



Recommended
methods for
humane slaughter
of sheep

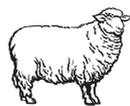
Humane Slaughter

Good practice guidelines for the
on-farm slaughter of sheep

These good practice guidelines refer to sheep slaughtered on-farm for personal consumption, dog tucker and the emergency slaughter of sheep.

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We all recognise that slaughter of livestock is a sensitive issue, but a necessary fact of farming life. It has long been an on-farm tradition for farmers to kill their own animals, providing meat for personal consumption and for dog tucker. In other circumstances it is a necessity to kill livestock to prevent further suffering by the animal concerned.

In all circumstances, the person carrying out the slaughter must be competent in the handling and killing of the species, physically able and willing to perform the task, and has a legal responsibility to ensure the animal does not suffer unreasonable or unnecessary pain or distress. These guidelines are aimed to help those responsible for slaughtering sheep on-farm to ensure the sheep are killed in a humane and effective manner.

"I think using animals for food is an ethical thing to do, but we've got to do it right. We've got to give those animals a decent life, and we've got to give them a painless death. We owe the animal respect."

Temple Grandin

Recommended Methods for Humane Slaughter

- a) Sheep must be handled and restrained and killed in such a manner as to minimise unnecessary pain and distress prior to death.
- b) All animals should be stunned prior to slaughter and remain in that state, until death. Methods used should result in immediate death or immediate loss of consciousness lasting until death, to minimise unnecessary pain and distress.
- c) The preferred method of on-farm slaughter of sheep is stunning using a captive bolt, followed by immediate bleeding out. Animals stunned in this way must be bled out to ensure death occurs before recovery from stunning. Intervals between stunning and bleeding should be kept to a minimum and ensure animals never recover consciousness during bleeding.
- d) Use of a firearm provides a method of (stunning and) killing that results in immediate insensibility and death. However, you must ensure that the shot has been effective in killing the animal outright. If there is any doubt that the animal is dead, either a second shot or bleeding out is advised to ensure death has occurred.
- e) If stunning, an effective backup stun method must be immediately available in the event that the primary apparatus fails.
- f) Individuals must be able to recognise when an animal is not correctly stunned. Animals must be monitored continuously until death is confirmed. Any animal showing signs of recovering consciousness should be re-stunned.
- g) The spinal cord must not be severed or broken in any animal, until after death. It does not affect the time it takes for the animals to become unconscious and adds to the potential pain and distress of the procedure.

Recommended methods for humane slaughter are listed below in order of preference. The method chosen must be carried out in a safe manner, including consideration for the safety of the operator, other animals and bystanders.

Home Consumption & Dog Tucker

1. Captive Bolt followed by slaughter by bleeding out.



2. Firearm



Emergency Destruction

1. Captive bolt followed by slaughter by bleeding.



2. Firearm



3. Throat cutting in extreme circumstances; only permitted if there are no alternatives available, and in order to prevent a longer period of pain or suffering for the animal involved.



Advantages

Safer than a firearm, as there is less risk to operator and no risk to other people or stock through ricochet.

No firearms licence required for ownership or operation.

More robust and compact than a firearm, allowing for easy mobility of equipment.

Disadvantages

Initial cost is relatively high for a single purpose tool, with slightly higher ongoing costs than a firearm.

Inaccurate positioning and orientation of captive bolt can result in an ineffective stun.

To ensure death, bleeding out must take place after stunning.

Difficult to action in agitated animals.

1. Captive Bolt (followed by bleeding out)

To ensure an effective stun, use the correct model, calibre and cartridge size as recommended by the manufacturer for the particular animal. Use of an incorrect charge could result in an ineffective stun.

The captive bolt must also be maintained in good condition in accordance with the manufacturer's recommendations, and regularly cleaned and maintained to ensure that it functions effectively.

Repeated ineffective stunning requiring repeat stunning must be investigated and remedied immediately.

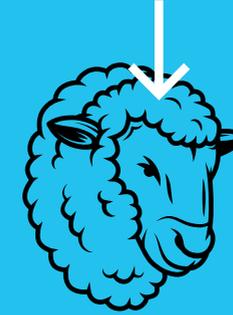


Captive Bolt Procedure

1. Select the correct model, calibre and cartridge size as recommended by the manufacturer for the particular animal.
2. Ensure the animal is adequately restrained, minimising unnecessary pain and distress prior to death, and ensuring the animals are presented in a manner that allows effective stunning and killing.
3. Hold the captive bolt firearm directly against the head of the animal.
4. Immediately bleed out the animal following stunning.
5. Monitor until death is confirmed.

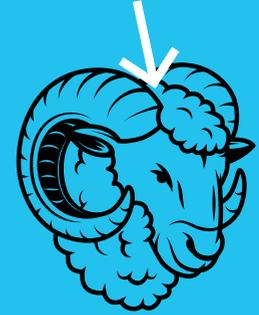
Hornless Sheep

The optimum position for captive bolt stunning a hornless sheep is on the highest point of the head, and on the mid-line, aiming straight down.



Horned Sheep

The optimum position for stunning a horned sheep is behind the poll, aiming towards the angle of the jaw.



The captive bolt is only designed to stun the animal, and bleeding out is required to kill the sheep. The time between stunning and bleeding out must be kept to a minimum to ensure that the animal remains unconscious until death.

Check the stun has been effective:

- The animal collapses immediately and does not attempt to stand
- The body and muscles of the animal become tonic (rigid) immediately after the shot, for 10-15 seconds
- Normal rhythmic breathing stops immediately
- Immediate loss of corneal reflex



Individuals carrying out the slaughter, must be able to recognise the signs associated with an effective and ineffective stun.

Secondary Method: Bleeding Out

After a sheep has been stunned with a captive bolt, its neck should be cut (severing both carotid arteries and jugular veins and windpipe) with a sharp knife to ensure it is fully bled and dead.

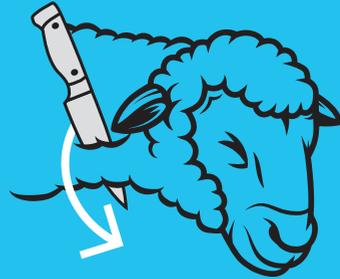
It is recommended to hold the sheep's chin in your hand to extend the neck, insert the knife at the top of the neck and make a swift cut across the upper part of the neck. The incision should cut both carotid arteries and jugular veins in one swift stroke. It is important to ensure that both carotid arteries are severed to ensure that insensibility is not delayed.

Knives for slaughtering sheep should be sharp and in good condition.

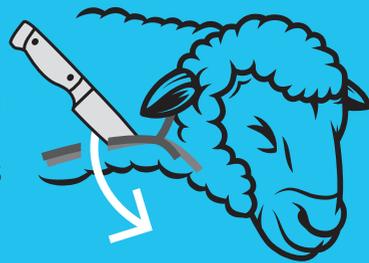
Hold the sheep's chin in your hand to extend the neck



Insert the knife at the top of the neck and make a swift cut across the upper part of the neck



The incision should cut both carotid arteries and jugular veins in one swift stroke



Before you do anything to the carcass, such as skinning it or hanging it up, check the kill has been effective:

- No blink reflex when surface of the eye is touched
- Pupils dilated and fixed
- No heartbeat
- No regular breathing



Advantages

Quick and effective kill.
Most farms already have a licenced firearms owner and approved storage.
Cost-effective (cheaper than captive bolt).
No restraint required, suitable for agitated animals in open spaces.

Disadvantages

Initial cost of rifle is expensive, but this is offset if it has other uses such as pest control.
Firearms licence is required in accordance with Arms Act 1983.
Secure storage is required in accordance with Arms Regulations 1992.
There is risk of ricochet or the shot exiting the sheep's body, endangering humans and other animals.

2. Firearm

The second preferred method is a firearm. It is important to use the calibre and range as recommended by the manufacturer for the particular animal, with a .22LR being sufficient to cause immediate unconsciousness and death in a sheep.

The firearm must also be maintained in good condition in accordance with the manufacturer's recommendations, and regularly cleaned and maintained to ensure that it functions effectively.

When a firearm is used, the bullet or shot must penetrate the cranial cavity (brain) to cause an irreversible state of insensibility. A second shot or bleeding out is advised to ensure death has occurred.



Firearm Procedure

1. Select the correct firearm for the age and class of animal, a .22LR is sufficient for sheep.
2. Ensure the animal is adequately restrained, minimising unnecessary pain and distress prior to death, and ensuring the animals are presented in a manner that allows effective stunning and killing.
3. Shotguns and rifles should be used between 5 and 25cm from the head. They should never be used with the muzzle touching the animal.
4. Monitor until death is confirmed.
5. If there is any doubt that the animal is dead, either a second shot or bleeding out is advised to ensure death has occurred.

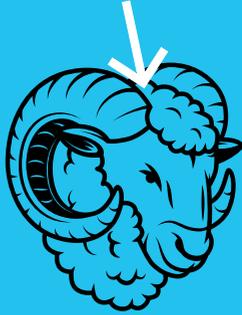
Hornless Sheep

The optimum position for shooting a hornless sheep with a free-bullet firearm is on the mid-line.

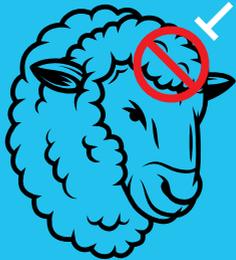


Horned Sheep

The optimum position for shooting a horned sheep is behind the poll, aiming towards the angle of the jaw.



Never have the muzzle touching the animal



Shotguns and rifles should be used between 5 and 25cm from the head

Check the kill has been effective:

- No blink reflex when surface of the eye is touched
- Pupils dilated and fixed
- No heartbeat
- No regular breathing



3. Throat Cut

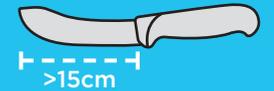
(without prior stunning)

Only in emergency circumstances should throat cutting be employed as a method.

Cutting a sheep's throat without prior stunning should only be used if there are no alternatives available, and in order to prevent a longer period of pain or suffering for the animal involved. It should never be done in the planned killing of sheep for personal consumption and dog tucker.

Throat Cut Procedure

1. If having to cut a sheep's throat in an emergency situation, then never break the neck as this only causes additional trauma before the animal has lost consciousness. arteries and jugular veins. The trachea (windpipe) and oesophagus will also be severed. Check that the incision does not close over the knife during the throat cut.
2. The knife used should be very sharp and have a blade at least 15cm long.
3. Ensure the sheep is adequately restrained, standing or lying with its chin in your hand to extend the neck.
4. Make a swift, firm cut across the upper part of the neck, severing both the carotid



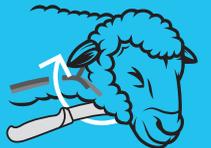
Hold the sheep's chin in your hand to extend the neck



Make a swift cut across the upper part of the neck



Severe the carotid arteries and jugular veins in one swift stroke



Check the kill has been effective:

- No blink reflex when surface of the eye is touched
- Pupils dilated and fixed
- No heartbeat
- No regular breathing



Literature against throat cutting without prior stunning

Traditionally some sheep slaughtered on-farm for personal consumption and dog tucker, or emergency destruction have had their throats cut with a knife. This incision severs major blood vessels, causing loss of sensibility and subsequent death. Scientific research has shown that the throat cut is associated with noxious stimulation that would be expected to be perceived as painful, and pain is felt until the animal becomes unconscious.

- Research has found that insensibility in sheep takes approximately 2 – 8 seconds following a throat cut, but this may be extended up to 20 seconds¹.
- At Massey University, calves, who have the same neck, nerves and pain receptors as sheep, likely experienced pain in the period between when their throats were cut and they lost consciousness².

The results of these studies indicate the requirement for alternative, more humane practices to be used wherever available for on-farm slaughter.

Public Perception

On many New Zealand sheep farms it is common practice to slaughter sheep for personal consumption and dog tucker, or to euthanise sick or injured animals to prevent further suffering. However, methods of slaughter are becoming increasingly questioned.

As well as for the animal's sake, it is important to people how sheep are treated. Consumer perception guarantees our supply of sheep products to top end brands. From consumers of New Zealand sheep meat and wool, the public and animal advocates and some activist groups alike, people are demanding greater transparency from the supplier through to the consumer, and evidence of ethical production of wool and meat from sheep.

More and more campaigns are targeted at the agriculture sector, for the sheep industry this could be a serious reputational threat. Graphic images have been used to highlight instances of welfare compromise, with retailers acting immediately in response, stating that they will “not buy wool again until we can assure our customers of a verifiable process that ensures the humane treatment of animals”.

We need to be positively and proactively improving New Zealand's animal welfare standards to safeguard our industry. This includes improving our on-farm slaughter practices in New Zealand, specifically, stunning sheep prior to killing them with a knife. If consumers perceive we are not acting in an ethical manner it could be one of our supply chains that is shut down next.

The National Animal Welfare Advisory Committee (NAWAC) develops the codes of welfare for New Zealand.

Commercial Slaughter

The code of welfare for commercial slaughter contains minimum standards and recommendations for best practice for the slaughter of animals in New Zealand. Currently on-farm slaughter for personal human consumption (or for dog tucker) is exempt from these requirements (unless carried out by a homekill service provider or pet food operator).

In commercial slaughter sheep are stunned before their throats are cut severing both of the carotid arteries. This is known to be the current best-practice.

On-Farm Slaughter

Requirements around the humane destruction of sheep on farm, including emergency slaughter, are covered in minimum standard 20 of the Code of Welfare for Sheep and Beef Cattle. On-farm slaughter for personal human consumption (or for dog tucker) must meet these requirements.

Animal Welfare Code of Welfare: Commercial Slaughter *Minimum Standard No. 6 Stunning of Large Mammals*

- (a) Prior to slaughter, all animals must be stunned so that they are immediately rendered insensible and must be maintained in that state until death supervenes. This includes a method of stunning that results in immediate insensibility and death.
- (b) Stunning must be applied using one of the following:
 - (i) a captive bolt firearm; or
 - (ii) an electrical stunner; or
 - (iii) a suitable firearm.
- (c) Equipment used for stunning must be maintained in good condition in accordance with the manufacturer's recommendations.
- (d) An effective backup stun method must be immediately available in the event that the primary apparatus fails.
- (e) Repetitive ineffective stunning requiring repeat stunning must be investigated and remedied immediately.

Animal Welfare Code of Welfare: Sheep and Beef Cattle

Minimum Standard No. 20 Humane Destruction

- (a) Sheep and beef cattle must be handled, restrained and killed in such a manner as to minimise unnecessary pain and distress prior to death.
- (b) Persons undertaking destruction must be competent in the handling and killing of sheep and/or beef cattle.
- (c) Beef cattle must be rapidly rendered insensible and remain in that state, until death.
- (d) The spinal cord must not be severed or broken in any animal, until after death.
- (e) Animals rendered insensible by a blow or shot to the brain must be bled out immediately to ensure death occurs before recovery from stunning.
- (f) Calves must not be killed by the use of blunt force to the head except in the circumstances described in regulation 5(1) of the Animal Welfare (Calves) Regulations 2016.

¹ Newhook & Blackmore (1982); Hemsworth et al. (2009)

² (Gibson, et al., 2009a; Gibson, et al., 2009b; Gibson, et al., 2009c).

Humane Slaughter and Transport

The code of welfare for transport within New Zealand contains minimum standards and recommendations for best practice for the transport of animals in New Zealand. During transportation it may become necessary to humanely kill an animal before it reaches its destination in order to prevent the animal suffering further pain or distress.

As previously outlined the methods of slaughter for sheep in order of preference are;

- 1. Captive Bolt** followed by bleeding out.
- 2. Firearm** .22LR or greater.
- 3. Throat Cut**

Only in extreme circumstances should a sheep's throat be cut without prior stunning. If there is no other method available, and the alternative is a longer period of suffering, then a sharp knife is the last resort to humanely kill a sheep.

Animal Welfare Code of Welfare: Transport within New Zealand

Minimum Standard No. 13 Emergency Humane Destruction

- Equipment kept for emergency humane destruction must be well maintained in order to operate efficiently.
- Animals to be killed must be handled, restrained and killed in a manner that minimises unnecessary pain and distress prior to death.
- Animals being killed must be rapidly rendered insensible and remain in that state, until death has occurred.
- The spinal cord must not be severed or broken in any hoofed animal, until death has occurred.
- Animals rendered insensible by a blow to the head or a shot to the brain from a firearm must be bled out immediately to ensure death occurs before recovery from stunning.

References

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Newhook J.C. and Blackmore D.K. Electroencephalographic studies of stunning and slaughter of sheep and calves—part 2: The onset of permanent insensibility in calves during slaughter [Journal] // Meat Science. - 1982. - pp. 295-300.

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Recommended methods for humane slaughter of sheep

1. Captive Bolt
2. Firearm
3. Throat Cut

Humane Slaughter

Good practice guidelines for the on-farm slaughter of sheep

Quick Reference Guide

These good practice guidelines refer to sheep slaughtered on-farm for personal consumption, dog tucker and the emergency slaughter of sheep.

For more detailed information please refer to the **Humane Slaughter** booklet.

1. Captive Bolt Procedure



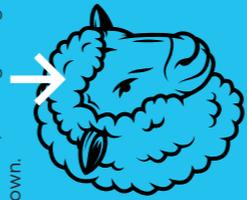
1. Select the correct charge cartridge.
2. Restrain animals appropriately.
3. Hold directly against the head of the animal.
4. Immediately bleed out the animal following stunning.
5. Monitor until death is confirmed.

Check the stun has been effective:

- The animal collapses immediately and does not attempt to stand
- The body and muscles of the animal become tonic (rigid) immediately after the shot, for 10-15 seconds

Hornless Sheep

The optimum position for captive bolt stunning a hornless sheep is on the highest point of the head, and on the mid-line, aiming straight down.



Horned Sheep

The optimum position for stunning a horned sheep is behind the poll, aiming towards the angle of the jaw.



Normal rhythmic breathing stops immediately
Immediate loss of corneal reflex

Secondary Method: Bleeding Out

Bleed out the animal following stunning.



Hold the sheep's chin in your hand to extend the neck



Insert the knife at the top of the neck and make a swift cut across the upper part of the neck



The incision should cut both carotid arteries and jugular veins in one swift stroke

Check the kill has been effective

2. Firearm Procedure



1. Select the correct firearm, a .22LR is sufficient for sheep.
2. Restrain animals appropriately.
3. Hold the firearm at a distance of 5 and 25cm from the head.
4. Monitor until death is confirmed.
5. Any doubt that the animal is dead, either a second shot or bleeding out is advised.

Hornless Sheep

The optimum position for shooting a hornless sheep with a free-bullet firearm is on the mid-line.



Horned Sheep

The optimum position for shooting a horned sheep is behind the poll, aiming towards the angle of the jaw.



Never have the muzzle touching the animal

Shotguns and rifles should be used between 5 and 25cm from the head



Check the kill has been effective:

- No blink reflex when surface of the eye is touched
- Pupils dilated and fixed

→ No heartbeat

→ No regular breathing



Quick Reference Guide

Detach these guidelines and hang in your woolshed or somewhere similar for you and your staff.



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