

## Why diagnose the numbers of lambs in ewes?

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Information on the pregnancy status of ewes enables farmers to:

- identify and separate ewes that are pregnant from ewes that are dry;
- identify ewes carrying more than one lamb;
- manage ewes during pregnancy according to whether they have single or multiple lambs; and
- quantify lamb losses between pregnancy diagnosis and lambing or marking.

While methods for diagnosing pregnant ewes have been available for many years, the accuracy, cost and operator requirements of these techniques can vary considerably.

### Costs and benefits of pregnancy diagnosis

Before scanning your ewe flock it is worthwhile carrying out a cost-to-benefit analysis since the cost for determining pregnancy status of ewes varies. Ask the contractor how much it will cost and what is required to scan your flocks.

Pregnancy scanning provides management benefits:

- During times of paddock feed shortage, pregnant ewes can be given preferential access to the best pasture.
- Pregnant and dry ewes can be split into mobs and provided with cost effective rations.
- Pregnant ewes can be split into early- and late-lambing mobs, enabling better use of feed reserves and supervision at lambing. In addition, lamb marking can be done on specific age groups.
- When conditions are unseasonal, dry ewes can be identified and sold to reduce sheep numbers.
- Pregnancy diagnosis can help to assess the potential causes of low lambing percentages.

Choosing a method of pregnancy diagnosis will depend on the information you are seeking about your flock. For example:

- Real-time ultrasound scanning can determine whether a ewe is pregnant and how many fetuses she is carrying. For pregnancy detection, real-time ultrasound scanning is done from 25 days after joining. To determine fetus numbers, real-time ultrasound scanning must be used between days 40 and 100 after the start of joining.
- Harnessed teasers (vasectomised rams or hormone-treated wethers) can be used after joining but will only identify the non-pregnant ewes.

### Real-time ultrasound scanning

Ultrasound scanning emits high frequency sound waves from a crystal in a hand-held probe to detect the presence of fetuses. As the sound waves pass through the sheep's body some are reflected back to the probe and the information is displayed on a screen.

When coupled with an experienced operator, real-time ultrasonic scanning is the most accurate and rapid technique to determine fetus numbers. The machine used is similar to that used for the ultrasound examination of pregnant women.

Ewes are scanned while in a sitting position or while standing in a specially designed elevated race. The standing position requires less labour than the sitting position and increases the scanning rate of the operator.



Tim Stevenson, Kojonup commercial pregnancy scanner, determining the pregnancy status of a Merino ewe.

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Operators generally charge per head for the scanning service and experienced operators can scan between 3,000 and 5,000 ewes in a long day for a 'wet and dry' (pregnant/not pregnant) analysis with the number being 2,500 to 3,000 per day for the determination of the number of fetuses in ewes. Therefore, the scanning of ewes to detect if they have singles or twins will cost more for each ewe. Irrespective of the speed at which ewes are examined, it is crucial that the scanners give a correct diagnosis for at least 95% of the ewes scanned.

Most commercial operators use sector probes to enable a greater area of the uterus to be displayed on the screen from a single point of contact. The sector probe increases the scanning operator's accuracy, especially when scanning multiple-bearing ewes. If the ewe is pregnant, the skeleton of the fetus can be seen moving on the screen and even the heart of the fetus can be seen pulsating.

Using an ultrasound machine, uterine fluid can be detected from day 25 of pregnancy. By day 40 of pregnancy, pregnancy and the number of fetuses can be detected with a high level of accuracy. This degree of accuracy is maintained between days 40 and 100. While ewes with fetuses older than 100 days can still be pregnancy scanned, shading caused by the fetuses' developing bones can make it difficult to detect the number of fetuses present.

Contractors who scan ewes in Western Australia can be located through rural media advertising or via word of mouth from other producers already using their services.

Real-time scanning is more useful than other pregnancy testing methods because it can be used to identify ewes carrying more than one lamb. Knowing the number of fetuses in each ewe means that:

- Ewes can be fed according to their pregnancy status. This will optimise lamb development and can reduce the incidence of pregnancy toxemia by ensuring adequate nutrition during late pregnancy of twin-bearing ewes. In seasons when there is abundant feed, single-bearing ewes can be managed to prevent the occurrence of dystocias.
- Twin-bearing ewes can be identified to enable more accurate selection of ewes to improve the genetic potential for higher reproductive performances in flocks.

## Harnessed teasers

Introducing teasers (vasectomised rams or testosterone injected wethers) harnessed with marking crayons to the flock after the rams have been removed will identify ewes that return to oestrus. The teasers need to be left with the ewes for three weeks to cover a full oestrous cycle.

Ewes that are marked with the teasers' crayons are usually not pregnant. However, this method is less

reliable than ultrasound scanning because it fails to detect non-pregnant ewes that have not returned to oestrus. Teaser wethers only provide an indication of whether ewes are pregnant and not the potential number of lambs in the flock.

Crayons are available in red, green, blue, purple and yellow. Yellow crayons do not leave as clear a mark as do the other coloured crayons. Harnesses and crayons are available from stock agents.

Teasers should be fitted with harnesses for a week before going in with ewes so they can become accustomed to wearing them. If necessary the harnesses can be adjusted. When the teasers are put with the ewes the crayons should be attached.

Harnessed teasers should be removed if flocks are yarded. This is done to avoid rape markings (i.e. jumping on ewes that are not in oestrus).

Note: testosterone-treated wethers should be given a permanent identification and they must not be sold for slaughter. These animals must be slaughtered on the farm.

## Udder examination

Udder examination (also called the 'wet and dry' technique) is quick. A long narrow race is ideal. Portable yards are good for this operation.

When lambing has finished, careful udder examination will identify ewes that are suckling lambs, ewes that have lambed but not reared a lamb and those that were not pregnant.

- The udders of milking ewes are full, contain bright, white milk and the teats are clean (indicative of being suckled by the lamb).
- Ewes that have lambed but not reared their lambs will have udders containing a clear, watery fluid that is flecked with small white lumps. The udder is usually not warm to touch and is not as full and well developed as a ewe that is rearing a lamb. Examining the breech and udder area sometimes reveals blood staining and fetal material.
- Barren ewes are generally in better condition than ewes that have lambed and they have little or no udder development.

## Caution

Extreme care should be taken when yarding heavily pregnant ewes. Depriving ewes of food late in pregnancy, as would happen if yarded overnight, may cause the onset of pregnancy toxemia.

## Acknowledgement

This Farmnote has drawn on some information used by Michael Johns in Farmnote 74/99, Pregnancy diagnosis in ewes.