

Guidance Note



Safe handling of goats at abattoirs

September 2010

Background

The Australian goat meat industry has experienced strong growth in recent years with the demand for goat meat continuing to increase. Goat meat is the most widely eaten meat in the world and Australia has become one of the largest goat meat exporters.

The behaviour of goats is unlike that of other livestock, they are more difficult to handle and present new risks to handlers. Injuries to handlers can occur as a result of goats becoming aggressive and running into handlers and knocking them over or as a result of goats running into gates being held by handlers. Handling goats due to their size and strength can be physically demanding and may lead to lacerations, bruises, bites, back strain and knee injuries. Calm animals will be easier to handle and be less aggressive than frightened stressed goats. Handlers need to remain calm and avoid yelling and arm waving.

Traditional sheep working races will present difficulties when used for goats. Goats do not flow through handling systems easily and when they are frightened they can lie down and pack in a corner. Both sheep and goats can be worked through the same yard facility but there are some essential points to consider.

Some producers prefer horns for handling goats and though it is common to leave the horns on non-dairy breed goats, handlers need to be mindful of the damage that horns can cause to themselves and other goats. Horned goats can often get caught in fences. Goats grabbed by the horns tend to react adversely as they believe they have been 'caught' and will struggle. Keeping the horns tipped or blunt may help to prevent injury to handlers. Goats should never be held by the tip of the horn; goats should be caught and restrained by holding the horn at its base.

Goat behaviour

Goats have the following distinguishing characteristics:

Intelligence – Goats become very wary and difficult to handle in areas where they have been stressed.

Flightiness – Goats are agile and flighty. They can pack together very easily in small yards and working races. Heads, legs and horns can become entangled, making it difficult to extract them.

Alertness – Goats are alert and very sensitive. They spook at shadows and human arms crossing the drafting race.

Inquisitiveness – After a short time, an open gate becomes almost impossible for goats to resist. If you wait quietly for a few minutes the whole mob will walk through without being forced.

Speed – Handlers should not approach a goat's flight zone (personal space) as it may cause the goat to bolt and become unpredictable.

Agility – Goats can climb, crawl and some will jump. In a packed working race a goat can run over the top of the mob and out of the race. Goats can also turn in a much narrower space than sheep and move back against the flow of goats in the race.

Nervous disposition – goats do not respond well to loud noises, sudden movements or excessive force. Quiet, calm handling techniques are essential. The use of dogs in rounding up goats in the yards of an abattoir is counterproductive and if any should be minimal, if absolutely necessary, ensure that they are quiet and are not overly forceful in the way they move stock.

Aggressiveness – When goats are retained in holding and forcing yards for long periods they can become aggressive towards one another and handlers. Goats tend to squeal when distressed, so it is advisable to wear ear protection when handling goats.

Yard design

Currently the two main goat meat breeds are rangeland goats and Boer goats, however different types and sizes of breeds need to be considered when designing a yard for goats.

Proper planning should precede construction or renovation of livestock facilities. Key considerations for the health and safety of handlers should include ventilation, traction, weather protection and proper access and escape routes for handlers.

Readily identifiable emergency escape hatches, routes and safety passes such as gates, barriers, holes or other should be built into facilities so that workers can quickly exit when the need arises (e.g. for handlers operating outside the working race in the event a rogue goat jumps out of the race leading up to the knocking box). Access ways and emergency escapes between and around yards, races and working areas could be highlighted in yellow so they are easily and quickly sighted.

The following needs to be kept in mind:

- Goats should have a clear, unobstructed view towards where they are to move.
- Goats have wide angled vision; they can detect movement behind them without moving their heads.
- Use wide gates wherever possible to maintain good flow.
- Goats move better on the flat; if the land slopes, they should move through the yards across the slope rather than up or downhill.
- Goats are attracted to light; try to build yards without dark areas, shadows or dead ends.
- Goats move willingly around curves and corners into narrow races.
- Goats follow one another; use see through panels to encourage them to move.
- Oncoming goats must not see the operator; use closed panels on the operator's side of the forcing yard.
- Goats in the forcing yard should not be able to see behind them; closed panels on the back of a bugle shaped forcing yard will achieve this.



Solid panel



V shaped concept

The **working race** is the most **important** section of the entire goat yard. In planning a new set of goat handling facilities consider a single width 'V' race concept which is much easier on both goats and the operator, and prevents turning and jumping.

A useful guide on specific yard specifications and construction can be obtained from [Agfact A7.7.2, Yard Design for Goats](#), available from the Industry & Investment NSW website.

Environment

Zoonoses are diseases that are transferable from animals to humans, causing mild to life-threatening health problems. The effects of these diseases can vary. Goats carry organisms that may cause infection and disease in humans and people most at risk are abattoir workers, farmers, veterinarians and livestock handlers. Although the incidence of zoonotic disease in the meat industry is relatively low, if contracted the impact of zoonotic disease can be extreme.



'V' race concept

Exposure to these organisms can come through direct contact with the animal, or indirectly through contact with the animal's faeces or body fluids/secretions. Employers who work near or handle goats should be aware of the following diseases.

<i>Disease</i>	<i>How is it spread</i>	<i>Human symptoms</i>
Q Fever	Contact with animal faeces, urine, blood, milk, fetuses and placental fluids or by inhaling dust from infected premises	Acute symptoms include fever, headache, muscle aches and pains, extreme fatigue and weight loss. Chronic conditions can include endocarditis, pneumonia, granulomatous hepatitis and/or encephalitis. Q Fever can sometimes be fatal.
Leptospirosis	Urine contact with skin, oral nasal or conjunctival mucous membranes or inhalation of airborne droplets	Sudden-onset symptoms can include fever, headaches, severe muscle pain nausea, vomiting, bloodshot eyes, skin rash, confusion and depression. Chronic conditions can include myocarditis, pericarditis, meningitis, liver damage, and renal failure. Severe leptospirosis can sometimes be fatal.
Orf (Scabby Mouth)	Direct contact with skin or mucous membranes	Skin lesions, pneumonia.
Anthrax	Respiratory, ingestion or local through break in skin	Respiratory or gastrointestinal forms have a very high mortality rate as does local skin infection if left untreated.
Ringworm	Direct contact with skin or from goat handling equipment	Itchy, red, raised, scaly patches that may blister and ooze. The patches often have sharply-defined edges which may create the appearance of a ring. When the scalp or beard is infected, there will be bald patches. If nails are infected, they become discoloured, thick, and even crumble.

<i>Disease</i>	<i>How is it spread</i>	<i>Human symptoms</i>
Campylobacter jejuni	Faecal contamination, handling aborted fetuses and placental membranes	Inflammatory, sometimes bloody, diarrhoea, cramps, fever, pain.
Cryptosporidium	Faecal contamination	Profuse and watery diarrhoea that is frequently accompanied by abdominal cramping. Fatigue, fever, loss of appetite, nausea, and vomiting.
Chlamydia	Faecal contamination, handling aborted fetuses and placental membranes	Pinkeye, pneumonia, polyarthritis or abortion.
Cheesy gland	Direct contact with skin through cuts and abrasions	General malaise, fatigue and fever.
Toxoplasma gondii	Faecal contamination, handling fetuses and placental membranes	Weight loss, lethargy, pneumonia, eye inflammation, fever, vomiting and diarrhoea.
Yersiniosis	Faecal contamination	Mild watery diarrhoea.
Salmonella	Faecal contamination	Acute watery diarrhoea, fever, headache.

Employers should give consideration to the following to prevent zoonotic disease in the workplace:

- Identify work areas where employees might inhale dusts, aerosols or come into contact with organisms carrying disease.
- Alter the workplace and workstation design to reduce the risk of contamination and infection.
- Install effective ventilation systems that reduce the dispersal of dusts and aerosols and prevent the formation of still pockets. Ventilation systems should have the intake and exhaust vent separated to prevent recirculation of contaminated air. Ensure adequate maintenance regimes for ventilation systems are carefully planned and implemented.
- Implement systems and work practices for the treatment of suspected stock.
- Provide suitable washing and changing facilities for maintaining personal hygiene, which includes suitable laundering of work clothing.
- Provide for the use of personal protective equipment.
- Implement a vaccination program for employees, contractors and other persons who may be exposed to the risk of contamination and infection, which incorporates a surveillance program.
- Implement an effective first aid program so that open wounds can be treated quickly to reduce the likelihood of organisms gaining entry to the body through the wound.
- Reduce exposure by informing and educating employees in zoonotic disease and their control measures (e.g. those employees engaged in high-risk tasks require appropriate skills training to assist them in identifying and controlling the risks).

Further information

[Industry & Investment NSW – Yard Design for Goats Agfact A7.7.2](#)
[WorkSafe Victoria – Guidance Note, Q Fever Prevention](#)

Further Information 

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