostridium was common (>40% of respondents) in rams. Supplements such as selenium, blocks, iodine and Vitamin B12 were not common (<10%). About 40% of respondents monitored the weight and condition of their rams, with >70% giving them supplementary feeding outside of the period for tupping and where typically about 50% of ram left set stock in the same paddock.

A study on ram longevity or ewe longevity was described to each respondent and s/he asked if they would be likely to participate. The expectation was that individual data on animals could be collected and this data could be used in genetic evaluation. The percentage of respondents (n=21) that were potentially interested in participation in a ewe study was 38%, whereas 90% (n=21) were interested in participation in a study on their rams.

Discussion

This study gave a snapshot of some of the attitudes of commercial sheep farmers and treatment of rams on NZ commercial farms and revealed that there is considerable variation in the way farmers chose to select, care for and cull rams. The results from this study are indicative and based on respondents in the North Otago and South Canterbury region. Some of the results should differ over the country, such as dates for lamb weaning and shearing. It is, however, of interest that even in a small region of the country, there is considerable variation. For some of the factors investigated, this variation might be unsurprising as there is likely to be large variation among farm environments and farmers are likely to adapt their farming practice to suit these environments. As sample sizes from the study were small and the data collected was on a per-

farm and not per-animal basis, the study did not allow for any reasonable analysis for the relationship of healthcare to the likelihood of ram mortality or culling.

The result that the main criterion used to assess rams for purchase was by visual assessment. It is also noteworthy to add that the visual and conformation categories could be considered one and the same. Most of the farmers did not change the ram breeder they used to purchase rams at all in the previous five years. Taken together the results suggested that the decision process to choose rams may be a low priority relative to other decisions. It is unclear if the practices are optimal or not, but there is probably scope to inform and/or help commercial farmers make decisions on ram purchase.

The care of rams varied among farms, which may reflect that there do not appear to be clear guidelines on the care of rams. Better care of rams may in cases decrease the need for culling, as up to 50% of rams were reported to be culled. Further studies may be of interest to determine if better culling and care practices might improve profitability. For example, investment of time and resources to source better rams, and improved care of rams to decrease the need for heavy culling might be a better economic strategy for some farms.

All except one of the farms participating in this study were interested in further participation in studying rams and many (8 of 21) interested in a study of ewes. This type of study may be a means of providing extension to farms and in gathering data that might be used in genetic evaluations. A benefit of collecting data directly from the farms is that it may help to overcome genotype-by-environment interactions. Further development in automated data collection, more use of radio-frequency identification and more cost-effective genotyping will contribute to making the collection of data more feasible for animals farmed extensively (e.g., hill-country sheep). Less interest in participating in studies on ewes was unsurprising as the numbers of ewes is typically 100-fold more than the rams, making the task of organising and performing data collection much more challenging. In addition the cost

per head for a ram is also significantly more than a ewe to a farmer, which might provide more of an incentive to participate in a study of rams compared to one on ewes.

In summary, the study indicated varied care and attitudes to the care of rams. Most commercial farmers are willing and open to studies and keen for knowledge in order to improve their farming practice and for industry-good. Further studies to record data on rams will be useful to better understand care and health status of rams and the challenges and utility of recording animals farmed extensively.

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