

Terms of Reference

Sheep Reproduction

Program of Work

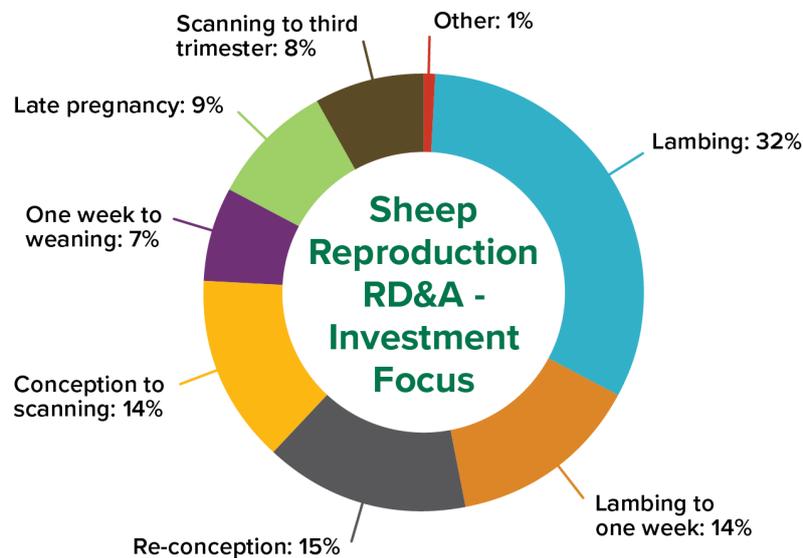
Meat and Livestock Australia (MLA) are investing in research, development and adoption (RD&A) initiatives that contribute to programs of work to increase the productivity, profitability and sustainability of the grassfed beef and sheepmeat sectors. Proposals are sought for developing and executing collaborative and participative research to fit within this program of work. The focus of this terms of reference is to target specific opportunities to improve sheep reproductive performance.

Summary

Recent investments against current industry strategic plans have focused on addressing the following to deliver improved reproductive outcomes and performance:

- Causes and quantification of reproductive wastage
- Optimising supplementation strategies
- Impact of disease and disorders
- Optimising body condition score and flock fecundity
- Extension and adoption of program investments.

The below figure illustrates the approximate proportion of MLA investment against each stage of the reproductive cycle over the last seven years:



These and historical investments have provided a consistent and comprehensive understanding of the timing and causes of lamb loss of which approximately 70% occurs at parturition or in the following 24-48 hours i.e. the perinatal stage. The major causes of lamb mortality are exposure, starvation associated with mis-mothering, and dystocia and are largely attributable to environmental conditions or sub optimal nutrition of the ewe during gestation. Other significant although secondary causes of mortality include

foetal losses, disease and predation.

The following terms of reference outline opportunities to tackle the major factors governing lamb and ewe survival outcomes by improving the uptake of best practice management interventions. These include increasing the uptake of pregnancy scanning, optimising nutrition, paddock selection and mob size as well as through the specific targeting of research gaps.

Impacts

Applications to this terms of reference must contribute to industry impact, Meat Industry Strategic Plan (MISP), Sheep Industry Strategic Plan (SISP) and MLA Sub-Program Business Plan objectives. Specifically applications must contribute to the following KPI's:

- Increasing marking rates by 5%
- Reducing ewe mortality rates by 1% to,
- Contribute to a minimum of a 1.5% increase in sheepmeat production by 2020.

Applications must clearly demonstrate how the project will contribute to these impacts, and by how much.

Priorities

MLA is seeking preliminary proposals to conduct research, development and generate adoption that improves profitability in sheepmeat production by addressing the following priorities. Researchers are encouraged to address one or more of the following priorities in a research application.

1. **Develop and deliver a program that demonstrates improvement in sheep reproductive performance and mortality rates through the adoption of selected management techniques.**

Meat and Livestock Australia recently called for Producer Demonstration Site (PDS) projects addressing at least three of the management techniques from the list below; See the link [here \(pg5\)](#). There is also opportunity to develop larger producer engagement programs to drive adoption of existing research outputs, which could link multiple locations and regions. Optimally these programs would run for at least four years and demonstrate methodology for an impact that is larger than if the individual PDS projects were executed independently.

- Optimising joining length
- Nutritional management and BCS principles
- Pregnancy scanning for multiples and early versus late
- Differential management of single, twin and multiple parity ewes
- Co-ordinated predator control
- Mob size optimisation
- Improved lambing paddock selection or design
- Implementation of shelter belts
- Utilisation of EID to inform culling and retention strategy
- Genetics (i.e. the effective use of breeding values to meet breeding objectives), balanced with structural and reproductive soundness
- Managing reproductive diseases

2. **Fit-to-join**

Develop a 'fit-to-join guide' incorporating current best practice guidelines informing ewe retention and culling strategies; this should also include consideration of ewe lamb selection criteria for retention in the breeding flock. The guide must at a minimum include consideration of udder health, body condition score, teeth, gait score and previous performance (lambs reared).

3. **Edible shelter: enhancing lamb survival, drought resilience and landscape condition.** Informed by previous research outcomes this will include engagement of producers through on-farm research demonstration sites to determine – by agro-ecological zone – which species or species mix provides the maximum benefit to, lamb survival through the provision of shelter, drought resilience and landscape condition. Costed establishment guides (methodology, establishment speed, labour requirements and ongoing management) with a focus on a range of production systems and agro-ecological zones is a required outcome. Applicants should also demonstrate consideration of how – or what the pathways are for -wider adoption will be achieved over and above the project participants.

4. **Sheep Reproduction Strategic Partnership – Expressions of interest**

In addition to the above priorities, MLA is seeking expressions of interest from research organisations, consultants and extension specialists to participate in the development of a Sheep Reproduction Strategic Partnership, the major focus of which will be on improving lamb and ewe survival outcomes. The strategic partnership will seek to develop and deliver collaborative RD&A initiatives covering key sheep industry priorities to achieve a 5% reduction in reproductive losses on a minimum of 500 properties.

Applicants addressing this priority are requested to submit a preliminary application in the usual format covering a) key organisational (or individual) capabilities and capacities, b) core existing relevant collaborations, c) a brief summary of current work/focus areas and d) an indication of willingness to invest in-kind resources and or to make co-investments through the MLA donor company.

Deliverables

Applicants to the terms of reference must clearly identify which of the priority outcomes and R&D gaps that their application is seeking to address.

It is an expectation that prior to submission of a preliminary proposal applicant/s have engaged with producers through a regionally relevant research advisory council i.e. SALRC or WALRC and other industry stakeholders (consultants, merchants, service providers) to also identify extension and adoption pathways. Applicants must consider how any funded work will translate into practice change on farm. This should include:

- A clearly articulated value proposition
- Net benefit, (per head, per hectare, per year, per kg LW gain or product) of the research output if adopted
- An adoption method and predicted adoption rate including time to peak adoption. Where outcomes are earlier stage applied research, the applicant should demonstrate that they have considered potential adoption pathways.

Scope

The work is national in scope although the applications and solutions within each project may be regional.

Collaborative teams across institutions are encouraged to apply to take advantage of complementary skills including research, development, adoption and expertise in the use of technologies.

Participation of producers and formal producer networks is encouraged, especially in setting and reviewing the direction of research, development and adoption of practical, on-farm practices.

Projects with budgets ranging up to \$750,000 per year across 3-5 years will be considered.

Confidentiality and intellectual property

Successful projects will be funded with sheepmeat and/or grassfed beef levies. MLA will also consider MDC applications outside of the specific terms of reference but consistent with the program objectives and provided that applicants are able to demonstrate how the project will contribute to industry impact.

Applicants must identify any background intellectual property (IP) they bring to the project.

All data and cited references must be acknowledged appropriately in the final publication and it is the sole responsibility of the applicant to ensure copyright laws are not breached.

Where further information is available which may assist the successful applicant in meeting the requirements of the project, MLA will provide such information to the successful applicant.

The successful applicant will be required to enter into a standard agreement with MLA.

MLA will share and discuss this proposal with producers, technical experts, other research organisations and research and development corporations. Please acknowledge this freedom to operate.

Deadline for submissions

Preliminary proposals must be received by MLA before 11.59pm (NSW time) Wednesday, 16 October 2019. Late proposals will not be accepted.

Use the preliminary proposal template to submit proposals electronically to MLA at: projectcall@mla.com.au

Preliminary Proposals will be acknowledged and recorded on the MLA project information system. Applicants will be advised in writing of the success or failure of their Preliminary Proposal in January 2020.

Further information

If you have questions regarding these terms of reference, contact:

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