



Standard operating procedures for the welfare of cattle in overseas markets



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Standard operating procedures for the welfare of cattle in overseas markets

This manual describes how to use standard operating procedures (SOPs) to meet animal welfare standards from vessel discharge through to abattoir in overseas markets. It provides an overview of the slaughter process and lists the desired animal welfare outcomes. The requirements of the World Animal Health Organisation (OIE) standards are covered in this module and throughout the individual SOPs.

The manual comprises an introduction and six standard operating procedures relating to pre-slaughter and slaughter management of cattle in overseas markets.

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1. Animal handling

Livestock have to be handled well to achieve good animal welfare and meat quality. It is important that stockmen understand animal behaviour and the basic principles of low-stress animal handling. Procedures cover the following processes:

1. Design and maintenance of handling facilities
2. Moving and drafting livestock
3. Use of cattle talkers

2. Land transport

This SOP covers the loading and unloading of livestock and transport systems. It covers land transport from the vessel to the feedlot and/or abattoir. The SOPs cover the following processes:

1. Use and maintenance of loading and unloading facilities and equipment at the vessel discharge, the feedlot and abattoir
2. Placing livestock in appropriate groups for transportation
3. Loading and unloading with minimum stress
4. Identifying and managing injured animals

3. Feedlot operations

This SOP covers the arrival of livestock at the feedlot and preparation for transport to the abattoir. Procedures cover the following processes:

1. Preparation of facilities for the arrival of livestock
2. Identifying and managing injured animals
3. Managing livestock in appropriate groups
4. Provision of food, water and a safe environment
5. Preparation of livestock for transport to the abattoir

4. Lairage

This SOP covers lairage design and operation. A well-designed and operated facility will improve animal welfare and make handling easier for the stockmen. Procedures cover the following processes:

1. Holding facility design and maintenance
2. Animal management in the lairage
3. Management during extreme environmental conditions

5. Slaughter – with stunning

This SOP covers the use of stunning devices to humanely stun cattle before slaughter. Procedures cover the following processes:

1. Inspection and preparation of the restraining device
2. Moving animals into position with minimum stress
3. Reducing animal handling
4. Restraint of the animal for stunning and slaughter
5. Operation and maintenance of stunning equipment
6. Identification of effective stunning
7. Determining the cause of ineffective stunning
8. Performing effective slaughter after stunning

6. Slaughter – without stunning

This SOP relates to the use of restraining boxes for slaughtering livestock without the use of stunning. The slaughter process can have implications for both animal welfare and carcass quality. Slaughtermen need to be able to recognise and solve problems of poor bleeding. Procedures cover the following processes:

1. Inspection and preparation of the restraining device
2. Moving animals into position with minimum stress
3. Reducing animal handling
4. Restraint of the animal for slaughter
5. Performing effective slaughter
6. Recognising and rectifying problems with bleeding
7. Recognising brain death

Introduction

Producing a high-quality carcass and meat products depends on the consistent operation of the systems in the chain. The basic procedures are:

- Feedlot management
- Land transport
- Receiving of animals at the abattoir
- Design and operation of the lairage facility
- Animal handling
- Restraint for slaughter
- Stunning
- Slaughter

The management of each of these procedures is made up of a number of individual steps. For example, lairaging is made up of managing and maintaining the lairage environment, inspecting and monitoring the animals, and providing the animal's basic needs (such as food and water). A documented standard operating procedure needs to incorporate each of these steps, and identify areas where further work instructions are required.

Persons engaged in the unloading, moving, lairage, care, restraint, stunning and slaughter of animals play an important role in the welfare of those animals, and consequently will have an impact on the quality of the final product.

All people involved in the handling of animals have an obligation to ensure that these animals are treated well and not placed under stress. This includes truck drivers, stockmen, slaughtermen and people involved in further dressing. Poor handling of stock can make them difficult to move and result in injury to both the animal and the stockman.

KEY POINTS

Animal handler and slaughterman competency as well as the ability to effectively restrain cattle are considered to be the greatest factors impacting animal welfare, worker safety and quality of the final product.

Standard Operating Procedures (SOPs) are designed to allow safe and effective use of facilities and equipment whilst protecting or improving both animal welfare and carcass quality. Standard Operating Procedures (SOPs) are different in scope and content to a Work Instruction (WI). An SOP is written with a general overview of what will be done and the various steps of the process. A work instruction will provide specific details of who is responsible and how to do something. For example, a work instruction will give step-by-step instructions on how to complete an individual task. SOPs ensure that all workers are informed of what is expected and help them perform their jobs well.

Purpose and scope

The SOPs cover pre-slaughter and slaughter management of Australian cattle in feedlots and abattoirs. The purpose is to outline the procedure for receiving, handling, stunning and slaughtering livestock and to ensure that optimal efficiency and meat quality is obtained and welfare is not compromised. This document applies to all Australian cattle handled and processed in overseas markets.

1. Animal handling

Key objectives

- Using the natural behaviour of livestock to move them
- Low-stress animal handling
- Effective use of a cattle talker to move stock
- Inspecting and improving handling facilities

This module incorporates the requirements of the OIE Terrestrial Animal Health Code Article 7.5.1, 7.5.2 and 7.5.3.

OIE STANDARD

Painful procedures should not be used to move animals.

These include:

- whipping
- tail twisting
- use of nose twitches
- pressure on the eyes, ears or external genitalia
- use of goads or other aids that cause pain and suffering (including large sticks, sticks with sharp ends, lengths of metal piping, fencing wire or heavy leather belts).

1.1 Design and maintenance of handling facilities

- 1) Check that the lighting between lairage and the restraining box is subdued and even; consistent lighting in the receival, lairage and abattoir areas encourages calm animal movement.

KEY POINTS

During the day, strong contrast in light between open yards and shaded pens and races can affect animal movement. Cattle prefer to move from dark to light areas rather than from light to dark.

- 2) Passageways and races should be either straight or consistently curved.
- 3) All surfaces should be non-slip, particularly the approach to the abattoir or restraining device. If not, animals must be moved slowly to reduce slipping.
- 4) Minimise the number of workers surrounding the raceways and restraining devices to reduce visual stimulation.
- 5) Keep noises levels down, for example, do not bang gates.
- 6) Keep the slaughter area clean to reduce offensive smells as these can affect animal movement.
- 7) Keep the surface between the handling race and the restraining device as clean and dry as possible. Changes in the surface can cause cattle to slip and fall.

KEY POINTS

Environmental factors that have an effect on cattle movement:

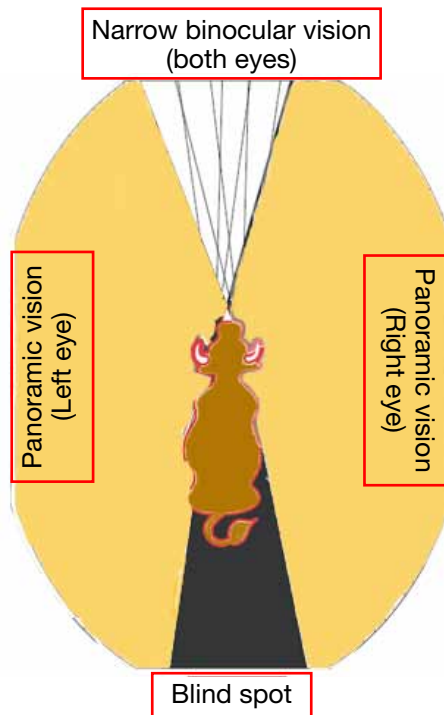
- Reflections on puddles/metal
- Chains and loose ropes
- Metal banging
- High pitched noise eg pneumatics
- Air blowing in the animal's face
- Clothing hung on the race
- People moving into the path of the animal
- Changes in flooring and texture
- Trying to move animals from light to dark
- Dead ends
- Uneven floors and changes in floor surfaces

- 8) Clear any standing water and poorly drained areas before moving animals through the system.
- 9) Keep a special watch on slippery corners and areas where animals hesitate or stop. A stockman placed near this area can help with the movement of livestock.



Pooling water can cause cattle to slip and fall.

- Do not hold cattle for long periods in confined spaces such as races. They can become stressed if they are not able to move when agitated.



The handler uses the zones of the animal's vision to communicate with it.



Apply pressure to the group by moving across the back of the group (left to right).

KEY POINTS

Prepare an emergency plan for easily releasing animals from the race. If an animal became trapped in the race, how will it be removed? Does the race have side-opening gates?

- Remove all objects hanging on or over the races before moving animals through the system. These can cause baulking or flight reactions.
- Animal handlers should be aware of emergency escape routes.

KEY POINTS

Remove objects such as clothing, hose pipes, litter, buckets and ropes. The race should be completely cleared to allow animals to move down the race without hesitation.

1.2 Moving and drafting livestock

- Work as a team to move and draft livestock—with all aware of their responsibilities.
- Learn about animal behaviour and use this knowledge to move cattle calmly and effectively.
- Using movement and position to move cattle, always work on the side of the animal. Do not stand directly behind it in its blind spot.

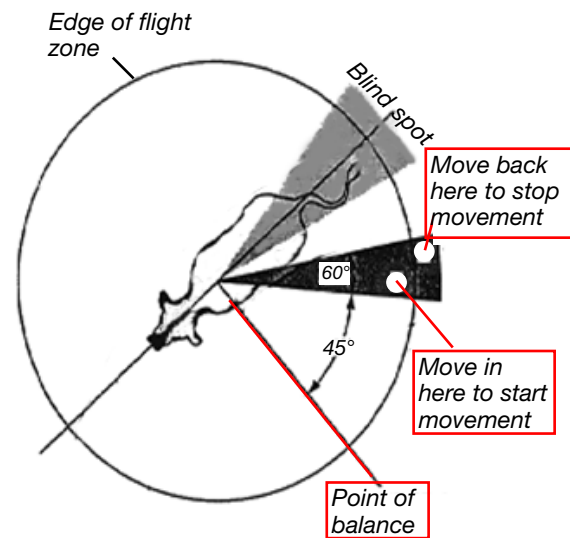
KEY POINTS

An understanding of animal behavior is important when handling animals. The main behavioral characteristics for moving livestock are:

- Vision and reaction to movement
- Reaction to noise
- Flight zone and fear reaction
- Size and strength

- When moving animals from pens into a gateway or race, work in a 'pressure-release' pattern at the edge of the flight zone so that the animal moves away but does not run.

- 5) Apply pressure to the group by moving across the back of the group in a cross style (left to right) pattern.
- 6) Always apply pressure in the correct position and when the animal is moving in the right direction release the pressure by moving out of the flight zone.
- 7) Do not try to make animals move (by moving into the flight zone) if they have nowhere to go.
- 8) Always be aware of your surroundings, and remember to close gates behind you.
- 9) Avoid getting animals too excited. All handling should be performed calmly and quietly.
- 10) Never hit or put pressure on an animal that is already moving in the right direction.
- 11) Minimise stress by limiting human interaction with the cattle. Keep unnecessary people out of the way.
- 12) Do not chase lone animals, or cause an animal to become isolated from the group. Always move the last two animals in a pen together; do not leave a single animal on its own.



'Pressure and release'. Handler moves into flight zone behind the point of balance to start animal to move, and then moves back when it is going in the right direction.

KEY POINTS

Cattle have a herding instinct and naturally like to follow each other and stay in a group. Use this behavior as much as possible when handling animals in races and pens. A lone animal can be dangerous.

- 13) Keep sudden movements and loud noises to a minimum. Do not whistle, shout or bang gates.
- 14) The point of balance is an imaginary line drawn across the animal's shoulders. Once the animal is in the race, use the point of balance to move it forwards. Approach the animal from behind the point of balance to move it forwards. Approach from in front of the point of balance to move it backwards.
- 15) Move down the side of the race in the opposite direction to keep the animal moving forwards.
- 16) Do not leave animals in the race during break times or delays.



A lone animal is nervous and dangerous.

KEY POINTS

Managers must know their obligations with respect to the OIE standards. Where a worker is found to be mishandling livestock, all workers have a responsibility to inform a supervisor or instruct the worker on the correct procedures.

1.3 Use of cattle talkers

KEY POINTS

The cattle talker is a tool to make the stockman appear bigger when moving livestock. The noise produced by the plastic strips on the cattle talker can make the animals move forwards. The talker must not be used to hit or prod livestock.

- 1) Touch only the hindquarters of the animal with the cattle talker.
- 2) Never use the cattle talker directly on the face of an animal in an attempt to make it stop or turn.
- 3) Cattle talkers and other goads should not be used repeatedly if the animal fails to respond or move. Investigate if there is anything preventing the animal from moving.
- 4) Use cattle talkers to assist in controlling and communicating to animals. They are not to be used to injure or hit animals.

KEY POINTS

Electric prodders reduce productivity and upset the animals. Good stockmen should need to use electric prodders only if they are in immediate danger.

- 5) Stockmen must not carry or routinely use electric prodders. They can be used only when the stockman is in danger.

KEY POINTS

Position of the animal handler, with a good understanding of the animal's flight zone, is the most effective, and least stressful, tool for moving livestock. Movement of the body, such as waving hands, helps make the handler appear bigger to the animal.



Cattle talker helps to move animals without striking them.



The cattle talker is used as an extension of the stockman's body.

2. Land transport

Key objectives

- Use and maintenance of facilities and equipment
- Placing livestock in appropriate groups for transportation
- Loading and unloading with minimum stress
- Identifying and managing injured animals

This module incorporates the requirements of the OIE Terrestrial Animal Health Code Article 7.5.2, 7.5.3 and 7.5.4.

2.1 Transport equipment and facilities

- 1) Before loading or unloading livestock, check that the facilities will not cause injury to the animals.

KEY POINTS

Check for damage to flooring, such as potholes that can cause animals to stumble and fall. Damage to metal rails and panels can cause injury to the cattle.

- 2) If the facilities are likely to cause injury, the damage must be fixed immediately or the animals loaded/unloaded elsewhere.
- 3) Remove any distractions from the loading/unloading facilities that may cause animals to stop, baulk or turn back.

KEY POINTS

Common distractions include:

- reflections on shiny or wet floors
- dark entrances
- moving people or equipment up ahead
- dead ends
- uneven floors or a sudden drop in floor level
- noisy equipment

- 4) Check livestock trucks for any signs of damage and wear that could injure animals and report obvious damage to the truck driver or supervisor.

KEY POINTS

Damage to trucks may include:

- holes in the floor
- sharp metal protrusions
- damage to the partitions/ramps or tailgate.

It is useful to create a checklist that can be used to carry out an inspection of the trucks.

- 5) Give instructions that any repairs to a damaged truck must be completed before it is used again to transport cattle.
- 6) All livestock must be loaded/unloaded by an experienced stockman, stevedore or livestock truck driver.
- 7) Sufficient pens and races must be available before starting to unload.



Welded pipe cleats provide good footing and reduce slipping and injuries.



Steel mesh for reinforcing concrete is too light and needs to be replaced if it breaks up.

- 8) Check that the slope of the ramp does not exceed about 30 degrees.

KEY POINTS

A ramp angle less than 20 degrees makes it easier to unload cattle.

- 9) Check that the surface of the ramp, or the tailgate of the truck when this forms part of the ramp, is not slippery.

KEY POINTS

Dry bedding placed on the surface, for example rice hulls or saw dust, will help the animal to grip during unloading, especially when the ramp is wet. Welded pipe cleats or 'patterned concrete' can provide the animals with a good grip.

KEY POINTS

Where the truck's tailgate forms part of the ramp, mesh or timber cross-members may be added to help ensure that animals do not slip on the tailgate during loading and unloading.



Slippery truck floors should be covered with bedding.

- 10) Lighting should be provided for loading/unloading at night.

KEY POINTS

If possible, lighting should be even over ramps, races, yards and pens. It should not cause shadows or bright spots, which may make cattle difficult to move.

- 11) Ensure that there is sufficient light to encourage animals to move on or off the truck, but make sure that the light is not directed into their eyes (eg spotlight or sunlight).

2.2 Unloading from the vessel at the port of disembarkation

- 1) Unloading must not begin until the unloading platforms/gateways are secure and suitable trucks are available to deliver livestock to the feedlot.
- 2) The time that trucks arrive should be planned as accurately as possible to allow the smooth flow of livestock from the vessel.
- 3) Discharge of livestock from the vessel and movement to the trucks must only be undertaken by experienced, skilled personnel.
- 4) Stevedores should be ready to load livestock onto the waiting trucks as soon as discharge of the vessel begins.
- 5) Animals should not be held on the ramp of the vessel or in handling races for extended periods prior to loading onto trucks.
- 6) Use SOP 1: Animal Handling for an understanding of the correct procedures that must be used during the vessel discharge process.
- 7) Electric goads must not be used during unloading from the vessel.

OIE STANDARD

Assembly/holding areas should be designed to protect animals from exposure to severe weather conditions.

2.3 Loading livestock onto trucks

- 1) Check that the number of animals that should be transported on a vehicle or in a container, and their allocation to compartments, has been determined before loading begins.
- 2) Prior to loading, ensure that trucks are aligned with the lip of the ramp with no gap.
- 3) Loading must only be undertaken by experienced, skilled personnel.
- 4) Move animals in small manageable groups from the collecting pens/unloading ramp to the truck.
- 5) Allow animals to move onto trucks at their own speed, particularly if the floor of the truck is not constructed from non-slip material.
- 6) Make sure that you read and understand SOP 1: Animal handling which covers handling procedures in more detail.

KEY POINTS

An animal may lower its head to sniff the ramp and walk onto the truck. Allow the animal to move on in its own time.

- 7) Do not stand in front of the animals or in their direct field of vision as this can stop them moving onto the truck. Standing to one side will encourage animal movement.
- 8) Observe each animal as it walks past for signs of lameness and injury.



Check animals for signs of lameness or injury.

- 9) Check that all the animals are fit for transport. Sick and injured livestock must not be loaded.



Never use sticks, clubs or pipes to hit animals

OIE STANDARDS

When animals are standing, they should have sufficient space to adopt a balanced position.

When animals lie down, they should all be able to adopt a normal lying posture, without being on top of one another.



Suitable loading density for cattle to remain standing during trucking.

KEY POINTS

Unfit animals that must not be transported include those that are unable to stand on all four legs and those that are blind in both eyes.

- 10) To make handling easier, try to keep groups of animals from the vessel or feedlot together during loading and on the truck.

KEY POINTS

Mixing different groups of animals together can lead to fighting which may result in injury or poor meat quality.

- 11) Do not use sticks, lengths of plastic or metal pipe and thick leather belts to hit livestock.
 12) Sticks can be used as an extension of your arms for making yourself appear bigger, for example, to fill the space in a gateway.
 13) Goads (cattle talkers) or metal rattles can be used to encourage movement, but not to hit the animal.
 14) Electric goads must not be used during loading.

KEY POINTS

Most injuries and stress occur during loading and unloading.

- 15) Check that the animals on the truck have sufficient space to stand comfortably.
 16) Try to maintain animals in their social groups wherever possible.

KEY POINTS

Stocking densities for trucking may need to be higher than those in the feedlot.

- possible. Only mix horned and unhorned animals if they are compatible (for example, they have previously been transported together with no identified issues).
 17) Do not transport pregnant animals to slaughter.
 18) Close the tailgate of the truck before it moves away from the ramp to minimise the chance of animals escaping.
 19) Once loading has been completed, animals should be transported without delay and not held on a stationary truck.

2.4 Unloading livestock from trucks

- 1) Animals should be unloaded at the feedlot/abattoir within one hour of arrival. At the abattoir, animals should be slaughtered in order of their arrival to make movement through the yards more straightforward and limit lairage time.
- 2) If animals are to be held overnight, check the requirements for food and water in 'SOP 4: Lairage' (for abattoirs) or 'SOP 3: Feedlot'.

KEY POINTS

When preparing facilities and equipment for unloading, remember that animals are likely to be fatigued.

- 3) Trucks must be reversed slowly and calmly up to the unloading ramp.
- 4) Ensure that trucks are aligned with the lip of the ramp so that there is no gap.
- 5) Unloading must be undertaken only by experienced, skilled personnel.
- 6) Allow animals to move off the trucks at their own speed, particularly if the floor of the truck is not constructed from non-slip material.
- 7) Make sure that you read and understand SOP 1: Animal handling, which covers handling procedures in more detail.
- 8) Do not stand in front of the animals or in their direct field of vision as this can stop animals moving off the truck. Standing to one side will encourage animal movement.

KEY POINTS

An animal may lower its head to sniff the ramp and walk off the truck. Allow the animal to move on in its own time.

- 9) Observe each animal as it walks past for signs of lameness and injury. See 'SOP 3: Feedlot' or 'SOP 4: Lairage' for management of sick and injured animals.
- 10) To make handling easier, try to keep transport groups of animals together when moving them into the feedlot or lairage.
- 11) Do not use sticks, lengths of plastic or metal pipe and thick leather belts to hit livestock.
- 12) Sticks can be used as an extension of your arms for making yourself appear bigger, for example, to fill the space in a gateway.
- 13) Cattle talkers can be used to encourage movement, but must not be used to hit animals.
- 14) Stockmen must not carry or routinely use electric prodders. They can be used only when the stockman is in danger.



Clean water must be available when cattle are held overnight.



Move animals together in their groups.

15) After unloading, move animals into the feedlot or lairage

KEY POINTS

Most injuries and stress occur during loading and unloading.

facility and pen according to customer requirements and instruction from your supervisor.

16) Consider the effects of mixing different groups when allocating animals to pens.

KEY POINTS

Mixing different groups of animals together can lead to fighting, which may result in injury and poor meat quality.

17) At the abattoir, in the event of a prolonged breakdown, stop any further deliveries to ensure that there is sufficient space for animals in the lairage.

2.5 Inspection of animals and management of downer livestock

- 1) Downer animals (animals that cannot walk or stand) have specific requirements with regard to handling, transport and management.
- 2) Closely observe animals at loading and unloading to check for injuries. Injured animals must not be transported; if fitness to travel is in doubt, consult a veterinarian.
- 3) If animals have been injured during transport and cannot be unloaded without causing further pain and distress, unload sound livestock first, as calmly as possible.

KEY POINTS

Transport conditions, such as uneven road surfaces, may increase the chance of injuries on the journey. Check animals for injuries to the legs and tail particularly.

- 4) Severely injured animals need to be killed immediately. This must be performed on the truck if safe to do so.

KEY POINTS

Large downer animals are difficult to move without causing extra suffering. It is therefore better to kill them where they lie.

Injuries and conditions that require the animal to be killed immediately include:

- fractures of the legs, hips or spine
- emaciation and debilitation
- paralysis from traumatic injuries or disease that result in immobility
- blindness
- profuse bleeding or serious injury.

- 5) Kill downer livestock by slaughtering with a sharp knife or by using a captive bolt pistol. Follow the appropriate work instructions. Assistance should be sought from a veterinarian or competent person where necessary.
- 6) Live animals must not be lifted by the horns, legs or tail, and they must not be dragged. Never tie the injured animal to a fixed point and then drive the truck away.
- 7) If moving a sick or injured animal will not cause further pain or distress, move it to a separate pen as soon as possible for slaughter or treatment. See SOP 4 Feedlot for the treatment of sick and injured livestock.

KEY POINTS

Do not hold injured animals for long periods of time. A severely injured animal that arrives during the day must not be held until the slaughter floor is operating later in the evening.

OIE STANDARDS

Downer animals (animals that cannot stand or walk unaided) must never be dragged.



Severely injured animals should be killed immediately.

2.6 Handling escaped animals

- 1) Work as a team to move the animal back to the pen, but keep unnecessary people out of the way.
- 2) Do not try to isolate an escaped animal; try to herd it back towards the group.
- 3) Do not make sudden movements or loud noises.
- 4) Do not position yourself behind gates as you can be easily crushed by a frightened animal.

KEY POINTS

Be especially careful of animals that have had little human contact. Many of the cattle brought from Australia have been reared on large properties and may not be used to handling.

- 5) Attempt to humanely return escaped animals promptly to the yards.
- 6) If there is only one escapee animal, allow it to quieten down before returning to the yard.
- 7) If the animal is too excited and unmanageable, it may be better to release the rest of the pen of animals and allow the animal to return to the group before returning to the pen.
- 8) If possible, lock exit gates to prevent animals from leaving the premises.

3. Feedlot operation

Key objectives

- **Preparation of facilities for the arrival of livestock**
- **Identifying and managing injured animals**
- **Managing livestock in appropriate groups**
- **Provision of food, water and a safe environment**
- **Preparation of livestock for transport to the abattoir**

This module incorporates the requirements of the OIE Terrestrial Animal Health Code Article 7.5.2, 7.5.6 and 7.5.10

3.1 Before receipt of livestock

1. Thoroughly clean and check feedlot and quarantine facilities before livestock arrive.
2. Clean and fill water troughs with fresh water.
3. Ensure that there are a sufficient number of pens to accommodate the planned number of livestock.
4. Make sure that the number of animals per pen will allow all animals to stand up, lie down, turn around and access feed and water points.

KEY POINTS

Fully covered pens can be stocked more densely (2.5–4m² per head) than partially covered pens (5–9m² per head); however, all animals must have sufficient access to feed and water.

5. Before unloading livestock, check the unloading facilities to ensure that they will not cause injury to the animals.

KEY POINTS

Check for damage to flooring, such as potholes that can cause animals to fall. Damage to metal rails and panels can cause injury to the cattle.

6. If the unloading facilities are likely to cause injury, animals must be off-loaded elsewhere or the damage must be fixed first.
7. Check that the slope of the unloading ramp does not exceed about 30 degrees.

KEY POINTS

A ramp angle less than 20 degrees makes it easier to unload cattle.

8. Check that the surface of the unloading ramp is not slippery.

KEY POINTS

Dry bedding placed on the surface, for example rice hulls or saw dust, will help the animal to grip during unloading, especially when the ramp is wet. Welded mesh, 'patterned concrete' or timber rails can be fitted to provide the animals with a good grip.

9. Time when the trucks should arrive as accurately as possible.
10. Ensure that stockmen are ready to receive animals when the trucks arrive. This will reduce waiting time on the trucks before unloading.

KEY POINTS

Good feedlot management is critical to the success of a feedlot as it will determine:

- Liveweight gain
- Sale weight
- Carcase quality
- Selling price



Unloading facilities should be checked before transport arrives.

KEY POINTS

Prepare a contingency plan to protect welfare of the animals in the event of unusual circumstances such as natural disaster, disease outbreak or prolonged delays.

3.2 Feedlot design and maintenance



Clean water must be available when cattle arrive.



Repair all damage to feedlot facilities.

1. Before animals arrive at the feedlot or quarantine facility, inspect the facilities for signs of damage that could injure the incoming livestock.

KEY POINTS

The feedlot inspection should include a check for faulty gates and fences; broken gates or drain covers; slippery floors or surfaces; pointed or sharp objects; leaking or broken water devices.

2. Any facilities that may cause injury or have an adverse effect on animal welfare must be repaired or not used.
3. All dirty equipment (eg water troughs, manure build-up in pens) should be cleaned before animals arrive at the feedlot.
4. Sawdust provides the animal with a non-slip pad which absorbs urine and faeces.

KEY POINTS

Sawdust provides the animal with a non-slip pad on which to lie.

5. Check that water is available in all the pens.

KEY POINTS

Feedlot pens should provide shelter and shade to protect livestock from the harmful effects of extreme temperatures, humidity, wind and rain.

6. Check that water troughs are in working order, with no leaks or overflow. Make sure that the flow rate is sufficient to provide all livestock with their daily intake of water.
7. Ensure that lighting is even and conducive to animal movement.

3.3 Unloading livestock

1. Livestock must be unloaded by an experienced stockman or livestock truck driver.
2. Read and understand 'SOP 2: Land transport' for appropriate unloading procedures.
3. Read and understand 'SOP 1: Animal handling' which covers animal handling in more detail.
4. Where possible, retain social groupings—try to keep cattle from the same pen on the ship together in the quarantine facility.
5. If sick and injured animals are identified during unloading, follow the steps described in 'SOP 2: Land transport'.
6. If moving a sick or injured animal will not cause further pain or distress, move to a separate hospital pen for treatment.
7. Allow any segregated sick or injured animals to see and hear other livestock.

KEY POINTS

Do not hold injured animals for long periods of time without veterinary treatment.

8. Once the animals have been unloaded, inspect them again for any injuries or illness that may have been missed.

KEY POINTS

Cattle that are more susceptible to certain conditions:

Heavier cattle – injury and heat stress

Larger cattle – hip haematoma

Hereford and Angus – eye infections

Nervous/agitated cattle – heat stress

Bulls – injury

Temperate cattle – heat stress

Dirty cattle – heat stress

3.4 Handling escaped animals

1. Read and understand 'SOP 2: Land transport'

KEY POINTS

During inspection, observe the animal's flight zone (See 'SOP 1: Animal handling'). If the flight zone is approached quickly, the animal may act aggressively or move away. Slow, calm movement during inspection is essential.



Allow animals to move at their own speed.



Check for injuries, especially to legs.



3.5 Animal husbandry practices



Allow new arrivals to rest on good bedding for three days.

KEY POINTS

Early detection of problems relies almost exclusively on using skilled observers. All cattle should be seen standing and moving during daily inspections. Record any observations to allow for effective management of the feedlot and optimum efficiency.

1. For the first three days, allow animals to rest in pens, with bedding available (in covered pens).

KEY POINTS

Do not perform normal induction activities, such as vaccination, ear tagging and blood testing, for the first three days.

2. Separate stock according to sex, age, weight and/or customer requirements.

KEY POINTS

Locating stock using a system of pen numbers and a blackboard enables good record keeping and can assist with the movement of stock through the feedlot.

3. If possible, keep groups that arrive together in the same pen throughout their time in quarantine and while at the feedlot.

KEY POINTS

Horned animals may injure other stock if penned too tightly. Look for riding behaviour and signs of aggression, and separate aggressive animals. Temperate breeds are more prone to heat stress, so pen Brahman cattle in the hotter parts of the feedlot.

4. Do not isolate individual animals.
5. Inspect the feedlot facilities/equipment and animals twice daily.

KEY POINTS

Inspections should involve observations of animal behaviour and general appearance, the feedlot environment and other indicators of animal health such as appearance of fresh dung and feed/water intake.



Check for animals that are not eating.

6. Perform additional inspections on new animals, the hospital pens and the pens that any sick cattle came from.
7. During inspection, look for animals that are not eating, look 'hollow', or have runny dung. Remove any animals with these symptoms and place in a separate pen for closer management.
8. When weighing and sorting animals or administering treatments, follow the steps outlined in 'SOP 1: Animal handling'.
9. Make sure that the pens are cleaned frequently.

KEY POINTS

Cleaning pens regularly to minimise dung build-up will help to prevent the infection of hooves, legs and hides.

Provision of feed and water

1. Provide animals that have been recently transported with roughage (and water) as soon as possible (before feeding concentrate).

KEY POINTS

Healthy cattle will lie down and ruminate after a good feed of effective fibre; they can then start to eat concentrate feed.

2. Check that all cattle can access a constant supply of clean water at all times.
3. Ensure that feed of sufficient quality and quantity is available to all animals.
4. Check that the chop length of any roughage is 2.5–3cm for optimal feed intake.
5. Feed roughage before concentrate in systems where they cannot be mixed together.
6. Introduce any changes to the diet gradually over 1-2 weeks if possible.

KEY POINTS

Irregular feeding or long periods without feed and water can severely affect animal health and even lead to death.

7. Remove any mouldy feed from troughs at least once a day.
8. Make sure that the water troughs have not been contaminated with dung or feed, and clean any dirty troughs.
9. Check the watering points more frequently for the first 24–36 hours after animal arrival.



Feed fibre of effective length before feeding concentrate.



Remove stale or mouldy feed at least once a day.

3.6 Management and treatment of sick and injured animals

1. Check the requirements of the feedlot veterinary health plan in addition to the steps described in this SOP.

KEY POINTS

Prepare a veterinary health plan for the feedlot. This plan should outline strategies to prevent and treat any health disorders.

2. Hospital pen facilities should provide:
 - bedding to allow animals to rest comfortably
 - shade and protection against extreme conditions
 - feed and water readily available
 - visual and audible contact with other cattle.

KEY POINTS

Establish hospital pens for segregating and treating sick or injured animals.

3. The hospital pen should be regularly inspected by a veterinarian at least twice a day.

KEY POINTS

Disease in the feedlot can be largely prevented through good management by emphasising husbandry, nutrition, biosecurity and preventive health programs.

4. Animals must be treated in accordance with the feedlot's veterinary health plan.
5. Veterinary treatment should be performed by a competent person using the appropriate work instructions.
6. Continue treatment of an animal only if it can be expected to make a full recovery.
7. Read and understand 'SOP 2: Land transport' for the appropriate treatment of downer livestock.
8. Animals that are not responding to treatment should be humanely killed. 'SOP 5: Slaughter – with stunning' and 'SOP 6; Slaughter – without stunning' deal with the slaughter of livestock, and these procedures must also be followed when killing downer livestock.
9. Calves born in the feedlot should be segregated with their mothers or humanely killed.



Injured tail, often seen on animals that are sick and want to stay lying down.

OIE STANDARDS

Water, and feed if appropriate, should be available for each sick or injured animal.



Acidosis can be a major cause of sickness and results from incorrect feeding – the signs are watery dung and bubbles of gas.

3.7 Management during extreme environmental conditions

KEY POINTS

Climate can be an important consideration when managing livestock in a feedlot. Extremes of weather may impact on animal welfare by causing heat or cold stress. Low temperatures with wind and rain may cause the animals to become chilled, while a heatwave may result in severe heat stress. The impact of extreme weather can be severe on animals that have arrived from Australia.

1. Shade should be available to all cattle during hot environmental conditions.

KEY POINTS

Cattle from temperate regions are more likely to show signs of heat stress during extreme temperature. Provide adequate shade to alleviate heat stress.

2. Check animals for signs of heat stress by looking for rapid breathing.

KEY POINTS

Normal breathing rate is around 25–40 breaths per minute. Heat-stressed animals may have a breathing rate around 150 breaths per minute, and may also show signs of drooling with their tongue out.

3. Check water troughs more frequently, to ensure that livestock have an unlimited supply of fresh water.
4. Consider spreading stock out in the feedlot to decrease the density in the pens and increase air circulation.

KEY POINTS

Heat-stressed cattle should be handled calmly and quietly. Move them only if absolutely necessary.

5. In cold weather, hold stock in pens that are protected from the prevailing winds, and move susceptible animals to the warmer areas of the feedlot

KEY POINTS

Animals that are susceptible to the cold include cattle with thin coats, young stock and wet animals.

KEY POINTS

Dirty animals are more prone to heat stress. Clean pens help keep cattle clean.



Well-designed feedlot with shelter from sun and rain and with good ventilation



Sign of heat stress – rapid breathing and drooling

3.8 Loading facility design and maintenance

1. Before loading livestock, check the loading facilities to ensure that they will not cause injury to the animals.

KEY POINTS

Check for damage to flooring, such as potholes that can cause animals to fall. Damage to metal rails and panels can cause injury to the cattle.

2. If the loading facilities are likely to cause injury, animals must be loaded elsewhere or the damage must be fixed first.
3. Check that the surface of the loading ramp is not slippery.

KEY POINTS

Dry bedding placed on the surface, for example rice hulls or saw dust, will help the animal to grip during loading, especially when the ramp is wet. Welded mesh, 'patterned concrete' or timber rails can be fitted to provide the animals with a good grip.



Welded pipe cleats provide good footing and reduce slipping and injuries.



Slippery truck floors should be covered with bedding.

3.9 Preparation of livestock for loading

1. Inspect livestock for fitness to travel. Follow the steps described in 'SOP 2: Land transport'.
2. Only livestock that are suitable for slaughter should be transported. These must be selected before loading starts to minimise the length of time livestock spend on the truck.
3. Pregnant animals must not be loaded for transport to slaughter.
4. All livestock must be loaded by an experienced stockman or livestock truck driver.
5. Read and understand 'SOP 1: Animal handling', which covers animal handling in more detail, and 'SOP 2: Land transport', which covers the loading process.

4. Lairage

Key objectives

- Inspection of holding facilities
- Appropriate stocking density
- Provision of feed and water
- Managing animals during heat stress conditions

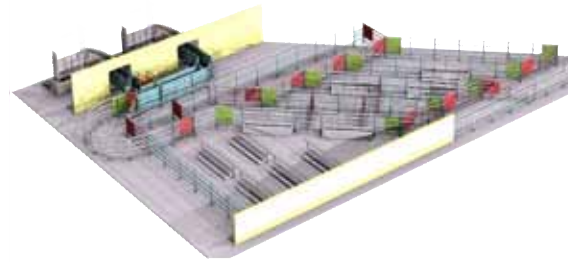
This module incorporates the requirements of the OIE Terrestrial Animal Health Code Article 7.5.2, 7.5.6 and 7.5.10

4.1 Holding facility design and maintenance

- 1) Lairage design should enable sick or injured animals to be removed at any time with minimal disturbance.
- 2) Lairages should be adequately ventilated to minimise humidity.
- 3) Feed and water troughs should allow adequate access for all animals. Troughs should not hinder the movement of animals.

KEY POINTS

Lairage facilities should provide shelter and shade to protect livestock from the harmful effects of extreme temperatures, humidity, wind and rain. If possible, the lairage should be located away from the more active areas of the abattoir.



Well designed lairage enables easy handling and faster throughput.

- 4) There should be a well-lit area to enable the animals to be inspected.
- 5) Before animals arrive at the abattoir, inspect the holding facility for signs of damage that could injure the incoming livestock.

KEY POINTS

Holding facilities include all pens, fences, gateways, floor surfaces, roofs and watering facilities. The inspection should include a check for faulty gates and fences; broken gates or drain covers; slippery floors or surfaces; pointed or sharp objects; leaking or broken water devices.

- 6) Repair, or do not use, any facilities that may cause injury or have an adverse effect on animal welfare or carcass quality.
- 7) Clean all dirty equipment (eg water troughs, faeces build-up in pens) before animals arrive at the lairage.
- 8) Where bedding is provided, it should be maintained in a condition that minimises risks to health and safety of the animals.



Holding pens should be large enough for all stock to stand, turn around and lie down.

KEY POINTS

Sawdust provides the animal with a non-slip pad which absorbs urine and faeces.

- 9) Check that the holding pens provide enough space for the animals arriving. They must be able to stand-up, lie down and turn around (this is the equivalent of at least 1.8m² per animal).
- 10) Check that water is available in all the pens until the animals are slaughtered.

4.2 Animal management in the lairage

- 1) Stock may need to be separated according to sex, age, weight or customer requirements.

KEY POINTS

Horned animals may injure other stock if penned too tightly. Look for riding behaviour and signs of aggression, and separate aggressive animals. Bulls that have not been penned together on the feedlot should not be mixed in the lairage.

- 2) Consider animals with special requirements in the lairage.

KEY POINTS

Temperate breeds are more prone to heat stress, so pen Brahman cattle in the hotter parts of the lairage.

- 3) If possible, keep groups that arrive together in the same pen.
- 4) Do not isolate individual animals.
- 5) Ensure that all the animals in the lairage (even those being slaughtered the same day) have access to clean drinking water. Clean any water troughs contaminated with faeces or feed.

KEY POINTS

Allowing animals to rehydrate by providing continuous access to fresh water improves carcass weight and meat yield.

- 6) Animals held for prolonged periods (>12 hours) must also be provided with feed.

KEY POINTS

For optimum meat quality, animals should be provided with feed on arrival and up to the point of slaughter. Feeding animals in the lairage can also make them easier to handle.

- 7) Animals returned to the lairage during breakdowns must have access to water.
- 8) Animals held in lairage for more than 12 hours must be inspected at least twice a day by a competent animal handler.
- 9) If sick or injured animals are identified during the inspection of the lairage, follow the requirements for in 'SOP 2: Receipt of livestock' (Section 2.4).

KEY POINTS

A system of pen numbers and a blackboard helps to locate stock, assists with the movement of stock through the abattoir, and enables good record keeping.



Animals held for more than 12 hours must be provided with feed.



Fouled water troughs must be cleaned.

4.3 Management during extreme environmental conditions

KEY POINTS

Consider weather conditions when managing livestock at unloading and in lairage. Extremes may impact animal welfare by causing heat or cold stress. Low temperatures with wind and rain may cause the animals to become chilled, while a heat wave may result in severe heat stress. Extreme heat and humidity can severely affect animals that have recently arrived from Australia.

- 1) Shade should be available to all cattle during hot environmental conditions.

KEY POINTS

Cattle from temperate regions are more likely to show signs of heat stress during extreme temperature. Provide adequate shade to alleviate heat stress.

- 2) Check animals for rapid breathing or other signs of heat stress.

KEY POINTS

Normal breathing rate is around 25-40 breaths per minute. Heat-stressed animals may have a breathing rate around 150 breaths per minute, and may also show signs of drooling with their tongue out.

- 3) Check water troughs more frequently to ensure that livestock have an unlimited supply of fresh water.
- 4) Consider spreading stock out in the lairage to decrease the density in the pens and increase air circulation.

KEY POINTS

Heat-stressed cattle should be handled calmly and quietly. Move them only if absolutely necessary.

- 5) In cold weather, hold stock in pens that are protected from the prevailing winds and move susceptible animals to the warmer areas of the lairage.

KEY POINTS

Animals that are susceptible to the cold include those with thin or wet coats and young stock.



Shade should be provided during very hot conditions.



Spreading stock through the lairage will increase air circulation during hot conditions.

Notes

5. Slaughter – with stunning

Key objectives

- Inspection and preparation of the restraining device
- Moving animals into the device with minimum stress
- Reducing animal handling
- Restraint of the animal for stunning and slaughter
- Operation and maintenance of stunning equipment
- Identification of effective stunning
- Determining the cause of ineffective stunning
- Performing effective slaughter after stunning

This module incorporates the requirements of the OIE Terrestrial Animal Health Code Article 7.5.7 and 7.5.9.

OIE STANDARD

From the point of view of animal welfare, animals that are stunned with a reversible method should be bled without delay.

The slaughterhouse operator should set up a maximum stun-stick interval that ensures that no animals recover consciousness during bleeding.

The time between stunning and sticking when a non-penetrating captive bolt pistol is used must be a maximum of 20 seconds.

OIE STANDARD

Restraining methods that immobilise by injury—such as breaking legs, cutting leg tendons or severing the spinal cord (using a puntilla or dagger—cause severe pain and stress, and must never be used.

5.1 Restraining device preparation

- 1) Workers not involved with the restraint or slaughter process should not be in the area.
- 2) Inspection and preparation of the restraining device should be completed before animals are moved from the lairage into the handling system.
- 3) Inspect the outside of the restraining device.
- 4) Inspect the head-restraining equipment.
- 5) Inspect the inside of the restraining device for obstructions and sharp edges. Remove any obstructions that can cause animals to hesitate when moving into the device.

KEY POINTS

Avoid spraying the floor of the device with water immediately before restraint as it increases the risk of the animal slipping and falling.

- 6) Inspect the screen between the restraining device and the slaughter floor to ensure that it is placed to reduce the amount of visual stimulation that animals are exposed to.



Stunning box. Prepare and inspect the device before moving animals from lairage.



Check the wheels and frame of the carcass trolley before use.

5.2 Moving animals into the restraining device

- 1) Before moving animals into the restraining device, make sure that the slaughter team are ready and all are aware of their responsibilities
- 2) Animals must be moved from the stockyard or raceway calmly with minimum stress (See 'SOP 1: Animal handling' for correct handling techniques).
- 3) Animals must be moved from the lairage only when the slaughter operation is due to begin, and not left in the race for prolonged periods.

KEY POINTS

Leaving cattle for prolonged periods in the race reduces carcase weight and meat quality.

- 4) The animal must not be moved into the device until the device operative, stunning operative and the slaughter man are ready.

KEY POINTS

Where a charge-activated stunning device is used, load the device before moving the animal into the restraining device.

- 5) Keep the noise level in the area immediately surrounding the device to a minimum.
- 6) Check that the exit door of the restraining device is closed before moving the animal into the device.
- 7) If the animal baulks, slips or falls, allow it to settle before attempting to drive it forward or restrain it.
- 8) When the device is ready, open the entry door and allow the animal to walk forward into the restraining device.
- 9) Animals must not be forced into the restraining device.
- 10) Do not leave animals in the restraining device during break times and breakdowns.
- 11) Reducing the time in restraint will reduce the likelihood of the animal becoming agitated and kicking the inside of the device.

5.3 The restraint process

- 1) Restrain the animal as soon as it is in position. Do not leave it waiting in the device.
- 2) If the animal falls in the device, give it time to stand before attempting to restrain the head.
- 3) The animal should now be positioned in the device with its head effectively restrained for stunning.
- 4) The restraint should apply sufficient pressure to hold the animal effectively, but not excessive pressure.

OIE STANDARD

When applying restraint, avoid applying excessive pressure that causes struggling or vocalisation (bellowing).

- 5) The stunning operative must be ready to stun the animal as soon as it is effectively restrained.

OIE STANDARD

Avoid sudden, jerky movements when applying restraint.

- 6) The slaughterman should be ready and waiting to stick the stunned animal as soon as it is released.
- 7) Do not pour water onto the animal during restraint, stunning or slaughter.

5.4 Operation of stunning equipment

- 1) Check the stunning equipment before the slaughter operation begins.
- 2) To dismantle and maintain the stunning equipment, refer to the appropriate work instruction.

KEY POINTS

The ability of a humane stunning device to deliver an effective stun largely depends on the speed of the bolt. Optimum velocity is achieved by ensuring that equipment is well maintained.

- 3) Do not get the stunning device wet.
- 4) For correct operation, refer to the appropriate work instruction.

KEY POINTS

Only workers who are trained and competent in performing the stunning process should perform the stunning operation. The stunning operative should understand the requirements of the relevant work instructions.



The captive bolt of the gun stuns but does not kill the animal.



Place the stunning device to this position on the animal's head.



5.5 Stunning procedure



The animal must be stunned in an upright position.



Head restraint allows accurate placement of stunning device.



Apply the stunning device at right angles to the animal's head.



- 1) Move the animal into the restraining device as described in Section 5.2. The animal must be stunned in an upright position.
- 2) The stunning operative must be ready to stun the animal as soon as it has been moved into the restraining device.
- 3) Restrain the head. The animal must be stunned as soon as the head of the animal is restrained.
- 4) Place the stunning equipment to the correct position on the animal's head and wait until the animal stops moving its head before firing.
- 5) Apply the stunning device at a right angle to the animal's head.
- 6) Do not 'chase' the animal's head with the stunning device.
- 7) Non-penetrating captive bolt pistols must not be used in the poll position, nor must the device be dropped onto the animal if it will not raise its head.
- 8) After firing, check that the animal collapses immediately before releasing from the restraining device.
- 9) The operator receiving the animal out of the restraining device (usually the sticking operative) must check that the animal is not breathing rhythmically and there is no corneal reflex (see signs of effective stunning).

KEY POINTS

Signs of an effective stunning:

- animal collapses immediately
- no rhythmic breathing
- no corneal reflex – eyes fixed and staring

The absence of rhythmic breathing is the best indicator of effective stunning.

- 10) Once an effective stun has been determined, sticking must be performed quickly.

OIE STANDARD

For animal welfare, animals that are stunned with a reversible method should be bled without delay.

The slaughterhouse operator should set a maximum stun-to-stick interval that ensures that no animals recover consciousness during bleeding. With a non-penetrating captive bolt pistol, this interval is no more than 20 seconds.

- 11) The time between stunning and sticking must be no longer than 20 seconds.
- 12) Check that the animal remains effectively stunned and unconscious before bleeding.

5.6 Management of ineffective stunning

- 1) If the initial stun is not effective, the stunning operative needs to take immediate action to re-stun the animal.

KEY POINTS

Signs of ineffective stunning:

- animal does not collapse immediately
- rhythmic breathing
- positive corneal reflex or eyes rolled
- escape behaviour

One or more of these signs indicates an ineffective stun and the animal must be re-stunned.

- 2) If ineffective stunning was caused by incorrect placement or a misfire, re-stun the animal immediately. However, if the ineffective stunning was caused by a fault with the stunning equipment, it must not be used to administer a second shot.
- 3) When a second shot is required, this should be placed in a different position to the first unsuccessful shot. If the first shot was correctly placed, the second shot should be placed slightly above this area. If the first shot was incorrectly placed, the second shot should be placed in the correct position.
- 4) Try to determine the cause of an ineffective stun before stunning the next animal.

KEY POINTS

Causes of ineffective stunning:

- incorrect positioning (eg caused by movement of the animal's head)
- poorly maintained or dirty equipment
- poor restraint
- thick hair on some European cross-breed cattle.

- 5) If the ineffective stun is caused by a fault with the stunning equipment, fix this before stunning the next animal, or use the back-up stunning device.
- 6) If the stunning equipment is inoperable, the remaining livestock in the lairage may be slaughtered without prior stunning until such time that the device is fixed. 'SOP 6: Slaughter – without stunning' should be followed.



Collapse after effective stunning



Stunned animal about to be released for slaughter



Thick hair on some European cattle can interfere with effective stunning.

5.7 Slaughter following effective stunning



Sharpen knives before animal is restrained.



Stunned animal is slaughtered.



The first cut must sever both carotid arteries and both jugular veins for rapid bleeding. Hold head back to prevent edges of wound touching.

- 1) Use only a knife that is capable of severing both carotid arteries. The length of the blade should be approximately twice the width of the animal's neck.
- 6) The knife used for sticking cattle should be long enough so that the end of the blade remains outside of the sticking wound during slaughter.
- 2) Knives must be prepared and sharpened before the beginning of the slaughter operation and then kept sharp between animals (see appropriate work instruction).
- 3) Sharpening the knife between animals must be done *before* the animal is restrained for slaughter.
- 4) Always hold the knife by the handle—not the blade.
- 5) Do not throw knives, and keep them away from other workers.
- 7) The stunned animal must be slaughtered as soon as possible after effective stunning has been confirmed. The time between stunning and slaughter must be no longer than 20 seconds.
- 8) Cut the throat using an uninterrupted fast stroke of the blade.
- 9) Do not use the point of the blade to make the incision.

KEY POINTS

A slow knife stroke can increase the chance of a poor bleed-out.

- 10) The cut must sever both carotid arteries.
- 11) The slaughter man must check for effective bleeding—indicated by rapid and profuse bleeding from the cut.
- 12) Take immediate action if bleeding from the neck wound is not profuse.

KEY POINTS

The flow of blood from the neck wound can be restricted if the arteries develop false aneurysms (blood clots) at their ends.

- 13) Immediate action must involve re-sticking the animal, preferably with a second knife.
- 14) Leave slaughtered cattle for two minutes after sticking or until bleeding has ended before performing any other procedures.

KEY POINTS

The use of a second knife is important as initial problems with bleeding (blood clots blocking the arteries) can be caused by using a blunt knife.

Always keep a ready-sharpened back-up knife near the slaughter point to be used if the first knife becomes blunt and requires re-sharpening.

- 15) After this period, check the corneal reflex before commencing with further dressing.

KEY POINTS

Leaving the animal to bleed before starting the dressing procedure improves meat quality with a longer shelf life.

- 16) Dressing procedures must not be performed until a negative corneal reflex has been observed.

KEY POINTS

Test the corneal reflex by running a finger across the animal's eyelashes and gently touching the eye with your fingertips. Do not poke the eye with a finger or other instrument. There should be no eye movement or blinking when touched. If the animal is dead, the eye will remain open and the lid does not move – negative corneal reflex.



Check for the absence of corneal reflex by gently touching the corner of the eye with a finger.

- 17) Pregnant animals must not be slaughtered. However, if the animal is found to be pregnant during the dressing procedure, the foetus should be prevented from inflating its lungs and breathing air (eg by clamping the trachea). If there is any doubt about consciousness, the foetus should be killed by a blow to the head with a suitable blunt instrument.



Start dressing only when there is no corneal reflex.

Notes



6. Slaughter – without stunning

Key objectives

- Inspection and preparation of the restraining device
- Moving animals into the device with minimum stress
- Reducing animal handling
- Restraint of the animal for slaughter
- Performing effective slaughter
- Recognising and rectifying problems with bleeding
- Recognising brain death

This module incorporates the requirements of the OIE Terrestrial Animal Health Code Article 7.5.7 and 7.5.9.

OIE STANDARD

Restraining methods that immobilise by injury—such as breaking legs, cutting leg tendons or severing the spinal cord (using a puntilla or dagger—cause severe pain and stress, and must never be used.

6.1 Restraining device preparation

- 1) Workers not involved with the restraint or slaughter process should not be in the area.
- 2) Inspection and preparation of the restraining device should be completed before animals are moved from the lairage into the handling system.
- 3) Inspect the outside of the restraining device.
- 4) Inspect the inside of the restraining device for obstructions. Remove any obstructions that can cause animals to hesitate when moving into the device.
- 5) When slaughtering animals in the recumbent position, ensure head restraint mechanism is ready for use. Make sure that the brisket bar is in position ready for use with smaller cattle.
- 6) Inspect the carcass trolley, ensuring that the wheels and frame are in good condition. Position the trolley next to the restraining device ready for use.



Mark 4 restraining device



Check the wheels and frame of the carcass trolley before use.

KEY POINTS

Slaughter without stunning may be carried out in either an upright restraining pen or in a restraining pen which holds the animal recumbent on its side. The steps detailed in this module apply to both methods unless otherwise indicated.

6.2 Moving animals into the restraining device

- 1) Before moving animals into the restraining device, make sure that the slaughter team are ready and all are aware of their responsibilities.
- 2) Move the animals from the stockyard or raceway calmly with minimum stress.
- 3) Do not move the animal into the device until the device operative and the slaughterman are ready.
- 4) Keep the noise level in the area immediately surrounding the device to a minimum.
- 5) If the animal baulks, slips or falls, allow it to settle before attempting to drive it forward or restrain it.
- 6) When the device is ready, open the entry door and allow the animal to walk forward into the device.
- 7) Do not force the animal into the restraining device.
- 8) When slaughtering animals in the recumbent position, ensure the head is adequately restrained.
- 9) Make sure that workers are not positioned near the top of the device when the animal is being moved in as this will cause unnecessary movement forwards and backwards.

6.3 The restraint process for animals slaughtered in an upright position

- 1) Restrain the animal as soon as it is in position. Do not leave the animal waiting in the device.
- 2) Follow individual work instructions for the type of restraining device being used.
- 3) If the animal falls in the device, give it time to stand again before attempting to apply any restraint.

OIE STANDARD

Avoid sudden, jerky movements when applying restraint.

- 4) Once the animal is settled, apply the head restraint to enable effective slaughter.
- 5) Position the animal correctly for slaughter before sticking. The slaughterman must be ready to slaughter the animal immediately it is effectively restrained.
- 6) The head must be restrained for a maximum of 10 seconds before the animal is slaughtered.

KEY POINTS

Prolonging the period of restraint before slaughter will not result in a more relaxed animal. It will increase the level of agitation and stress making the slaughter process more difficult and increasing the likelihood of producing very dark meat.

- 7) Head restraint must not restrict breathing or blood flow.
- 8) The neck of the animal must not be overextended nor unacceptable methods of restraint be used. Positioning of head and neck must allow for application of the knife in the C1 position (see work instruction).

KEY POINTS

Unacceptable methods of restraint include holding the eye sockets, twisting the tail, and forcing the head and neck back.

- 9) Do not pour water onto the animal during any part of the process.

KEY POINTS

Do not stimulate the animal unnecessarily by hosing or bucketing water immediately before slaughter.



Apply the lateral squeeze when the animal is in position.



Do **not** stimulate the animal unnecessarily with water immediately before slaughter.

6.4 The restraint process for animals slaughtered in the recumbent position (lateral restraint)



Restraining device tipping the animal for slaughter.

OIE STANDARD

Avoid sudden, jerky movements when applying restraint.

KEY POINTS

Unacceptable methods of restraint include holding the eye sockets, twisting the tail and forcing back the head and neck.



The animal is restrained during slaughter.

- 1) The restraint procedure must be performed as soon as the animal is in position. Do not leave the animal waiting in the restraining device.
- 2) Follow individual work instructions for the type of restraining device being used.
- 3) If the animal falls in the device, give it time to stand again before attempting to apply any restraint.
- 4) Once the animal has been moved into position, apply the lateral squeeze and neck restraint.
- 5) Apply the squeeze bars between the shoulder and the hip of the animal so that it is in the correct position for tipping and slaughter.
- 6) Apply the squeeze with sufficient, but not excessive, pressure to hold the animal effectively.
- 7) Activate the tipping mechanism once the animal is secured.
- 8) Before lowering the platform, make sure that other workers are not in the animal's immediate visual field as this can cause the animal to struggle.
- 9) Ensure the head is adequately restrained. Use the minimum restraint required to carry out effective slaughter.
- 10) Do not interfere with the animal's eyes or twist its tail.
- 11) Slaughter the animal within 10 seconds of the tipping process being completed and the neck extended for slaughter. The slaughterman must be ready to slaughter the animal immediately once it is effectively restrained.

KEY POINTS

The use of the lasso rope should be at the discretion of the slaughterman. Options for head restraint are:

- Place the lasso around the neck as the animal walks into the restraining device.
- Put the lasso around the neck once the animal has been placed on its side,
- Hold the head by hand.

- 12) Head restraint must not restrict breathing or blood flow.
- 13) Do not overextend the neck of the animal or use unacceptable methods of restraint.

6.5 Slaughter

- 1) Use only a knife will sever both carotid arteries. The length of the blade should be approximately twice the width of the animal's neck so that the ends remain outside of the sticking wound during slaughter.
- 2) Knives must be prepared and sharpened before the beginning of the slaughter operation and then kept sharp between animals (see appropriate work instruction).
- 3) Sharpening the knife between animals must be done before the animal is restrained for slaughter.

KEY POINTS

Always keep a ready-sharpened back-up knife near the slaughter point to use if the first knife becomes blunt.

- 4) Cut the throat in the C1 position using a single, uninterrupted fast stroke of the knife.

KEY POINTS

A slow knife stroke increases the chance of a poor bleed-out.

- 5) Do not use the point of the blade to make the incision.
- 6) The cut must sever both carotid arteries.
- 7) The slaughterman must check for effective bleeding, indicated by rapid and profuse bleeding from the cut.

KEY POINTS

The flow of blood from the neck wound can be restricted if the arteries develop false aneurysms (blood clots) at their ends. These can be caused by using a blunt knife

- 8) If bleeding from the neck wound is not profuse, immediately re-stick the animal, preferably with a second sharp knife.
- 9) Do not stab the animal in the thorax or brachial joint after making the initial cut across the neck.
- 10) Do not attempt to remove clots with your fingers as this may increase animal suffering.

KEY POINTS

Leaving the cattle to bleed fully before starting the dressing procedure improves meat quality with a longer shelf life.



Sharpen knives before beginning the slaughter operation and then keep sharp between animals.

Handle knives with care. Hold by the handle and not the blade. Do not throw knives and keep them away from other workers.



The first cut must sever both carotid arteries and both jugular veins for rapid bleeding. Hold head back to prevent edges of wound touching.

6.6 Assessment of bleeding and brain death



Check for the absence of corneal reflex by gently touching the corner of the eye with a finger.

- 1) If bleeding is not rapid and profuse, the slaughterman must immediately make a second cut (preferably with a different knife).
- 2) Also check that the position of the head restraint is not preventing a rapid bleed-out.
- 3) Leave the slaughtered animal for two minutes after sticking or until bleeding has ended before performing any other procedures.
- 4) The wound should not be allowed to close over the knife. But do not attempt to hold the wound open or aid bleeding with your hands.
- 5) After this period, check the corneal reflex before starting with further dressing.

KEY POINTS

Test the corneal reflex by running a finger across the animal's eyelashes and gently touching the eye with your fingertips. Do not poke the eye with a finger or other instrument. There should be no eye movement or blinking when touched. If the animal is dead the eye will remain open and the lid does not move—Negative corneal reflex.

- 6) Do not start dressing until a negative corneal reflex has been observed.
- 7) Pregnant animals must not be slaughtered. However, if the animal is found to be pregnant during the dressing procedure, the foetus should be prevented from inflating its lungs and breathing air (eg by clamping the trachea). If there is any doubt about consciousness, the foetus should be killed by a blow to the head with a suitable blunt instrument.