

Sheep udder assessment at lamb marking

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Udder assessment of breeding ewes at lambmarking is a useful skill to identify ewes that have successfully lambed and reared ('wet' ewes) and those with udders capable of rearing lamb/s from future joinings.

Knowing whether a ewe is 'wet' or has failed to lamb or rear ('dry') allows you to decide which ewes to keep, and which should be culled.

The reproductive efficiency of your flock can be significantly improved by culling the poor performers (i.e. twice dry or twice lambed & lost) and selecting 'wet' ewes to remain in the flock.

When to check udders

Checking udders is best done at lamb marking, as most lambs die within three days of being born. Some ewes wean lambs earlier than others, so checking udders at weaning carries a risk of incorrectly deciding that a ewe that has lambed and reared is 'dry'.

If a 'wet and dry' udder assessment is your only test to identify ewes that successfully conceive and rear, it must be done at lamb marking.

The 'wet and dry' technique

Checking udders is a simple operation. When learning, allow up to a minute per ewe. For beginners, wet and drying is easier if lambs are drafted from ewes a few hours before the assessment is made. This allows wet udders to fill with milk.

Pack ewes into a race so that ewes won't move much, but are not so close together that you find it difficult to move your hand and arm down behind the tail and reach the udder. Depending on your yards and sheep, checking 100 to 400 ewes an hour is achievable.

Udder checks are done by hand. Reaching down, cup the udder in the palm of your hand. Placing your other hand on the ewe's back will steady her and help balance you. Feel the size, warmth and density of the udder, and whether both sides are equal. Use your thumb and fingers to hold and feel the length of one teat, while stripping any milk or fluid in the teat out into the cupped palm of your hand. If the two sides of the udder are unequal, or the first teat does not produce milk or fluid, you may need to feel and strip out the other teat.

When learning to check udders, or when you feel something you don't understand, tip ewes on their rump so you can look at the whole udder to better determine what is happening. You will soon begin to trust

what you feel if you go to the effort of tipping and looking at ewe udders to recognize what you are palpating.

Figure 1 Normal functioning udder and teats. Birth stain can be clearly seen between the vulva and the udder. Clean teats show they are being suckled.



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Wet and drying can tell you what has happened at joining and lambing:

Udder check	Lambled and reared successfully?	Pregnant?
Wet	Yes	Yes
Dry – L&L	No: lambled but lost all lambs	Yes
Dry	No: did not lamb	No
Late Pregnant	No: has not lambled	Yes

Wet ewes

Wet ewes are those rearing a lamb or lambs. All will have a full, warm udder. Milk will always be expressed from one or both teats. Occasionally a wet ewe will have dried off or lost on one side. You will feel one full warm side, the other side will be neither full nor warm, and won't have milk. This wet ewe should be considered for culling from breeding flocks seeking improved lamb survival.

Milk is always warm, completely white (with a bluish tinge if you look closely in full sun) and opaque. Milk is not watery or semi-translucent.

If there are a lot of lambs, most ewes will be wet.

You will find other changes in the udders of wet ewes:

- with mastitis, one or both sides will be harder, often with lumps. With mastitis, milk production is reduced or may stop, or its appearance may change. You might find clots in milk; the milk might be watery or opaque; or contain blood or pus. With mastitis, the udder might be cooler or hotter than usual. With gangrenous mastitis, the affected side will eventually slough off, leaving a wound
- in poor seasons, the size and fullness of the udder will be reduced, as well as the volume of milk. Extra care is needed as some wet ewes will be producing very little milk, especially if lamb marking is late (e.g. 10 or more weeks from the start of lambing); you risk incorrectly calling these as dry
- you may not feel a teat when ewes have had shearing cuts. It is rare for milk to be produced and suckled from where the teat was lost. These ewes should be considered for culling from breeding flocks seeking improved lamb survival
- wet maiden ewes may have smaller udders, with less milk, than older ewes, especially in dry or drought years

Be careful in deciding whether a ewe with mastitis is wet or dry. Usually mastitic ewes are wet, but they may be dry. The mastitic ewe usually has a harder, often lumpy udder although it may feel full. The udder may be tender and the ewe may object to palpation. Sometimes small lumps of pus or clotted milk or blood can be felt passing through the teats. If one side has no mastitis, this may tell you whether the ewe is wet or dry, but you may need to tip the ewe and look at the udder to decide. This ewe should be culled. Flock owners concerned about the incidence of mastitis in their flocks should consider talking to their veterinarian who can recommend appropriate treatment.

If you tip a ewe and look, all wet ewes will have a ring of clean skin on and around a teat, and the teat will be clean, indicating recent suckling. Over time, you will be able to feel whether a teat is being suckled or not in any given mob.

All wet ewes will have birth stain on their breech. Birth stains are the remnant of the ewe's birth fluids. This can be hard to find if marking late, but can be recognised as a crystalline, dark substance, clinging to wool about the breech.

Generally birth stains

- have vegetable matter stuck to them; sweat beads do not
- are granular, and crumble into smaller granules or powder when rolled between the fingers; sweat beads do not
- are consistent with being dried blood and birth fluids

There is a small chance that a ewe that has lost a lamb just before lambmarking will be wrongly considered wet. This is uncommon, and can be avoided by checking both teats for dryness and dirt: the teats of wet ewes are kept clean by their lambs suckling. When not suckled, teats soon gather grime.

The behaviour of wet ewes is also different to dry and lambbed and lost ewes during marking. Wet ewes commonly bleat for their offspring.

Dry ewes

These are ewes that have either

- given birth but did not rear any lambs - lambbed and lost
- not given birth - dry

So calling a ewe dry simply says she does not have any lamb suckling her. Dry does not relate to whether a ewe has been pregnant or not.

If you see that there are more ewes than lambs, you know there will be a significant proportion of dry ewes. If you want to know why there are so many dry ewes, pay attention to the signs that say that a ewe has not lambbed this year. The other ewes that are dry, and appear to have lambbed, can be assumed to have lambbed and lost.

Deciding whether a particular ewe has lambbed and lost or is dry is often difficult, but you can build up a picture of the level of ewes that have lost all lambs compared with the level of those that did not lamb, by keeping this question in mind as you check udders.

The key features of ewes that probably have **lambbed and lost** are:

- their udders have some size and development but are smaller than those of wet ewes. They often have some cleavage between the two sides, not seen in wets
- their udders are cool and don't have any tone consistent with actively producing milk: they are often floppy or soft
- teats usually feel greasy or dirty; look at some; check both teats as a ewe can be wet on one side and dry on the other. There is no ring of clean skin around either teat from being recently suckled
- there is usually some small amount of fluid in these teats, but it can be difficult to strip out: you need to work at it, compared with wet ewes
- the fluid always differs to a normal milk, but takes many forms.

Key features of fluid in lambbed and lost teats are

- reduced volume
- watery to slightly oily or even like honey
- clear or semi-translucent
- a different colour to milk; these colours vary: whitish, yellow, brown, reddish, grey, dirty
- sometimes with whitish flakes or clots

All ewes that have lambbed and lost will have birth stains around and on the skin and wool on their breech about the vulva. A ewe that has not lambbed will not have birth stains. When learning, look at the breech of

some wet ewes to be sure you know what birth stains are. You'll learn to feel for them around the breech of dry ewes to see whether they have lambed or lost, or did not lamb.

Birth stain can wear away over time, so is less obvious in ewes that have lambed and lost at the start of lambing. (These ewes usually have much smaller udders and less fluid in teats, so can be difficult to differentiate from ewes that have not lambed, particularly in dry or drought years).

Woolly Merinos can have dirty teats if they have not been sucked for a few hours. Dust and dirt can build up especially in dusty yards. Be guided by the amount of dirt on the teats of ewes with all the other signs of being suckled.

Dry ewes that have not lambed are easy to detect in maidens as they have no teat or udder development. There is no birth stain at all on the breech and this class of ewe tends to be bigger, fatter and carrying more wool than the other ewes in the race.

Among older ewes, it is more difficult to pick dry ewes that have not lambed from those that have lambed and lost. In dry or drought years, it may be better not to attempt this, as there is little or no difference in teat fluids between lambed and lost and dry ewes. Older ewes that have not lambed usually have better body condition; the smallest udders; less fluid in teats; better wool; less grime on the teat and udder, although this can be hard to judge.

Late pregnant udders

You may find ewes that are late pregnant at lambmarking. Late pregnant udders can be confused with wets: both are large and warm. Late pregnant udders do not have white milk: they have colostrum, which is usually thicker and sticky, coloured caramel/brown/yellow, sometimes creamy. Late pregnant ewes usually have a whitish plug blocking each teat, making stripping out more difficult than for wets. Their abdominal cavity is also very tight and hard to push into the ewe. A recently lambed ewe will have colostrum for 2-3 days, which is easy to strip out. Check for birth stain.

Identifying udder abnormalities

It is important to identify any ewes with udder abnormalities. Only ewes with sound udders should be retained in the breeding flock.

Ewes with unsound udders, regardless of the type of abnormality, will not be able to rear a lamb as effectively as those with sound udders. Milk yield is reduced, which leads to slower rates of lamb growth, poorer lamb survival and lower marking rates.

The proportion of ewes in a mob with damaged udders can range between 6 to 22% with the incidence of udder abnormality generally increasing with age. The increase with age is likely due to injury and the incidence of mastitis which can lead to structural defects such as bottle teats (Figure 2).

A sound udder is one that is free from any structural defects and provides no impediment to a lamb's ability to suckle during lactation (Figure 1).

Udder abnormalities can occur as a result of mechanical injury, predominantly from shearing cuts, mastitis or abnormal development (Figures 2-7). Abnormal development includes incomplete development and growth of part of the udder, teats that are too large for a lamb to suckle, blind or blocked or missing teats and diseases like mastitis and cheesy gland.

Figure 2 A bottle or bell teat



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Figure 3 Large udder, right-hand side teat pointing toward the ground. Birth stain quite obvious



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Figure 4 Teat damage from a shearing cut. Teat on the left hand side has an obvious shearing cut. Reduced milk production is visible in the damaged half of the udder



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Figure 5 Udder damage from mastitis



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Figure 6 In some cases, mastitis causes half the udder to slough off. Scarring is visible in this example, after the wound has healed.



Figure 7 Lumpy udder, which is easily felt. Causes include cheesy gland, which can be vaccinated against.



Udder assessment aids culling decisions

Udder assessment identifies dry ewes. Dry ewes should be permanently marked in some way if they are not culled immediately (e.g. using an ear notch, coloured ear tag or recording their tag number). Merino ewes that are dry or lambing and lost on two occasions should be culled, as they are the bottom 25% of performers, and will pass this performance to their daughters and sons. Crossbred ewes should be culled after one failure to rear lambs to weaning.

When used with pregnancy scanning, udder assessment clearly identify ewes that have lambing and lost more accurately.

Udder checks improve reproductive performance

Udder assessment is a valuable tool to improve flock reproduction rates. Maiden ewes that rear lambs in their first year of reproduction will rear more lambs during their lifetime. Udder checks readily identify these productive young ewes. Likewise, maidens that fail to rear any lambs at their first lambing are more likely to have lower than average lifetime reproduction rates.

While, culling all ewes at their first failure to rear will increase the rate of response to selection for reproduction traits, it will slow the rate of genetic improvement in other economically important traits. Therefore this strategy must be considered as part of a balanced breeding program.

For 3-5 year old ewes, udder checks identify twice-dry ewes that are best culled from the breeding flock. Combining udder checks with pregnancy scanning for number of lambs allows you to identify the most productive ewes to keep in the breeding flock, and gain greater total weight of lambs reared per ewe joined.

For 5-6 year old ewes, combining udder checks with pregnancy scanning will accurately identify those who have reared their lamb/s throughout their lives. Consider keeping half of these most productive older ewes for an additional 1-2 joinings.

Keeping highly productive ewes and culling the poor performers can generate a 15% improvement in net reproductive rate (number of lambs weaned per ewe joined) over 10 years if combined with ram selection for reproduction traits.

More information

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For updates go to www.dpi.nsw.gov.au/factsheets

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