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The grazing of goats in the pastoral areas of Western Australia : best management practice guidelines

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Department of **Agriculture and Food**



THE GRAZING OF GOATS IN THE PASTORAL AREAS OF WESTERN AUSTRALIA

BEST MANAGEMENT PRACTICE GUIDELINES



THE GRAZING OF GOATS IN THE PASTORAL AREAS OF WESTERN AUSTRALIA

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DEPARTMENT OF AGRICULTURE WESTERN AUSTRALIA'S MODEL CODE OF PRACTICE FOR THE WELFARE OF ANIMALS - GOATS

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1. PREFACE

The *Land Administration Act 1997* (LAA) requires a pastoralist to manage and work the land within a pastoral lease to its best advantage and use methods of best pastoral and environmental management practices to achieve sustainable land use.

For the purposes of the pastoral provisions in Part 7 of the LAA, a distinction is made between authorised and prohibited stock. Recent amendments of the classification of goats, from prohibited stock to authorised stock, require that a best practice management framework be developed to ensure future sustainability of the industry.

This document recognises the existence of a *de facto* managed goat industry based on the sale of unmanaged (feral) goats. Pragmatic regulations and endorsement of the current reality confers increased responsibility on the industry to demonstrate improved animal and land management practices. It is recognised that new methods and practices are likely to emerge over time and that these guidelines may need to be updated.

The overall objective is to define an agreed set of standards for the management of goats that will enable range condition trends to be maintained or improved while generating sufficient profits to enable the industry to develop.

2. LEGISLATIVE BASIS FOR THESE GUIDELINES

The LAA is the primary legislation that prescribes the standards of land management and administration of pastoral land in Western Australia. Section 108 of the LAA relates to the general conduct of animal management on pastoral leases and is the basis on which these guidelines are prepared.

2.1 LAA Section 108 - Management of Land Under a Pastoral Lease

- (1) *A pastoral lessee must, to the satisfaction of the Board, at all times manage and work the land under the lease to its best advantage as a pastoral property.*
- (2) *The lessee must use methods of best pastoral and environmental management practice, appropriate to the area where the land is situated, for the management of stock and for the management, conservation and regeneration of pasture for grazing.*
- (3) *Except with the written permission of the Board, the land under a pastoral lease must be worked as a single pastoral unit.*
- (4) *The lessee must maintain the indigenous pasture and other vegetation on the land under the lease to the satisfaction of the Board.*
- (5) *In satisfying itself for the purposes of subsection (4), the Board must seek and have regard to the advice and recommendations of the Commissioner of Soil and Land Conservation on the matter.*

3. DEFINITIONS

3.1 Managed Stock

A **managed** goat:

- is run according to a management plan that incorporates:
 - a rangeland monitoring process;
 - drought management (processes to manage variable seasons);
 - livestock control, management, husbandry and welfare principles; and
 - appropriate recording processes;
- is managed to ensure that range condition trend is maintained or improved as indicated by reporting processes to the Pastoral Lands Board and monitoring site evaluation;
- is able to be routinely controlled by strategic fencing and/or a management system based on multiple permanent TGM yards where an absence of fresh surface water allows TGM yards to provide effective control; and
- is identified as per Section 6 of this document.

Animals run in these conditions are defined as "*farmed, kept and managed*" according to the LAA.

3.2 Unmanaged Stock

Any goat that does not comply with the definition of a managed goat is deemed to be an unmanaged goat.

4. GOAT ENTERPRISE GUIDELINES

4.1 Enterprise Location and Planning

Establishment of new managed goat enterprises should be confined to areas known to be suitable for goats. Goat enterprises should not be considered in the Kimberley or the Pilbara, for reasons of dingo predation and the risk of escape. The introduction of goats to areas known to be free of goats should not be considered.

The Ecosystem Management Understanding (EMU) landscape mapping process is a recommended (optional) first step in planning a goat enterprise as it highlights landscape attributes on a map that must be considered when planning the location and layout of waters and fences.

Planning allows strategic management of some of the following priority areas identified through the mapping process:

- areas best suited for goats rather than other animals (eg, palatable scrub areas);
- most productive pastures for goats;
- preferred grazing areas;
- main camping sites;
- most frequently accessed natural and artificial surface waters;
- most fragile/threatened landscapes;
- main corridors of goat movement within the station;

- main entry/exit corridors along station boundaries; and
- key biodiversity areas/issues (eg, ecojunctions, rare species, important habitats like swamps etc).

Certain landscapes are susceptible to high concentrations of goats. Continuous grazing by goats on these landscapes may result in long-term impacts on the more sensitive vegetation communities and soil and landscape stability. Examples of this are historically degraded landscapes, certain river plains, wetland habitats, greenstone ranges and breakaway systems. These should be identified in the planning process and avoided within goat paddocks.

4.2 Paddock Design

Paddocks should be fenced to include similar land systems. The distribution of vegetation types needs to be factored into paddock design to avoid damage to preferred areas. Paddocks should not contain strongly contrasting and preferred vegetation types that will result in highly concentrated grazing effects.

Paddock design (size and/or configuration) will need to take into account:

- the extended grazing range of goats, in comparison to sheep;
- that patchy vegetation types require smaller paddocks to achieve uniform grazing distribution. Small paddocks are easier to manage for spelling and rotational grazing systems; and
- that extensive and uniform vegetation types may allow larger paddock sizes in which grazing distribution can be managed through periodic closure of waters.

4.3 Station Infrastructure for Managed Goats

Vegetation clearance associated with the maintenance of existing fence lines, construction of new fence lines, provision of new or alternative water points and associated access, construction of new yards and holding facilities and associated access, and the construction of station airstrips should be regarded as normal station management.

In shrubland or grassland landscapes, five (5) metres of clearing either side of a fence is recommended. In timbered landscapes the height of prevailing timber should be the determining factor to avoid fence damage in the event of falling trees.

4.4 Internal Fencing

It is recognised that goats can be successfully managed with the use of upgraded internal fencing and TGM yards. Two issues that influence the use of either fencing or TGM yards as effective management tools are herd structure and the presence or absence of permanent surface fresh water. Well managed herds comprising goats running in single species herds and with a low percentage of billies (less than 5% adult billies) tend to graze within a defined home range, reducing the requirement for fencing in uniform landscapes. Herd structure is critical to all effectively managed goat enterprises.

For enterprises running higher value crossbred exotic goats, it is recommended that prefabricated fencing be considered because of the higher security offered. The high cost of prefabricated fencing is offset by greater control of breeding programs and stock movement.

Sensitive and fragile land systems must be fenced out of managed goat enterprises. Within a managed goat enterprise fencing must avoid topographical features that reduce the integrity of control, such as washouts, creeks, gullies or other features, or the fencing should be designed to overcome such threats. A higher standard of fence construction is required in these environments.

Electric fences do not sufficiently constrain movement of unmanaged goats, hence electric fenced paddocks can act as accumulators. Untrained animals not previously exposed to an electric fence that receive a shock passing through a fence will tend not to challenge again. Stocking rates can quickly build up from transient unmanaged goats passing through electric fences. These intruders (usually mature males) need to be removed during routine management procedures.

Electric fences require high maintenance levels to retain the necessary level of security. Control of regrowth under electric fences is critical to maintaining an uninterrupted electric current.

4.5 Boundary Fencing

Boundary fencing should be undertaken in such a manner as to satisfy the *Dividing Fences Act* and should be sufficient for sheep and cattle. Any fence shall be determined to be a sufficient fence by a Court of Petty Sessions pursuant to this Act. In the event of a dispute involving the fencing of a boundary, the Local Government Authority and the *Dividing Fences Act* should be consulted.

Boundary fencing should be of a standard to control the movement of goats. As a guide, where electric fences are to be utilised, the fence should have a minimum construction of five plain wires of which two are electrified.

4.6 Total Grazing Management Yards

Control of animals through control of waters is an efficient and economical means of managing animals in most of the rangelands. Management of goats with the use of TGM (Total Grazing Management) yards is highly recommended though design and positioning is critical to their effectiveness.

For further information, a TGM Field Guide is available from Department of Agriculture (DAWA) offices, or more detailed and up to date information from the TGM website (<http://www.agric.wa.gov.au/tgm>). Many pastoralists have refined their own trap gate designs and may provide advice on design and construction.

4.7 Mustering Yards

Where control of goats cannot be achieved for most of the year with TGM yards, the use of strategic mustering yards for year round control throughout the lease is recommended. Capture of goats in trap yards is highly effective for most of the year, according to location, but mustering is essential for control when surface water is present. Portable yards are adequate for this application if the investment in permanent yards is not warranted.

Experience shows that the most effective mustering yards are located within thickets or wash-lines and have long and secure wings to reduce the possibility of escape while yarding.

Suitable access to yards for transport is a critically important consideration.

4.8 Holding Compounds and Concentrating Paddocks

The use of purpose-built high security paddocks to enable accumulation of mustered goats is recommended to allow for adjustment to a yarded environment.

Higher security, prefabricated fencing is recommended for these installations to prevent escapes. Electric fences are suitable but require a higher level of maintenance to retain fence integrity and security.

A larger paddock with sufficient grazing capacity can be used for medium term holding until animals reach saleable weight of about 25 kg. For example, a 5,000 hectare paddock with a carrying capacity of about 10 Ha/dry stock equivalent could support 500 goats year round, or 1,000 goats over winter. It is critical to maintain the vegetation in good condition in these paddocks in order to retain productivity.

The use of holding compounds for short term holding of goats while assembling consignments is also a recommended option. The choice of situation for holding compounds is a critical decision as it has implications for both disease prevention and erosion hazards. A site with stable (non-dispersive) and free draining loams with some degree of natural protection from wind is highly preferred. Yards that waterlog easily are an extreme disease risk factor. Deep wanderie sands may be an acceptable alternative, providing suitable protection from wind is available.

It is important that water, feed and shade be provided to animals kept in holding compounds. Goats should be drafted by size, class and sex to prevent persecution of smaller animals. Particular care must be taken to note any symptoms of disease among concentrated animals and immediate steps taken to prevent spread of disease. Vaccination of all introduced goats with 5 in 1 vaccine is highly recommended.

4.9 Handling Yards

Designs of handling yards are many and varied, although there is little published information available. Choices of materials are at the discretion of the operator, but portable steel yards are adequate for most goat-handling duties, including drafting.

Some general principles for the construction and design of handling yards are:

- Permanent yards that are used more frequently should be constructed of heavy-duty material that withstands constant heavy pressure.
- It is suggested that the minimum height of perimeter fencing be 1.5 metres while the minimum height of handling yards be no less than 1.2 metres.
- Round off all internal corners to improve the flow of goats and cover all internal struts to prevent goats climbing out.
- The length of raceways is reduced to 4 metre sections to reduce compaction of goats. Race widths of about 50 cm at bottom, sloping outwards to 65 cm to 70 cm at top to accommodate long horned males.
- The bugle drafting race recommended in any design of TGM yards.

4.10 Water Points

A general principle of water supplies in the rangelands is that a water point should maximise the area of land available for grazing without creating imbalances of grazing pressure. Water points should be located in the centre of grazing paddocks

for optimum grazing distribution and should not be located in fragile areas or in preferred country types.

Water point placement decisions should take into account the influence of water quality and degree of preference for particular vegetation types. The effective grazing radius around a water reduces by about 10% for every 50% increase of water salinity, hence the worse the water quality, the smaller the grazing radius.

The above factors should be taken into account when deciding on the number of animals run per water point, but, as a general guide, numbers per water would rarely exceed about 500 dse per water in all but the most productive land systems. For example, the optimum number per single central water point in a 5,000 ha paddock in country rated at 12 ha per dse is about 400 dse.

Water infrastructure (tanks and troughs) should be designed to cope with the maximum number of livestock expected per water point in times of peak demand.

Total Grazing Management (TGM) yards may be installed at each water point to manage additional grazing pressure and increase the control of all livestock.

The minimum recommended water spacing in the Southern Rangelands is about 8km between waters, which is a typical walking distance of a goat.

4.11 Goat Grazing Management

Managed goats should be introduced at a stocking rate not exceeding the district land system average for sheep, or, if not known, adopt the land system carrying capacity from rangeland survey publications. An adult managed breeding goat shall be rated as 1.5 DSE in setting carrying capacity. In predominantly winter rainfall areas (ie, Southern Shrublands), the majority of stocking rate decisions should be performed in Spring following the Winter rainfall period. Adjustments up or down should be based on seasons and the response of vegetation as indicated by monitoring sites.

Stocking rates for vegetation currently considered to be in poor condition (where palatable shrub cover is reduced) should be established at a level lower than the recommended carrying capacity. Experience shows that some types of country can improve in condition under grazing by goats alone, without competition from other animals.

Any consideration of stocking rates for management purposes must take into account the significant differences in the amount of forage consumed by different classes of livestock within a herd. The forage consumed varies according to sex, age, pregnancy and lactation status, the quality and quantity of feed on offer, the condition and size of the animal, water quality and the season of the year. The table below describes the relative requirements of typical sex and weight ranges of goats.

Dry stock equivalents (dse) for classes of goats

Class	Dry stock equivalent	Weight range
1 dry doe	0.75 dry stock equivalent	30-40 kg
1 breeding doe	1.5 dse (doe in a herd producing 150% kids)	40-60 kg
1 weaner	0.7 dse (from weaning to one year old)	20-40 kg
1 buck	1.5 dry stock equivalent	60-80 kg

Goats have superior reproductive rates over sheep under most conditions. As such, regular monitoring and adjustment of paddock stocking rates will be required, as numbers will quickly build up. Joining and kidding strategies should be developed to enable the majority of sale and cull animals to be removed from the enterprise before summer when animals become concentrated on waters and pasture is most vulnerable to degradation.

Spelling of paddocks should be planned for, even at recommended stocking rates. Spelling decisions should be based on quality of season, vegetation and soil and landscape condition.

4.12 Monitoring Grazing Effects

Pastoralist Monitoring System (PMS) sites or landscape habitat monitoring sites should be installed in major vegetation types in each paddock to take into account any preferences goats may develop. Sites should contain perennial plant species that are known to be preferentially grazed by goats. DAWA can provide advice on establishment of monitoring sites, with the minimum requirement that sites are placed in informative situations and a photograph taken from an easily located fixed point.

On a regular basis pastoralists should assess the general condition of the entire paddock. This will include off track or across paddock traverses, noting the level of preferential grazing, particularly near favoured campsites.

Goats introduced to new country may take some time before developing patterns of use on differing vegetation types; hence it is imperative that patches of vegetation be monitored for increased grazing activity. Patches that receive excessive pressure should be removed from grazing, or if not practical, a reduction in overall stocking rate may be required.

Monitoring efforts should pay particular attention to the health of the canopy structure, in particular noting browse lines and regeneration of browsed tips of large shrubs and trees, particularly curara and mulga. Damage or lack of regrowth of new shoots of the canopy and under canopy shrubs is a critical sign that grazing pressure is resulting in long-term degradation to the plant community. Goats grazing annual ground feed of declining quality will quickly become reliant on perennials and adjustments to stocking rates and distributions will need to be made rapidly.

Improved per animal and overall herd productivity may be achieved with lower overall stocking rates.

Be aware of the effect of "outside" goats infiltrating electric fenced paddocks. A significant buildup of intruding goats can occur over a several week period in summer.

4.13 Managing Herd Structure

Manipulating herd composition results in a marked change in behaviour of individuals and hence the herd. Herds comprised mostly of does tend to have more stable and defined home ranges and tend to remain on a single water point throughout summer, unless forced.

Removal of adult billies results in decreased persecution of smaller competing males. Experience and limited research indicates that 5% of billies appears to be a satisfactory percentage in pastoral situations. Reduction of competitive behaviour between males prevents much of the structural shrub damage commonly associated

with goat campsites of unmanaged herds. All males except for breeding stock should be sold by 18 months of age. Where billies are being kept for a specific market requiring an age of greater than 18 months, they should be kept separate from the main herd in appropriate confinement paddocks.

Compared to sheep and cattle, the natural increase of a goat herd is rapid, and more rigorous management of overall numbers and distribution is required. Nanny populations should be rigorously monitored and reductions in herd numbers should be maintained when the sale or marketing of managed goats is difficult.

In controlled environments (ie behind electric fences), intruding unmanaged goats will have a large effect on stocking rate and interfere with a breeding program.

4.14 Animal Husbandry

Recently mustered or trapped goats require sensitive handling to prevent losses in yards, on trucks and at abattoirs. Following a consultant's report Meat and Livestock Australia and Livecorp are recommending captured feral or unmanaged goats not be selected for short or long haul voyages after 1 January 2005. Clearly, industry must move to a managed goat industry over the next 2-3 years with significant reductions in the sale of unmanaged goats for slaughter.

Provision of adequate feed, water and shade in yards is essential to avoid stress induced Salmonella outbreaks. Salmonella from faecal contamination on hair is a significant food safety risk for abattoirs.

Providing shade can also prevent 1 kg per day of weight loss, which can occur if goats are left exposed in the heat. Producers should be aware of the effects of feed inanition (refusal to eat) and consider the option of Thiamine injections or supplements to overcome feeding problems.

Predation by wild dogs and foxes can result in large reproductive losses. A strategic baiting program prior to peak kidding periods will significantly reduce losses to predation.

Goats introduced into any new environment should be vaccinated with a 5 in 1 vaccine and treated with a recommended lice treatment.

Goats can be susceptible to notifiable diseases that affect sheep and cattle. Any herd disease incidents should be reported to DAWA or a veterinarian.

4.15 Temperament

Producers should select a breeding herd and sires with good temperament to avoid additional problems with animal management and ensure product quality.

Removal of large billies is critical for the maintenance of an even herd temperament.

Regular and sensitive handling of animals in yards and routine use of TGM yards encourages better temperament, ease of handling and reduced animal stress in yards and on trucks.

5. ANIMAL WELFARE

Maintenance of basic animal husbandry requirements is an aspect fundamental to all grazing enterprises. Public perception of the managed goat industry needs to improve and pastoralists need to be aware of basic standards of animal welfare.

A comprehensive "Model code of practice for the welfare of animals for goats" developed by DAWA staff in consultation with industry is attached as a supporting document to these best practice guidelines.

Animal welfare codes of practice that describe responsibilities for mustering and transport are available on-line from DAWA's Animal Welfare web site at <http://www.agric.wa.gov.au/programs/app/AnimalWelfare>.

Goats are kept in situations that vary from extensive grazing to close confinement and housing. Whatever the form of husbandry, owners and managers of goats have a responsibility to care for the welfare of the animals under their control.

The basic behavioural, anatomical and physiological needs of goats are considered, irrespective of the method of husbandry practiced.

The importance of competent stockmanship in animal welfare cannot be over-emphasised. The important skill of competent stockman is the ability to recognise the early signs of distress or disease in goats so that the cause can be identified, and prompt, appropriate, remedial action taken.

The basic requirements for the welfare of goats are:

- food and water to sustain health and vitality;
- sufficient space to provide freedom to stand, lie down, stretch, turn around and groom themselves;
- protection from predation;
- protection from disease, including disease that can be exacerbated by management;
- protection from extremes of climate during certain phases of their life; and
- protection from pain, suffering and injury.

6. IDENTIFICATION AND MOVEMENT

Identification of managed goats outside the SW Land Division is not legally required by the *Stock Identification and Movement Act 1970*, but is regarded as a fundamental requirement of best practice management standards for all livestock. The focus of the Best Practice Guidelines is to develop a Quality Assurance approach to the development of the managed goat industry, of which identification of goats is recommended in certain circumstances and trace-back capability is possible in all situations.

Section 370 of the Criminal Code states that the theft of an animal wild in state and nature cannot result in a criminal offence. For a criminal offence to be recorded, reasonable demonstration of ownership and containment would be required.

Ownership of animals is therefore deemed to incorporate the following attributes:

- Identification;
- Provision of adequate water;
- Provision of adequate feed;
- Provision of shade;
- Provision of fences, yards and holding compounds;
- Herd structure management principles;
- Animal husbandry principles; and
- Animal welfare principles.

Managed goats being sent direct from property of origin to slaughter will not require identification. They will, however, require trace back capability. All other forms of movement of managed goats off the property of origin will require identification including goats being sold for live export, goats sold to a depot, and the inter-property movement of goats. The preferred method of identification is by an ear tag.

7. REFERENCES AND FURTHER READING

- *Land Administration Act 1997*
- *Dividing Fences Act 1961*
- *Stock Identification and Movement Act 1970*
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- Underwood, C. (2002) "*Total Grazing Management Field Guide - Self-mustering systems for cattle, sheep and goats*". Department of Agriculture Western Australia, Bulletin No. 4547
- Total Grazing Management website: <http://www.agric.wa.gov.au/tgm>. Trapyard designs for sheep cattle and goats.
- Animal welfare guidelines:
<http://www.agric.wa.gov.au/programs/app/AnimalWelfare>

Department of Agriculture Western Australia's
Model Code of Practice
for the Welfare of Animals - Goats

1. INTRODUCTION

This Code is intended as a guide for all people responsible for the welfare and husbandry of goats.

Goats are kept in situations, which vary from extensive grazing to close confinement and housing. Whatever the form of husbandry, owners and managers of goats have a responsibility to care for the welfare of the animals under their control.

The basic behavioural, anatomical and physiological needs of goats are considered in this document, irrespective of the method of husbandry practiced.

The importance of competent stockmanship in animal welfare cannot be over-emphasised. The important skill of competent stockman is the ability to recognise the early signs of distress or disease in goats so that the cause can be identified, and prompt, appropriate, remedial action taken.

The basic requirements for the welfare of goats are:

- Food and water to sustain health and vitality.
- Sufficient space to provide freedom to stand, lie down, stretch, turn around and groom themselves.
- Protection from predation.
- Protection from disease, including disease that can be exacerbated by management.
- Protection from extremes of climate during certain phases of their life.
- Protection from pain, suffering and injury.

2. FOOD

The food available to goats should meet the requirements of maintenance, growth, pregnancy, lactation and fibre production, and any extra demands such as exercise or cold stress.

The stocking rates of goats on pure pasture should not exceed the recommended rates for sheep on such pasture.

If browsing is available, it may be possible to increase the stocking rate. The feed quality of scrub is often low. Goats are selective feeders and will not thrive or produce on poor quality feed.

If only browsing is available, its height must be such that it is within reach of younger kids.

Feral goats require a conditioning period to adjust from browsing scrub under range conditions to grazing pasture under intensive conditions to allow them to change feeding habits and for the gut flora to change appropriately.

Goats should be protected as far as possible from foods and materials deleterious to their health (e.g. many ornamental plants are toxic).

3. WATER

Clean, potable water should be readily accessible to goats.

The amount of water drunk depends upon the dry matter content of feed eaten and surface moisture available from rain or dew, body weight of goats and production level, especially of lactating goats. A goat in full lactation may consume up to 10 litres of water per day; this intake may double if the temperature exceeds 40°C.

Water quality (salinity, taste, temperature) can adversely affect intake. Goats may adapt to high salt levels (>5000mg/L) but generally prefer saline levels less than 2000mg/L.

4. DROUGHT

Drought may be defined as a severe rainfall shortage, which leads to deficiency in water and/or feed supply for grazing goats. Drought is not the normal seasonal shortage of feed.

Goats being fed for survival should be examined at feeding time. Less thrifty goats may require segregation for special treatment.

Where provisions for health and vitality cannot be met, goats should be moved, agisted, sold or slaughtered on site.

Drought-affected goats that are unable to rise and walk should be destroyed humanely on site.

Drought-affected goats that go down after limited exercise are NOT fit to travel. They should be fed to improve condition to enable them to travel or, alternatively, be slaughtered humanely on site.

Drought-affected goats still able to walk but in an emaciated condition, and for which supplementary feed or agistment is not available, should be sent directly to a knackery, rendering works or abattoir, as close as possible to the on-farm location, or slaughtered humanely on site. They should not be consigned to saleyards.

Drought-affected goats should be protected against exposure to extremes of temperature and weather. Vehicles transporting drought-affected goats should be designed to give adequate cooling in hot weather and protection against cold, wet conditions.

5. PROTECTION FROM CLIMATIC EXTREMES AND PREDATION

Goats are sensitive to extremes of weather and all reasonable steps should be taken to minimize the effects of climatic extremes and other factors that produce either cold stress or heat stress.

Goats are vulnerable to cold stress, especially off-shears or when in low body condition, or during continuous rain when in full fleece. They require the provision of effective shelter or good natural shelter.

Steps should be taken to ensure that, as far as practicable, goats can be attended to promptly in the event of fire, flood, injury or disease.

Reasonable precautions should be taken to protect goats from predation. The use of electric fencing should be considered.

6. INTENSIVE GOAT SYSTEMS - HOUSING AND ACCOMMODATION

Feedlots and feed pads should provide sufficient space for each goat to be able to stand, turn around, stretch, lie down and move to feed and water.

The design, location and construction of feedlots and feed pads should take account topography, climate, age and size of animal, space and feed requirements, and labour and management skills available.

Tethered and confined goats should have enough space to be able to lie down, stretch, stand up and to exercise. They should have access to shelter, food and water. Tethering is not recommended unless there is supervision of the goats.

In some States, the provision of shelter for tethered goats is a legal requirement.

Sheds or arks (mobile sheds) provided for tethered goats should be of sufficient size to allow the animal to stand up turn around and lie down.

Goats should not be permanently tethered by lengths less than 4 body lengths, unless selective veterinary therapy under shorter tether is prescribed, or for show, display or approved experimentation purpose.

Collars, ropes chains and similar materials used for tethering of goats hold be constructed and used so as to avoid injury and pain.

In the case of housed goats, ventilation, whether mechanical or natural, should assist in the removal of environmental heat, moisture, dust, carbon dioxide and other noxious gases and airborne infectious organisms, and replace these with fresh air. This air should be distributed in a manner appropriate to the location of the stock and the design of the building.

7. GOAT HANDLING FACILITIES

Sheds, pens, yards, lanes, loading ramps, dips and areas where goats are forced to congregate should be so constructed and maintained and of such a size as to minimize the risk of injury, disease and overcrowding.

Floors of yards, sheds, pens and loading ramps should have a surface that is not slippery and which facilitates cleaning.

Uneven or steeply sloping surfaces greatly increase the risk of falling because goats often display defensive reflexes when confronted with such situations and may make sudden erratic movements.

Goats should spend as little time as management practices allow confined in yards, so as to minimize chances of injury. Handling of goats in small groups, particularly kids and heavily pregnant does, will minimize injury in yards.

Special facilities should be available to permit adequate restraint of goats that require inspection or treatment because of illness or injury.

Goats should be caught and restrained with care. Horned goats may be restrained by holding the horn at its base, not at its tip, as this may cause the horn to break.

Goats should be picked up bodily, not by their horns or hair.

8. MANAGEMENT PRACTICES

8.1 General

Practices that cause pain should not be carried out on goats if painless and practical methods of husbandry can be adopted to achieve the same result.

Any injury, illness or distress observed should be promptly treated.

Management procedures carried out on goats should be competently performed.

Restraint used on goats should be the minimum necessary to perform procedures efficiently.

Hygienic precautions should be undertaken for all operations.

Pregnant does are susceptible to stress-induced abortion.

Animal husbandry practices should induce minimal stress, whether from extreme climatic conditions, mustering, handling, prolonged transportation or nutritional factors.

8.2 Supervision

Frequency and level of inspection should be related to the likelihood of welfare problems of goats.

Goats kept under intensive management should be inspected, fed and watered daily.

Goats grazing under more extensive conditions require variable supervision, according to density of stocking, availability of suitable feed, reliability of water supply, age and pregnancy status.

Agreements relating to leased land and agistment should specify who has the responsibility of supervising stock.

8.3 Castration

Castration should be carried out on kids as early as management practices allow, preferably before 2 months of age.

Surgical castration without the use of anaesthesia should be confined to bucks under two month of age.

8.4 Disbudding, Dehorning and Horn Trimming

Disbudding of kids should be by heat cautery only. The entire horn bud must be removed and the operation must be performed as soon as the bud can be located. Regrowth of horn occurs very readily, so kids should be checked two to three weeks after budding.

Disbudding by means of chemicals is not recommended.

Dehorning (as distinct from disbudding) should only be performed under general anaesthesia or narcosis.

Dehorning should only be performed by an experienced operator or by, or under the supervision of, a veterinary surgeon.

Horn trimming or the removal of sharp horn points is recommended to minimize injury to other goats. It should be performed so as to avoid bleeding and ensure that no sharp horn projections remain after the procedure.

8.5 Milking Practices - Dairy Goats

Lactating dairy goats in full lactation should not be left for more than 24 hours without relief by milking.

Careful management of the milking operation and proper milking machine function directly influence longevity of lactation, total production and prevalence of mastitis in dairy goats. Milking machines should be checked and, if necessary, adjusted by a competent technician at least annually.

8.6 Shearing

It is normal practice to shear fibre goats at least once each year. The procedure should be performed by a competent operator and care should be taken to prevent injuries.

Shearing stress should be kept to a minimum by avoiding undue yarding and travelling procedures, avoiding exposure to adverse weather and by providing access to feed and water if animals are confined for more than 24 hours.

It is desirable that goats are provided with access to effective shelter or good natural cover after shearing. The critical period is the first six weeks post-shearing, depending on body condition and seasonal weather conditions.

8.7 Health

Appropriate preventive treatment should be administered to goats for diseases that are common in a district or are occurring in a goat herd.

Suitable methods of administration of vaccines and medication should be employed.

Parenteral medicines, such as vaccines and other injectables, internal medication, such as vaccines and drenches, and external medication, such as dips pour-on formulations, should be given in strict accordance with the manufacturers' instructions. Any medication that does not bear specific instructions for treatment of goats should only be used on veterinary advice.

Sick, injured or diseased goats should be given prompt and appropriate treatment or be slaughtered. Separation of such goats from non-affected goats is recommended until the condition resolves. When emergency slaughter is necessary, it should be performed on the farm in an humane manner.

Difficult kiddings should be diagnosed promptly and does assisted only by a skilled and competent operator, or by, or under the supervision of, a registered veterinary surgeon.

When does are producing more milk than required by their kids, they should be hand-milked to relieve udder pressure.

Hoof trimming should be performed if necessary to remove over-growth of horn.

9. IDENTIFICATION

Ear tagging, ear marking, ear notching and tattooing are the preferred methods of identifying goats.

Branding by any means should not be performed.

10. MUSTERING, DRIVING, YARDING AND DRAFTING

Goats should not be driven to the point of collapse.

The use of goading devices and dogs for the handling and moving of goats should be limited to the minimum necessary to complete the procedures.

11. HUMANE DESTRUCTION OF GOATS

Goats should be humanely destroyed using the behind-the-horns method. The captive-bolt pistol or firearm should be aimed at the skull behind the horns in line with the animal's mouth (See Figure 1).

Kids may also be shot from the front, as for cattle, directing the shot at a point of intersection of lines taken from the base of each ear to the opposite eye. This method is not suitable in mature goats as the brain is located well back in the skull compared with other livestock.

Destruction by severance of the throat and spinal cord is satisfactory if performed by an experienced operator, but should only be performed if a captive bolt pistol or firearm is not available.

Figure 1:

