

Sheep reproduction RD&A alert

This sheep reproduction RD&A alert is an initiative of the Sheep Reproduction Strategic Partnership (SRSP).

March was a quiet month for published research relating to sheep reproduction. The findings of the review paper by Wettere *et al.* were included in the terms of reference for the SRSP foundation call for projects in 2020. A project aimed at quantifying the effects of heat stress events on sheep reproduction, thermoregulatory capacity, behaviour and well-being aimed is currently undergoing contracting.

The SRSP aims to help sheep producers to profitability and sustainably increase lamb production through increasing lamb survival and weaning rates and will coordinate a national approach to improving sheep reproductive performance.

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Review papers

Review of the impact of heat stress on reproductive performance of sheep

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Abstract

Heat stress significantly impairs reproduction of sheep, and under current climatic conditions is a significant risk to the efficiency of the meat and wool production, with the impact increasing as global temperatures rise. Evidence from field studies and studies conducted using environmental chambers demonstrate the effects of hot temperatures (≥ 32 °C) on components of ewe fertility (oestrus, fertilisation, embryo survival and lambing) are most destructive when experienced from 5 d before until 5 d after oestrus. Temperature controlled studies also demonstrate that ram fertility, as measured by rates of fertilisation and embryo survival, is reduced when mating occurs during the period 14 to 50 d post-heating. However, the contribution of the ram to heat induced reductions in flock fertility is difficult to determine accurately. Based primarily on temperature controlled studies, it is clear that sustained exposure to high temperatures (≥ 32 °C) during pregnancy reduces lamb birthweight and will, therefore, decrease lamb survival under field conditions. It is concluded that both ewe and ram reproduction is affected by relatively modest levels of heat stress (≥ 32 °C) and this is a concern given that a significant proportion of the global sheep population experiences heat stress of this magnitude around mating and during pregnancy. Despite this, strategies to

limit the impacts of the climate on the homeothermy, behaviour, resource use and reproduction of extensively grazed sheep are limited, and there is an urgency to improve knowledge and to develop husbandry practices to limit these impacts.

Upcoming events

Date	Event	Location
7 April 2021	Dealing with Dystocia Meat & Livestock Australia	Webinar
21 April 2021	Best Practice Lambing Best Practice Lamb Meat & Livestock Australia	Webinar
22 April 2021	Pneumonia in lambs is on the rise, are you prepared? Sheep Connect NSW	Webinar
11 - 12 May 2021	Breeding Focus 2021 Improving Reproduction Animal Genetics and Breeding Unit & CSIRO Agriculture and Food	Armidale, NSW
9 – 11 June 2021	Recent Advances in Animal Nutrition RAAN Committee	Gold Coast. QLD & online

Funding calls

Program	Open	Close
Producer Demonstration Sites Meat & Livestock Australia	1 April 2021	12 May 2021