

Humane destruction of stock

Ross Burton

Director, Animal Welfare, Orange

Introduction

During times of economic depression in the stock market or emergency, stockowners are faced with the difficult decisions of on-farm disposal of animals. Past examples have included:

- when the livestock have no commercial value;
- on animal welfare grounds due to the devastating impacts of bushfires, storms, flooding or drought.

To ensure that this destruction is conducted humanely, efficiently and safely these guidelines have been developed to assist.

Experienced operators using the techniques described in this Primefact can safely deal with more than 1000 sheep or 300 cattle per day.

Methods for humanely destroying stock

Methods for humanely destroying stock include the following:

- **Shooting:** This is generally the best choice as it is quick and painless when carried out correctly. It is important to consider the risks associated with using a firearm around livestock and other persons. Also, the legal considerations regarding the use of firearms must be observed. Firearms and/or captive bolt guns can be used.
- **Lethal injection:** This can only be administered by a qualified veterinarian and is impractical when dealing with large numbers of livestock.
- **Cutting the throat:** This should be considered as a last resort for sheep and other smaller livestock only and should be carried out by an experienced operator.

If euthanasia of animals is considered necessary, all bystanders should be asked to leave the vicinity and every effort should be made to keep the procedure out of view of members of the public to avoid causing distress.

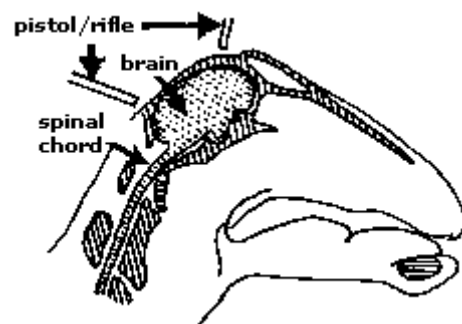
Options for the destruction and disposal of carcasses

Wherever possible contact abattoirs and knackeries to ascertain whether slaughter through these outlets is a viable alternative. It may be the case that the cost of transport and slaughter may exceed the value of the livestock. It may also be inhumane to transport severely affected livestock.

Advice should be sought from relevant authorities, such as the Department of Environment and Conservation, if on or off-farm disposal is being considered, including the requirement to construct disposal pits for large numbers of livestock.

Shooting techniques

Figure 1. To kill stock efficiently and humanely, aim the shot so that the part of the brain near its junction with the spinal cord is destroyed.



Operators must be aware that Occupational Health & Safety and the humane destruction of livestock are prime considerations that must be taken into account before commencing.

Either a **captive bolt pistol** or a **rifle** can be used for destroying stock. Owners of captive bolt pistols and rifles **must comply with** the *Firearms Act 1996 (NSW)* and the *Firearms (General) Regulation 1997*.

Captive bolt pistols

Captive bolt pistols are much safer for the operator and those assisting, but are heavy to handle and, being single shot, are slow to operate. The bolt requires regular cleaning to prevent jamming, especially with sheep if wool is long.

If feasible, two operators using two pistols is recommended. One operator does the killing while the other reloads the second pistol. Always be aware of safety when handling/passing the guns between operators.

In order to achieve a humane kill ensure the captive bolt pistol is held firmly in contact with the head.

After the animal is dropped, it must be bled by cutting the throat; even if it appears to be already dead (the captive bolt pistol only stuns the animal).

Don't (for captive bolt pistol):

- Don't try to use on animals which are not immobilised.
- Don't use a cartridge strength which is not powerful enough. Check the manufacturer's instructions prior to commencing destruction.

Do (for captive bolt pistol):

- Ensure the use of pithing or cutting the throat of the animal after shooting as animals are only stunned, not killed by the captive bolt gun.
- The captive bolt gun should be used in the forehead position for most livestock except in sheep where it is more effective at the back of the head.

Rifles

For sheep 0.22 rifles are often used, but for cattle the minimum is a 0.22 magnum. Rifles above 0.44 magnum are too powerful and it is recommended they not be used. Low-power hollow point bullets are recommended, but for bulls and older cattle hard-point or jacketed ammunition may be necessary. Because of the large numbers of sheep which may be involved self-loading 0.22 rifles may make the job faster. Using self-loading rifles around stock and other people is extremely dangerous and safety must be a major consideration.

Self-loading rifles may no longer be readily available as new firearms laws require a special license approved by the police.

Rifles will need regular cleaning as breakages may occur. In addition to adequate supplies of ammunition spare rifles should be available. One rifle and operator per 1000 sheep or 300 cattle is recommended.

Operator safety must be foremost in mind at all times and everyone other than the person using the rifle should be well clear of the killing pens. When using rifles around steel yards and cement floors operators and others should be aware that ricocheting bullets will be a major hazard and safety precautions should be in place.

It is recommended that when commencing the destruction of stock from a race start from the rear and work towards the front. When destroying stock in pens start close to the pit and work away from the pit. A movable panel can be used to keep stock tightly packed together.

The rifle should not be held in contact with the animal's head when firing.

Don't (for rifle):

- Don't shoot unless the background is clear.
- Don't shoot unless all possible hazards and risks have been identified.
- Don't shoot over long distances.
- Don't shoot into mobs of animals.
- Don't place the muzzle of the rifle directly against the animal's head.
- Don't shoot in a location where a missed shot might result in a bullet ricocheting off a hard surface near the animal.
- Don't use a weapon that is not powerful enough. Check that the calibre and ammunition are suitable for shooting the class of livestock concerned.
- Don't fire the rifle until all other personnel are safely clear.

Do (for rifle):

- Always shoot animals in the correct place in the head (as shown in Figure 2-4 below)

Figure 2. When the animal is facing you, aim at a point where two imaginary lines drawn from each ear to the opposite eye meet on the forehead. Point the gun barrel parallel to the animal's neck

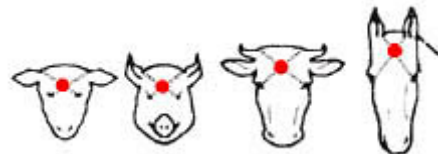


Figure 3. When the animal is side-on, aim halfway between the eye and the ear.



Figure 4. When no other position can be accessed cattle can be shot immediately behind the poll. This is the position of choice for sheep, but in cattle it is only to be used as a last resort.



Humane destruction of sheep

There are two sites for aiming with captive bolt pistol or rifle; the back of the head or the front of the head. The back of the head is the preferred site for sheep, as head movement is minimal.

With **hornless** sheep the captive bolt pistol can be placed on the top of the upper forehead, aimed for the gullet or just behind the poll and aimed towards the animal's muzzle - see Figure 5(a).

For **horned** sheep the top of the head may not be a suitable position so use the position just behind the poll and aim towards the animal's muzzle - see Figure 5(b). Alternatively, when using a rifle aim at a point in the middle of the face just above the level of the eyes and shoot towards the spine - see Figure 5(c).

Figure 5. Recommended position and direction of fire for destroying:

- (a) hornless sheep with a captive bolt pistol or rifle
- (b) horned sheep with a captive bolt pistol or rifle
- (c) horned sheep with a rifle



Humane destruction of cattle

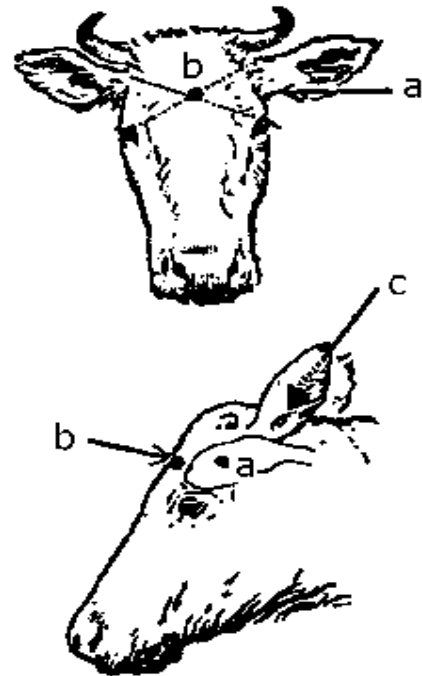
Captive bolt pistols are suitable only for small numbers of cattle that can be adequately restrained. In the majority of situations a rifle will be the most appropriate weapon. There are two methods of shooting cattle:

- temporal method; and
- frontal method.

Temporal method

The temporal method is **only** suitable for rifles. The animal is shot from the side so that the bullet enters the skull midway between the eye and the base of the ear. The bullet should be directed horizontally - see point 'a' in Figure 6.

Figure 6. Recommended position and direction of fire for destroying cattle.



Frontal method

When using this method the rifle or captive bolt should be directed at the point of the intersection of lines taken from the base of each horn (or equivalent position in polled animals) to the opposite eye, aiming at the spine - see point 'b' in both diagrams in Figure 6. For **bulls** or **older animals** the bullet or captive bolt should enter about 1 cm to the left or right of this point.

Note: Small calves may be shot just behind the nuchal crest (poll) in the mid-line, aiming directly at the muzzle - see point 'c' in Figure 6.

Cutting the throat (bleeding out)

This should be considered as a last resort for sheep and other smaller livestock and should be carried out by an experienced operator. It should only be done after using a captive bolt gun as this only stuns the animal while the throat cutting humanely kills the animal. The use of pithing after destruction with a captive bolt gun is preferred.

Don't

- Don't cut the throat of an animal unless it has been stunned first (captive bolt gun) unless it is an absolute last resort. When using a captive bolt gun pithing is a preferred option. Due to the complex blood supply to the brain animals can remain conscious for up to 5 minutes after the throat is cut.
- Don't delay between stunning and bleeding out or pithing as the animal may regain consciousness and hence increase pain perception.
- Only use a very sharp knife with a reasonable blade length.
- Ensure personnel are skilled for this operation.

Do

- Always utilise pithing rather than cutting of the throat.
- Always cut down deep to the level of the bones of the neck. All blood vessels in the neck must be cut for quick bleeding, but the spinal cord should not be severed or snapped.
- Stand behind the animal. Grasp the chin and pull the head back towards you. Cut from ear to ear behind the jawbone. Other methods may be used if the operator is experienced.
- Be aware of the sensitivity of this method and ensure that people who do not need to be involved are not within view.

After killing

Judging when an animal is dead

Even after an animal has been stunned or shot it may continue to move its legs, gasp or groan, but still be unconscious; this is all reflex action. However, if the animal raises its head from the ground as if attempting to rise it is a fairly reliable sign that it is still conscious. A less reliable sign is blinking of the eyelids when a fingertip is placed on the eyeball.

When an animal is dead:

- the heart stops - feel for this on the left-hand side behind the elbow (note that the heart may take several minutes to cease beating);

- the gums and tongue become bluish-grey; and
- the eye appears glazed and the pupil expands.

Always check for these signs and do not assume that an animal is dead just because it is not moving or apparently not breathing. Any unconscious animals (animals which still show signs of life) must be bled out.

Humane destruction of other stock

For advice on the humane destruction of stock other than sheep and cattle, contact the District Veterinarian at your local Rural Lands Protection Board (RLPB).

Further information

For further information, contact the District Veterinarian at your local RLPB.

Acknowledgments

This Primefact is based on material originally written by LC Pryde, former Senior Field Veterinary Officer. The contribution by John Bowler, former Senior Agricultural Protection Officer, is also acknowledged. This edition revised by Simon Oliver.

© State of New South Wales
through NSW Department of Primary Industries 2006

ISSN 1832-6668

Replaces Agnote DAI-328

Check for updates of this Primefact at:
www.dpi.nsw.gov.au/primefacts

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2006). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.

Job number 7093