



TRI-SOLFEN[®]

**The better choice for
pain relief and wound care.**

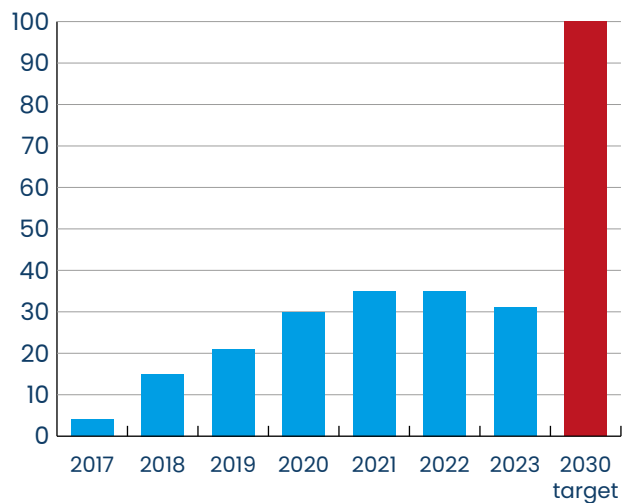
A better choice

Providing pain relief during surgical animal husbandry procedures is a better choice for your livestock, your business and your industry. Australian Animal Welfare Standards and key industry organisations, including the Beef Sustainability Framework, Dairy Sustainability Framework, Meat & Livestock Australia, Dairy Australia and Animal Health Australia, all advocate the provision of pain relief during disbudding, dehorning and castration.¹⁻⁴ Providing pain relief during animal husbandry procedures helps you to meet the expectations of your industry and your customers.

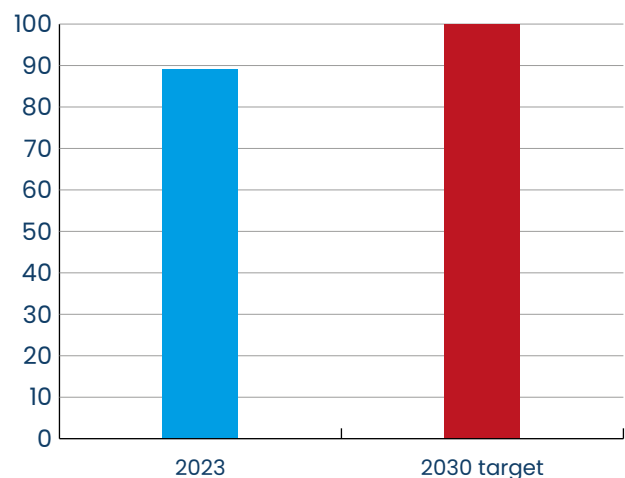
Adoption of pain relief

There has been widespread adoption of the provision of pain relief during surgical procedures over the past decade. Nearly a third of beef producers in Australia routinely provide pain relief during surgical animal husbandry procedures, particularly during disbudding and dehorning, but less so during spaying and castration.² These producers account for about 40% of the national herd. The Australian beef industry is committed to the development and adoption of stress-free alternatives to surgical animal husbandry procedures. Until practical and cost-effective alternatives are available, the industry aspires to 100% adoption of pain relief for these procedures by 2030.² The vast majority of dairy producers in Australia provide pain relief during disbudding and the industry is well on its way to achieving its target of 100% by 2030.³

Percentage of Australian beef producers who provide appropriate pain relief for invasive husbandry practices²



Percentage of Australian dairy producers who provide appropriate pain relief when disbudding calves <2 months³



TRI-SOLFEN[®]

4-IN-1 PAIN RELIEF AND WOUND CARE

4-in-1 pain relief and wound care

Tri-Solfen is the better choice for pain relief and wound care following disbudding, dehorning and surgical castration in calves. This unique formulation provides immediate and lasting pain relief, reduces bleeding, protects against infection and facilitates wound healing.

Easy to administer

Tri-Solfen makes it easy to provide pain relief to calves during surgical procedures. It is applied using a special spray applicator that turns the liquid formulation into a foaming gel that adheres to the wound.

Readily available

Tri-Solfen can be purchased from your rural reseller or veterinarian without a prescription. It is available in 1 L, 5 L and 20 L packs.

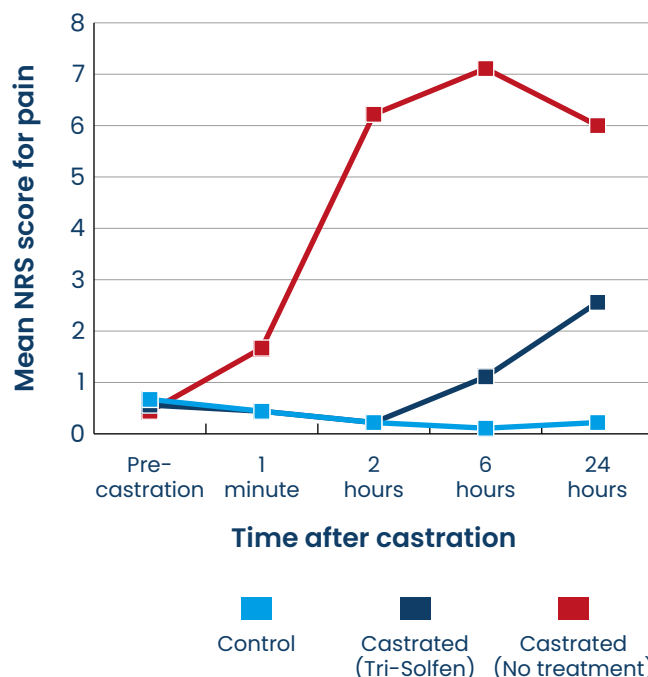
Scientifically proven

Clinical studies have shown Tri-Solfen provides rapid pain relief in beef and dairy calves following disbudding, dehorning and surgical castration.⁵⁻⁹ These studies demonstrate that provision of a topical anaesthetic, ideally in combination with an analgesic, to beef and dairy calves undergoing disbudding, dehorning and surgical castration improves animal welfare.

Withholding periods (cattle)

Milk Withholding Period:	DO NOT USE
Meat Withholding Period:	90 days
Export Slaughter Interval:	90 days

Mean pain response scores to pain stimulation of wound following castration⁶



How Tri-Solfen works

PAIN RELIEF

Tri-Solfen contains two local anaesthetics that are commonly used to provide pain relief in humans. Lignocaine provides immediate (within 1 minute) pain relief on surgical wounds.

Bupivacaine provides longer-acting (up to 24 hours) pain relief on surgical wounds. Lignocaine and bupivacaine block the nerve signals from damaged tissue that are responsible for the sensation of pain, reducing the animal's pain response.

REDUCED BLEEDING

Tri-Solfen contains adrenaline, which reduces bleeding and slows the 'inflammatory cascade'.¹⁰ Adrenaline constricts blood vessels that have been cut during surgery, reducing blood loss and the risks associated with increased stress and shock to the animal. Adrenaline also reduces the rate of systemic absorption of lignocaine and bupivacaine, prolonging their anaesthetic effect.¹⁰

INFECTION CONTROL

Tri-Solfen contains cetrimide, an antiseptic and surfactant that helps to protect against infection, which can set back the healing process. Reduced bleeding and the disinfectant qualities of cetrimide help to start the healing process.

WOUND HEALING

Tri-Solfen is a gel formulation that seals and protects the wound for improved wound healing. Tri-Solfen is applied with the special applicator fitted with a spray tip (disbudding and dehorning) or nozzle (castration).

Application guidelines

- Always read and follow the label directions.
- Disinfect surgical equipment before use.
- Determine the dose rate for procedure and liveweight.
- Apply using the Tri-Solfen applicator fitted with a spray tip (disbudding and dehorning) or castration nozzle (castration).
- Pull the trigger firmly and quickly to generate the gelling foam.
- Apply the product evenly over the complete area of the wound.

Disbudding and dehorning

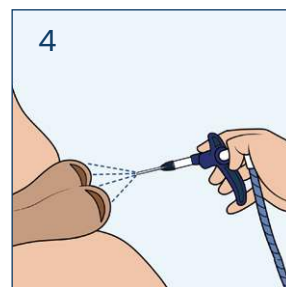
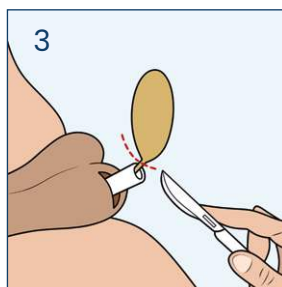
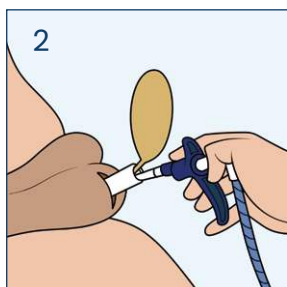
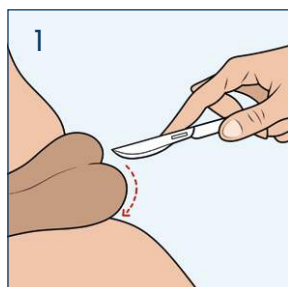
LIVEWEIGHT	DOSE PER HORN
Hot iron (cautery) disbudding – calves <3 months old	4 mL
Scoop, cup or knife (excision) disbudding or dehorning – calves >3 months old age	4 mL

Apply using the Tri-Solfen applicator fitted with the spray tip. The dose rate is 4 mL per horn.

1. Perform disbudding or dehorning on each horn according to acceptable procedures.
2. Immediately after disbudding or dehorning the first horn, apply Tri-Solfen to completely cover the wound including the surrounding burn wound (if using cautery) or the surrounding cut skin edge (if using excision).
3. Repeat Step 2 after disbudding or dehorning the second horn, ensuring the wound and surrounding affected tissues are completely covered.
4. Do not spray to run-off.
5. Take care not to get Tri-Solfen in the eyes of treated calves.



Apply using the Tri-Solfen applicator fitted with a spray tip (disbudding and dehorning) or castration nozzle (castration).



Castration

LIVEWEIGHT	DOSE
Calves 30–100 kg	6 mL
Calves >100 kg	9 mL

Apply using the Tri-Solfen applicator fitted with the castration nozzle. Determine the correct dose rate according to liveweight. The total dose per animal is administered as three equal, smaller doses. For example, the total dose for calves under 100 kg is 6 mL, which is applied as three 2 mL doses: one 2 mL dose inside the vaginal tunic around the spermatic cord of each testis before the testis is removed and one 2 mL dose administered to the edges of the scrotal skin wounds.

1. Cut through skin of the scrotum with a scalpel, as per normal procedure, and gently extrude the testis to expose the spermatic cord (without cutting or tearing it).
2. Insert nozzle through the skin incision and carefully advance the applicator along the length of exposed spermatic cord as far as possible within the scrotum. Eject one-third of the total Tri-Solfen dose as the applicator is withdrawn from the scrotum to coat the spermatic cord. Repeat for the other scrotal incision and spermatic cord.
3. Remove testis as per usual procedure. Repeat Steps 1–3 on the other side of scrotum.
4. Apply the final one-third of the total dose of Tri-Solfen to the edges of the scrotal skin wounds.

NB: The castration nozzle can also be used to generate the gelling foam needed for treating dehorning wounds.



Calves experience acute (immediate) and chronic (long-term) pain during and after certain animal husbandry procedures.⁴ Best practice guidelines recommend the provision of both acute and chronic pain relief during disbudding, dehorning and castration.⁴

- Tri-Solfen is the first choice for **acute and lasting pain relief (up to 24 hours) following surgical procedures** (e.g. disbudding, dehorning and castration) in calves.
- Non-steroidal anti-inflammatory drugs (e.g. meloxicam) provide **chronic pain relief**. Contact your rural reseller or veterinarian.
- Tri-Solfen is available from your rural reseller or veterinarian.
- NB: Tri-Solfen is unsuitable for pain relief following ring castration.

Demonstrate your commitment to delivering best-practice animal welfare standards by registering in the Better Choices program. This independently-audited program enables livestock producers to certify they implement best-practice animal welfare standards. To create or renew your registration, visit **betterchoices.com.au** or call **1300 595 250**.

trisolfen.com.au
1300 015 825

ACUTE PAIN RELIEF		CHRONIC PAIN RELIEF
Tri-Solfen (disbudding, dehorning and surgical castration)	+	Non-steroidal anti-inflammatory drugs (e.g. meloxicam)

Contact your Dechra territory manager, rural reseller or veterinarian about how you can deliver Gold Standard pain relief in your livestock business.

References: 1. Australian Animal Welfare Standards and Guidelines (2014). 2. Annual update (2024). Australian Beef Sustainability Framework. Sustainability report (2023). 3. Australian Dairy Sustainability Framework. 4. Meat & Livestock Australia (2020). Fact sheet – Pain mitigation in sheep and cattle. 5. Espinoza, C., *et al.* (2013). The effect of a topical anaesthetic on the sensitivity of calf dehorning wounds. *J. Dairy Sci.* 96:2894–2902 6. Lomax, S. & Windsor, P. (2013). Topical anaesthesia mitigates the pain of castration in beef calves. *J. Anim. Sci.* 91(10):4945–52. 7. McCarthy, D. *et al.* (2016). Effect of a topical anaesthetic formulation on the cortisol response to surgical castration of unweaned beef calves. *Animal*. 10(1):150–156. 8. Van der Saag, D. *et al.* (2018). Effects of topical anaesthetic and buccal meloxicam treatments on concurrent castration and dehorning of beef calves. *Animals*, 8 (3):35. 9. McCarthy, D. *et al.*, (2016). Effect of topically applied anaesthetic formulation on the sensitivity of scoop dehorning wounds in calves. *PLoS ONE* 11(9):e0163181. 10. Lomax, S. *et al.* (2013). Duration of action of a topical anaesthetic formulation for pain management of mulesing in sheep. *Aust Vet J.* 91:160–167.

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