



Department of  
Primary Industries and  
Regional Development

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# Best practice marking of lambs



Lambs should be marked between two and 12 weeks of age, with the youngest animal in the mob at least 24 hours old, to ensure the formation of a maternal bond. If lambing extends for more than six weeks, consider having two mulesing/marking sessions.

Lambs should be tail docked using a gas-heated knife or rubber rings and mulesing should only be carried out when necessary.

The provision of pain relief with routine husbandry procedures benefits animal health and welfare and is now a consumer and community expectation. Producers have access to registered products that can relieve pain associated with mulesing, tail docking and castration.

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## Castration and tail docking

Castration should be performed on lambs as early as management practices will allow, preferably before 12 weeks of age. Pain relief should be used for tail docking and castration. Registered pain relief options are available in Tables 1 and 2.

Current methods of castration include:

- Rubber rings applied according to the manufacturer's recommendations.
- Cutting. The lambs should be properly restrained and the knife must be kept clean and sharp.

Tail docking of lambs is recommended for blowfly control under the Code of Practice for Sheep in Western Australia, 2003 (COP – Sheep).

Acceptable methods of tail docking include: rubber rings applied according to the manufacturer's recommendation; a gas flame heated searing iron ('gas knife') used according to the manufacturer's recommendations or cutting with a sharp knife.

The Department of Primary Industries and Regional Development (DPIRD) recommends that producers use rubber rings or a gas knife when tail docking. The gas knife method is generally preferable for tail docking on lambs that are also mulesed.

If using a gas knife when the weather is windy, a wind block can be used to maintain the knife at optimum temperature.

A knife that is too cold will not cut through in one motion. A knife that is too hot will cut through too quickly, not cauterise the tail tip and increase blood loss.

There are two types of gas knives available to producers in Australia, a standard knife and a rotating anvil knife (known as the Te Pari Patesco knife®).

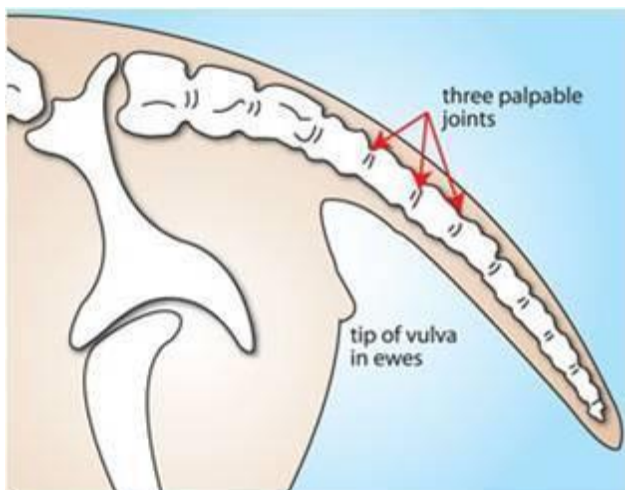
Both knives cause similar wounds and work in the same way. However, a Te Pari knife has a rotating anvil which stretches the woolly skin prior to cutting. This leaves a greater bare area where wool would normally grow and be at risk of urine stain and dags.



*A wind block being used to maintain the gas knife at optimum temperature*

Lambs should be docked to the third palpable joint or to the tip of the vulva in ewes and to the same length in wethers to reduce flystrike risk. Shorter tailed lambs have higher incidences of rectal prolapse and vulva

cancer. Tail docking at a shorter length does not necessarily mean less flystrike.



## Mulesing

It may not be necessary to mule sheep on properties that are in a low risk area and on properties where producers actively select and breed for fly and worm resistance. Animals that will be sold for slaughter prior to the high flystrike risk period do not need to be mulesed.

Read more information on managing non mulesed sheep and reducing the risk of flystrike on the department's website, search 'managing non mulesed sheep' and 'manage flystrike in sheep'.

For producers who continue to mule, the procedure should be conducted in accordance with the COP – Sheep. A registered pain relief product should be used, and the procedure should be done by an accredited operator, to minimise trauma and to remove the minimal amount of wool-bearing skin adjacent to bare skin.

The following principles should be followed:

- Lambs should be mulesed two weeks after the end of lambing.
- If lambing extends for more than six weeks, consider having two mulesing/marking sessions.
- Maintain a high standard of hygiene and use sharp, clean equipment.
- Do not mule when conditions are ideal for flies.

## Pain relief products for use when marking lambs

DPIRD recommends that producers use pain relief when mulesing, tail docking and castrating sheep. There are four types of registered pain relief products for use at lamb marking. Some are Schedule 5 (S5) or Schedule 6 (S6) and available over the counter at agricultural stores, while some are Schedule 4 products (S4) and must be prescribed and dispensed by a veterinary surgeon who has a bone fide professional relationship with the producer.

The Australian Pesticides and Veterinary Medicine Authority (APVMA) has registered pain relief products for use at lamb marking – see Table 1.

## Benefits of providing pain relief

Provision of pain relief to animals enhances their ability to cope with the painful procedure, while also promoting healing by alleviation of tissue trauma and inflammatory processes.

Products like Tri-Solfen® or NumOcaine® provide an anaesthetic effect to reduce the sensation of pain at the time of the procedure. Tri-Solfen® helps control blood loss due to the inclusion of adrenaline which constricts blood vessels and contains an antiseptic to help prevent infection and promote healing.

Non-steroidal anti-inflammatory (NSAID) drugs such as injectable meloxicam (various brands) or oral meloxicam (Buccalgescic® or Butec®), work on alleviating the pain associated with inflammation after the procedure and contribute to an animal's ability to return to normal activities.

It is important to fill out the Mob Mulesing Status of the National Wool declaration when selling wool to reflect that pain relief has been used when mulesing.

Along with improving the welfare outcomes of animals undergoing painful husbandry procedures, provision of pain relief contributes to the sustainability of an industry by meeting community and consumer expectations.

**Table 1 Pain relief products for lamb marking and their Withholding Period (WHP) and Export Slaughter Interval (ESI)**

Product	Description and use	Veterinary prescription needed	Meat withholding period (days)	Export slaughter interval (days)
<b>Tri-Solfen® S5</b>	Pain relief following mulesing, tail docking and castration. Post-operative gel spray providing local anaesthetic and antiseptic	No	90	90
<b>NumOcaine® S5</b>	Local anaesthetic injection for pain relief at tail docking and castration used in conjunction with NumNuts® ring applicator system	No	0	An ESI has not been established for this product. Trade advice should be sought from the manufacturer before using this product on animals destined for export.
<b>Meloxicam S4*</b> <b>Available under several brands</b>	NSAID for alleviation of pain, fever and inflammation. Pre- operative subcutaneous injection	Yes	11	11
<b>Buccalgesic® or Butec® S6</b>	Oral preparation of meloxicam. Alleviation of pain and inflammation for castration and tail docking. Pre-operative liquid administered orally	No	10	10

*\*Lambs must be older than 14 days*

## Multi-modal approach to providing pain relief

Painful husbandry procedures, such as mulesing, castration, tail docking, ear marking or ear tagging, may be performed at the same time. In this situation, the best pain relief strategy is to use a 'multi-modal' approach which is a combination of a local anaesthetic product (for example Tri-Solfen® or NumOcaine®) and a NSAID (for example an injectable or oral meloxicam).

Products should be applied according to the manufacturer's recommendations, before, during, or immediately after the painful procedure. This 'multi-modal' strategy relieves immediate pain associated with the procedure as well as longer lasting pain associated with inflammation and healing.

A suggested approach to best practice application of registered uses of pain relief products is listed in Table 2.

If using a NSAID, use either an injectable meloxicam or oral meloxicam – but not both.

**Table 2 Application of pain relief products**

Product	Action	Application	WHP & ESI	Mulesing	Tail docking with knife/hot knife	Castration with knife	Tail docking with rings	Castration with rings	Veterinary prescription needed
<b>Tri-Solfen® S5</b>	Short acting local anaesthetic	Fan spray application to the wound (effective in less than 1 min)	90 days	✓	✓	✓	✗	✗	✗
<b>Buccalgescic® or Butec® S6</b>	NSAID longer acting analgesic	Oral with custom applicator – gel applied inside the cheek (effective after 10 mins)	10 days	✓	✓	✓	✓	✓	✗
<b>Meloxicam S4</b> Available under several generic brands	NSAID longer acting analgesic	Subcutaneous injection under skin high on neck (effective after 10 mins)	11 days	✓	✓	✓	✓	✓	✓
<b>NumOcaine® used in conjunction with NumNuts® ring applicator system S5</b>	Short acting local anaesthetic	Ring applicator combined with an injector that dispenses local anaesthetic (NumOcaine®) for pain relief at tail docking and castration	0 days  *ESI (see note)	✗	✗	✗	✓	✓	✗

*Adapted from Australian Wool Innovation Ltd Factsheet: Anaesthetics and Analgesics at Lamb Marking.*

\*Tri-Solfen® relies on an open wound and exposed blood vessels for absorption, and is not effective if using a gas knife, or rings to castrate and tail dock.

\*An Export Slaughter Interval (ESI) has not been established for NumOcaine®. The manufacturer's advice should be sought before using this product.

## Preventing flystrike of mulesing wounds

When selecting chemicals to prevent flystrike of mulesing wounds, several factors should be considered. Label withholding periods (WHP) for meat and wool should be checked before using any product. Wool from treated animals should be separated from the main clip to minimise any chemical residue risk.

Three groups of chemicals are currently registered for preventing flystrike of mulesing wounds: insect growth regulators (IGR) containing dicyclanil (for example Clik), spinosyn insecticides (for example Extinosad) and organo-phosphate insecticides (OP). Most blowflies are at least partially resistant to the OP products and present occupational health and safety risks to the operator. For these reasons, OP products are no longer recommended.

Diazinon is no longer registered for flock treatments and now only registered for the treatment of individual animals. Powder dressings should not be used as they may delay healing.

When using products for pain relief and prevention of flystrike on a mulesing wound, DPIRD recommends the use of low volume fly treatments, to prevent excess run off and dilution of the pain relief product.

It is important to ensure that lambs are not disturbed, handled or mustered for at least four weeks after mulesing, to allow the wound to heal. Paddock inspections without disturbance should be done at least every three days during the healing process. Table 3 lists products for preventing flystrike at the time of marking.

**Table 3 Products for preventing flystrike at the time of marking**

Product name	Chemical group	Active ingredient	Mules wound	Strike wound	Volume per treatment band	Meat withholding period	Wool withholding period
Clik* (*Clik Plus is not registered for mulesing wounds)	IGR	Dicyclanil	Yes	No	4mL	28 days	3 months
Extinosad & Extinosad Aerosol	Spinosyn	Spinosad	Yes	Yes	Spray on – until area is blue & wet	Nil	Nil
Mules 'N Mark II Blowfly Dressing	OP	Propetamphos	Yes	Yes	30mL	14 days	2 months
Defiance S1 & Defiance S Aerosol	OP	Chlorfenvinphos	Yes	Yes	5-8mL/kg but no less than 55mL per head	3 days	14 days

## Ear tagging and vaccination

A National Livestock Identification System (NLIS) ear tag with the owner's brand and registered ear mark must be fitted before six months old or before they leave the property, whichever occurs first.

Lambs should be vaccinated with a 3-in-1 or 6-in-1 vaccine. As a minimum, lambs should be vaccinated for pulpy kidney, cheesy gland and tetanus.

The marking vaccination will only give protection for six to eight weeks so a second injection is needed, normally at weaning, to give stronger, long-lasting protection. An annual booster is required each year. For lambing ewes, the booster should be given a month before lambing as this will also provide immunity to the lamb.

Scratch vaccination to protect lambs against scabby mouth is also recommended, especially if they are likely to be sold into a live export market or finished in a feedlot.

## Use of veterinary chemicals

It is important to maintain a record of use of veterinary chemicals including date of administration and withholding period. Pain relief products, drenches, vaccines, parasiticides, and antibiotics are classified as veterinary chemicals.

Producers must follow all label directions when using pain relief products and all other veterinary chemicals and comply with the WHP. If a producer is to use a product other than as listed on the label ('off-label use') they need written directions from their veterinary surgeon to do so.

The Buccalgesic® and NumOcaine® products recently changed poisons scheduling, and no longer require a veterinary prescription. However, there may be a delay getting newly labelled products into retail stores. NumOcaine® and Tri-Solfen® are S5 products, and Buccalgesic® and Butec® are S6 and will be available over the counter from your local agriculture supplier. Injectable meloxicam products are S4 veterinary medications: these must be prescribed and dispensed by a veterinarian before using them.

More information is available from the APVMA and on the department's webpage 'Veterinary Chemical Users'.

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