

# Good practice can reduce bruising resulting in less trimming and less carcass wastage

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## FACTSHEET 4

Bruising needs to be trimmed from the carcass and reduces the amount of saleable meat. Good practice such as that required by conformance and quality management programs can reduce wastage caused by bruising.

### Key points

- When the hide or skin is removed from a carcass, a bruise or discolouration appears as a result of previous trauma.
- Bruising needs to be trimmed from the carcass resulting in less saleable meat and reduced returns.
- Bruising can occur at any stage during preslaughter delivery.
- Bruising is an indicator of poor animal welfare.
- Good practices can reduce the amount of wastage due to bruising by improving animal handling, handling facilities and trucks.

### Why reducing bruising is important

There are two types of bruises:

- **Subcutaneous bruises** occur just beneath the hide or skin. These bruises are typically caused by a minor impact or trauma which causes capillaries to rupture. The visual signs of subcutaneous bruises mean any minor trauma experienced in the 48 hours pre-slaughter will be visible when the hide is removed.
- **Intramuscular bruises** occur in the underlying muscles. Intramuscular bruises are created by a more forceful impact, where swelling and nerve pain can also be present. Damage to muscle and blood travelling under the hide or skin can create a much larger bruise and cause a larger amount of muscle and fat to be trimmed post-slaughter.



The removal of bruises prior to the sale of the carcass or the consumption of meat results in significant financial losses for the processor or purchaser of the product.

To remove or excise a bruise on a carcass could mean wastage of between 200g and 10kg of otherwise saleable product.

*Intramuscular bruising of the striploin muscle*

## Good practices required by conformance or quality management programs to help reduce bruising and deliver less trimming and less carcass wastage

Bruises are an indicator of poor animal welfare as they are caused by injury or trauma. The implementation of good practices from conformance and quality management programs improve animal welfare, reduce potential sources of bruising and therefore reduce the financial losses due to trimming and wastage of bruised product.

Conformance or quality management programs which aim to eliminate bruising should be actively adopted in your operation as they will:

1. Reduce pre-slaughter bruising and improve animal welfare.
2. Reduce meat lost through trimming.
3. Increase the amount of saleable meat leading to greater returns.

A reduction in bruising can be achieved through a number of simple practices:

- DO improve yard design so animals flow well with minimal human intervention.
- DO ensure there are no protruding objects such as rails, bolts or gate catches on trucks and in handling facilities.
- DO ensure animals are handled quietly, without dogs and electric prodders. The minimisation of grabbing sheep by the wool prior to slaughter will also reduce subcutaneous bruising.
- DO confirm individual animals are not isolated or restrained unnecessarily which would cause distress and injury to the animal.
- DO minimise the mixing of individuals in confined places such as yards or trucks.
- DO minimise the number of slips and falls through the installation of non-slip flooring during transport, loading, unloading and lairage.
- DO provide sufficient space during lairage and safeguard against animals walking over the top of each other which would cause bruising.



*Sheep handling facilities with no sharp edges or protrusions*

- DO train transport carriers and drivers in low-stress stock handling.
- DO minimise time in lairage by travelling direct to the abattoir.
- DO reduce the escape of animals from loading ramps by having sides high enough to prevent jumping.
- DO ensure animals are polled or dehorned or reduce the proportion of horned animals purchased.
- DO ensure contemporary groups of animals have similar weight or are of the same age or gender.

## Solutions provided by conformance or quality management programs

Conformance or quality management programs provide a structure that will help minimise bruising and therefore production losses within supply chains. These can help ensure:

- Staff are trained to handle animals calmly and quietly.
- Animals are not subjected to procedures that cause pain and suffering.
- There are no protrusions, sharp edges or slippery surfaces to cause injury and bruising.
- Animals are loaded, transported and unloaded with minimal stress.
- Poor quality infrastructure is not used which can cause escape, baulking, delays or stress.
- Ineffective infrastructure design or poor handling practice is not causing animals to overcrowd.
- Restraint equipment is in good working order and effective for the size and class of animals being processed.

**Poor animal welfare produces bruising which means reduced profits**



*The bruising on these carcasses had to be removed during processing which decreased yield*

## Benefits of good practice

The daily cost saving due to reduction in bruising percentage

= *Daily kill number \* Reduced % bruised carcasses \* Product waste per carcass \* c/kg purchase price*

**Example of cost saving to reduced bruising in sheep:**

=  $800 * 10\% * 0.5\text{kg} * \text{AUD } 5.70\text{c/kg}$

= AUD \$228 per day

**Example of cost saving to reduced bruising in beef cattle:**

=  $250 * 10\% * 2\text{kg} * \text{AUD } 5.90\text{c/kg}$

= AUD \$295 per day

## Further reading

- *Factsheet 1: Good practice can reduce dark cutting for better meat quality and higher returns*
- *Factsheet 2: Good practice can reduce stress and improve eating quality*
- *Factsheet 3: Good practice can reduce acute stress and water loss from meat*
- *Factsheet 5: Good practice delivers benefits from improved infrastructure*
- *Factsheet 6: Good practice can reduce animal stress and shrinkage for increased profits*
- *Factsheet 7: Good practice in the provision of quality feed and clean fresh water can improve growth rates and eating quality*
- *Factsheet 8: Good practice in reducing slipping and falling can improve hide cleanliness and carcass hygiene*
- *Factsheet 9: Good practice avoids mixing unfamiliar livestock which can reduce stress and improve eating quality*
- *Factsheet 10: Good practice in traceability delivers health and safety control and improves management decisions*
- *Factsheet 11: Good practice reinforced through training*
- *Factsheet 12: Support and training in good practice*
- Eldridge GA and Winfield CG (1988). *The behaviour and bruising of cattle during transport at different space allowances*. Australian Journal of Experimental Agriculture 28 , 695–698.
- Wythes JR, Kaus RK and Newman GA (1985). *Bruising in beef cattle slaughtered at an abattoir in southern Queensland*. Australian Journal of Experimental Agriculture 25 , 727–733.