RUM_014 Pregnancy testing in small ruminants (Expiry: December 2028)

I. OBJECTIVE

To facilitate the diagnosis of pregnancy and multiple pregnancies, in ewes and does.

II. DEFINITIONS

Competent -"the consistent application of knowledge and skill to the standard of performance required regarding the care and use of animals. It embodies the ability to transfer and apply knowledge and skill to new situations and environments." (as per, Australian code for the care and use of animals for scientific purposes, 2013 (updated 2021))

III. COMMENTS / RECOMMENDATIONS

- As routine, any health concerns should be managed as per veterinary advice.
- Relative to animal ethics applications, when using this SOP, the following should be described in the individual ethics application: duration and frequency of animal use, and any variation to this SOP.
- **Animal Wellbeing -** Nil
- **Pain Relief -** Not needed.
- **Animal Care -** Nil
- **Reuse and repeated use -** Females should only be restrained for a maximum of 10 minutes.
- **Qualification, experience or training necessary to perform procedure -** All operators should be familiar with the behaviour, handling methods and anatomy of small ruminants. In addition, operators should be familiar with the techniques involved with ultrasound scanning (i.e. competency).

IV. SAFETY AND COMPLIANCE

- The person undertaking this task must ensure all relevant approvals are in place, training has been undertaken and risk assessments (including those for working with small ruminants) have been performed. If unsure, consult your supervisor.
- Operators should be advised about protection against Q fever, or tested for immunity and vaccinated if not immune.
- Facility protocols should be followed.
- Possible risks could include blunt force injury, musculoskeletal injury and psychosocial harm.

V. TRAINING CONSIDERATIONS

- All unsupervised procedures must be performed by appropriately trained personnel who have been deemed to be competent in the procedure.
- Students must receive prior instruction on the relevant aspects of ewe and/or doe anatomy and physiology.
- An acceptable level of competence in trainees can only be achieved by providing supervised training with live animals.
- Animal temperament should be assessed as suitable prior to commencement.

VI. EQUIPMENT

- Ultrasound and transducer probe (trans-abdominal)
- Obstetrical lubricant.

Conditions:

- Investigators named in an animal ethics application, relative to this SOP, must be competent to implement the SOP
- Any variation to this SOP must be described in the relevant animal ethics application
- If this SOP has not been reviewed and approved by a UQ AEC within the last three years it is no longer valid and cannot be used in animal ethics applications until reapproved (see "AEC Reviewed/Approved" date in this document's header).

VII. PROCEDURE

The female is restrained in a comfortable position, with appropriate equipment if necessary. This may include being restrained within a race or crate in a standing position, in a reclining position restrained in a V belt, or being held in a sitting position. Typically, pregnancy testing is conducted using transabdominal ultrasound using a convex probe.

Either obstetrical lubricant or water is applied to the fibre-free area of the abdomen beside the udder on the animals right side, to facilitate close skin contact. The probe is applied to the surface of the skin and the uterus and its content is examined on the ultrasound machine screen.

Probe positioning for early pregnancy – typical <60 days of gestation; in front of the udder, high in the flank, and aiming the probe slightly inward (medially).

Probe positioning for later pregnancy – typical >60 days of gestation; in front of the udder, on the middle of the lower abdomen.

Conducting the procedure before feeding or on animals with reduce gut fill may help improve image quality and accuracy of diagnosis. The viability and the number of foetuses may be determined during each session. The probe is then removed from the side of the animal, and a spray mark may be sprayed on the back of the animal (e.g. different colours representing foetal number), to facilitate later separation into management groups. The animal is then released and monitored for any immediate welfare concerns for the next 15 minutes.

Link: https://projects.sare.org/wp-content/uploads/961266ultrasound-pregnancy-detection-in-sheep-article.pdf

This SOP deserves notable reference and acknowledgement of authorship by Associate Professor Gry Boe-Hansen – School of Veterinary Science, The University of Queensland

Version #	Reviewing AEC	AEC Review Date	Outcome
1.0	PCA	01/12/2025	Approved to December 2028