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Department of **Agriculture** and Food



THE GRAZING OF SHEEP IN THE PASTORAL AREAS OF WESTERN AUSTRALIA

BEST MANAGEMENT PRACTICE GUIDELINES



THE GRAZING OF SHEEP IN THE PASTORAL AREAS OF WESTERN AUSTRALIA

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1. INTRODUCTION

The *Land Administration Act 1997* 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.

The Pastoral Lands Board will use these best practices as a guideline.

2. ENTERPRISE SPECIFICATIONS

2.1 Boundary Fencing Considerations

Boundary fencing should be undertaken in such a manner as to satisfy the *Dividing Fences Act* and should be sufficient for sheep. In the event of a dispute involving the fencing of a boundary the Act should be consulted.

2.2 Internal Fencing Considerations

Paddocks, where possible, 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 preferential vegetation types that will result in highly concentrated grazing.

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

- the grazing range of sheep;
- that smaller and patchier vegetation types will require smaller paddocks to achieve uniform grazing distribution. Smaller paddocks are easier to manage for spelling and rotation programs;
- extensive and uniform vegetation types may allow larger paddock sizes in which grazing distribution can be managed through periodic closure of waters; and
- sensitive and fragile land systems, river frontage, coastal dune country, unmanageable areas of permanent natural water (eg. ranges) or stony upland country of very low productivity require specific land management considerations, including the option of grazing cattle in lieu of sheep, or not being grazed at all.

Vegetation clearance associated with the maintenance of existing, and construction of new, fence lines should be regarded as normal station management. In shrubland or grassland landscapes, five (5) metres of clearing either side of the 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.

2.3 Artificial Water Improvements

The strategic location of water points will spread grazing more evenly across paddocks and hence reduce concentrated grazing. Inadequate distribution of watering points can cause localised land degradation close to waters while valuable pastures at greater distances from watering points have remained unused. The tendency for sheep to graze into the wind should also be a consideration in the location of water points.

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. Optimal water point placement for sheep is no further than 5 to 8 kilometres apart.

Water point placement decisions should take into account the influence of water quality and degree of preference for particular vegetation types. Poor water quality reduces effective grazing radii. For a water quality of 5,000 parts per million of salts (about 330 grains per gallon), the grazing area is about 4,600 ha. At 10,000 parts per million (about 700 grains per gallon), this reduces to 3,780 ha.

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 point 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. The same paddock rated at 8 ha per dse should support about 625 dse.

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

Total Grazing Management trap yards may be installed at each water point to manage additional grazing pressure and enhance management options.

Vegetation clearance associated with the provision of new or alternative water points and associated access should be regarded as normal station management.

2.4 Sheep Management

Sheep should be introduced to an enterprise at a stocking rate that does not exceed the recommended carrying capacity for the land system as outlined in the regional rangeland survey publications. An adult domestic *breeding* ewe shall be rated as 1.3 dse in setting carrying capacity. In predominantly winter rainfall areas (i.e. southern shrublands), the majority of stocking rate decisions should be taken 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 initially established at a level lower than the recommended stocking rate. The use of monitoring sites in poor condition country is essential for determining the grazing effects of sheep grazing on the natural resource.

Any consideration of carrying capacity for management purposes must take into account the significant differences in the amount of forage consumed by different classes of livestock within a flock. 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.

Decisions in relation to what type of stock should be run in what paddocks based on pasture types in each paddock are required. In general, breeding ewes and rams should be put into paddocks with productive perennial shrubs and grasses (e.g. salt lake or river frontage) and wethers put into more seasonal country (e.g. wanderrie grass).

The table below describes the relative requirements of classes of sheep:

Class	Dry stock equivalent	Weight range
1 wether	1 dse	40-50 kg
1 ewe	1.3 dse (ewe in a flock producing 50% lambs)	30-40 kg
1 weaner	0.7 dse (from weaning to one year old)	20-40 kg
1 ram	1.5 dse	60-75 kg

Spelling of paddocks should be planned for, and should be based on quality of season, vegetation and soil condition.

Vegetation clearance associated with the construction of new yards and holding facilities, and the provision of access to these facilities, should be regarded as normal station management. Similar provisions should apply to the construction of station airstrips.

3. RANGELAND MONITORING

Photographic monitoring offers pastoralists an inexpensive management tool that can help to better understand how varying practices affect the rangelands. Using a monitoring system also helps take the guesswork out of knowing what changes to vegetation and soils have occurred over time.

Monitoring of paddocks is considered to be industry best practice and sites should be reviewed on a seasonal or at least an annual basis. Visual comparison with photographs from previous recordings is adequate between assessments.

Monitoring sites should be installed in the major vegetation types in each paddock to take into account any preferences sheep may develop for a particular vegetation type. Department of Agriculture Western Australia (DAWA) can provide advice on establishment of monitoring sites.

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.

New mobs introduced to paddocks may take some time before developing patterns of use on different vegetation types, hence it is imperative that patches of vegetation be watched for any increased grazing activity patterns. Patches that receive excessive pressure should be removed from grazing if possible, or if not practical, a reduction in overall stocking rate may be required.

4. RANGELAND MANAGEMENT

4.1 Country in Poor Condition

Areas where the perennial vegetation has been degraded, but the soil surfaces are still largely intact, can be improved by careful management including:

- strategic spelling;
- reducing total grazing pressure (feral as well as domestic);
- grazing different animals (e.g. cattle in lieu of sheep); and
- fencing and water relocation can also contribute to pasture re-establishment.

4.2 Severely Degraded and Eroded Areas

Severely degraded and eroded (sde) areas have little or no perennial vegetation remaining and the soil surface is bare and eroding. Complete withdrawal from grazing is often the best option for these areas, and may incorporate relocation of fencing and waters.

1. INTRODUCTION

This Standard is the minimum welfare requirement for sheep.

It is intended as a guide for all people who handle and manage grazing sheep. It takes account of significant differences in production practices on grazing properties, which are determined principally by climate and environment.

Notwithstanding the wide range of different production practices, the owners and handlers of grazing sheep are responsible for the health and well-being of the animals in their control.

The recommendations in this Code are appropriate to sheep under all extensive production systems and their observance will help to ensure that the welfare of the stock is safeguarded.

The important factors in determining welfare in a flock are the behaviour, attitude and consistency of the stockman. Important skills of the competent stockman include the ability to anticipate situations in which welfare may be at risk and to recognise early signs of distress or ill-health in animals, so the appropriate preventative or remedial action may be taken.

2. BASIC WELFARE NEEDS

The basic requirements for the welfare of grazing sheep are:

- an adequate level of nutrition to sustain health and well-being;
- access to sufficient water of suitable quality to meet physiological needs;
- arrangements, in advance, to ensure that feed and water can be made available to them in emergencies;
- social contact;
- protection from predation;
- protection from unnecessary pain and injury;
- protection from and treatment of diseases, particularly those that are exacerbated by domestication and management;
- protection from extremes of climate which may be threatening; and
- handling facilities that, under normal usage, cause neither injury nor distress.

3. FEED

In all systems of management, an on-going assessment should be made of the needs in relation to the amount, quality and continuity of feed supply.

Sheep should have available a diet which is nutritionally adequate to maintain health and meet the specific requirements of growth, pregnancy and lactation.

Sheep being fed for survival should be examined regularly. Less thrifty sheep may require segregation for special treatment.

Where an adequate level of nutrition cannot be met, sheep should be moved to other areas where adequate feed is available. Alternatively, they should be sold, or humanely slaughtered on the property.

Sheep should be protected, as far as possible, from feeds deleterious to their health.

4. WATER

Except when there is adequate moisture obtained from pasture, sheep require access to water, an on-going assessment should be made in relation to the amount, quality and quantity of water supply. Watering points should be located within the normal travel range of sheep.

Water provided for sheep should be of suitable quality to meet physiological needs.

Where sufficient water to maintain health cannot be provided, the sheep should be moved to other areas where an adequate supply is available, sold or humanely slaughtered.

5. PROTECTION FROM CLIMATIC EXTREMES, NATURAL DISASTERS, AND PREDATION

All reasonable steps should be taken to minimise the effects of weather that produces either heat or cold stress in sheep. Recently shorn sheep and newborn lambs are particularly susceptible.

Plans should be made to ensure that, as far as practicable, sheep can be attended to promptly in the event of fire, injury or disease.

Where predation is known to occur, reasonable means should be used to protect sheep.

6. SHEEP HANDLING FACILITIES

Well-designed sheep handling facilities, and the ease with which animals flow through them, have important implications for the welfare of the sheep.

Sheds and yards should be constructed and maintained so as to minimise the risk of injury.

The floors of sheds and yards should have surfaces that minimise the risk of injury and disease and allow sheep to stand and walk normally.

Where sheep are held in yards for extended periods their requirements for food, water and shelter should be met.

7. MANAGEMENT PRACTICES

Practices that cause pain should not be carried out on sheep if painless and practical methods can be adopted to achieve the same results.

Sheep should not be allowed to suffer painful conditions for want of attention.

Management procedures carried out on sheep should be performed by competent persons.

Relevant hygienic precautions should be undertaken for all surgical procedures.

Restraint used on sheep should be the minimum necessary to efficiently carry out the required procedures.

Protection against tetanus is recommended prior to any surgical procedure, particularly where rubber rings are used.

8. SUPERVISION

The frequency and level of inspection should be related to the likelihood of risk to the welfare of the sheep.

Owners and managers including absentee owners and managers have a responsibility to ensure that sheep are inspected sufficiently often to prevent development of welfare problems.

Sheep grazing under more extensive conditions require variable supervision, according to the density of stocking, availability of suitable feed, reliability of water supply, age, pregnancy, climatic conditions and management practices.

9. USE OF DOGS

The use of dogs and goading devices for handling sheep should be limited to the minimum needed to complete the procedures.

Dogs that bite should be effectively muzzled while working and restrained when not working.

10. SHEARING

It is a legal requirement to shear wool-growing sheep annually. Crutching, wiggling and ringing may be required at other times of the year for hygienic reasons or to minimise impairment of vision or the risk of fly-strike.

Shearing is stressful. Shearing stress can be reduced by avoiding lengthy handling, avoiding exposure to adverse weather and by returning the sheep to food and water as soon as possible after shearing.

11. EXTERNAL PARASITE CONTROL

Appropriate forms of external parasite control should be used when necessary.

12. DEHORNING

Rams, stags, and some wethers with horns may need to be cut back to avoid injury to other sheep and to allow free movement through handling races. The amount of horn removed should be the minimum needed to achieve these results and should not cause bleeding.

During horn branding care should be taken to ensure that soft horn tissue is not entered.

13. HEALTH

Minor surgery usually causes little stress if carried out efficiently and with minimal restraint. Strict attention should be paid to:

- the suitability of the work area in which the operation is to be performed;
- the catching facilities;
- the type and amount of restraint;
- the selection and maintenance of instruments;
- hygiene; and
- after-care of the animals.

Protection against tetanus prior to any surgical operation is recommended, particularly when rings are to be used.

A veterinarian or other competent operator should be employed where management is not conversant with the procedure.

14. EAR MARKING

Ear marking instruments should be sharp and the cutting edges complete so as not to cause tearing of the ear.

15. TAIL-DOCKING

Tail-docking, where it is considered necessary, should be performed on lambs as early as management practices will allow.

Acceptable methods of tail-docking, without anaesthesia, are:

- cutting with a sharp knife;
- rubber rings applied according to the manufacturer's recommendation; and
- a heated searing iron used according to the manufacturer's recommendations.

Tail-docking without anaesthetic should be done as early as possible, preferably before 12 weeks and not carried out on lambs older than six months.

The docked tail should be long enough to cover the vulva of the ewe lamb and be of similar length in the male lamb. This recommendation may be varied, in the case of certain breeds, when experience has shown that shorter tail length is not associated with undesirable effects.

16. CASTRATION

Castration should be performed on lambs as early as management practices allow.

Castration may be necessary if lambs are to be marketed for slaughter prior to puberty, which generally occurs at an age of 3-6 months.

(Note: The age of puberty is extremely variable between breeds and conditions.)

Acceptable methods of castrating male lambs, without anaesthesia, are:

- Cutting - The lamb should be properly restrained and the knife/cutting instrument kept clean and sharp. Good post-operative drainage of the wound is required.
- Rubber rings applied according to the manufacturer's recommendation.
- Emasculators or spermatic cord crushing instruments used according to the manufacturer's recommendations.
- Castration, vasectomy or the induction of cryptorchidism (the re-positioning of the testicles into the abdomen) of rams over six months of age should not be performed without the use of an anaesthetic.

17. MULESING

If mulesing is not considered necessary it should not be performed.

The removal of wool-bearing skin from part of the breech area of the sheep (mulesing) provides a high degree of lifetime protection against fly-strike in the breach area.

The modified mules' operation, in which a V of woollen skin is left above the tail, is recommended until a more acceptable solution is found.

The extent of the skin removed in the mules' operation should be limited to that sufficient to give an adequate degree of protection to the sheep. Excessive radical mulesing should not be performed.

Mulesing should be performed as early as management practices will allow and where possible in conjunction with other lamb marking operations. After mulesing, lambs should be observed daily, until the wounds have healed, for signs of fly-strike of the wound. Animals with infested wounds should be quietly caught and treated without delay.

If freshly mulesed lambs are to be moved they should be drifted rather than driven.

18. IDENTIFICATION

It is a legal requirement to earmark all sheep (except certain stud sheep) with a registered earmark before it is weaned, attains the age of six months or is removed from the run, whichever occurs first. Stud sheep whose pedigrees have been kept for three or more generations are exempt.

In horned sheep, the horn may be branded with a registered brand provided care is taken to ensure that the branding does not predispose the animal to infection and does not burn sensitive tissue.

19. PROTECTION FROM DISEASE

Sick, injured or diseased sheep should be given prompt and appropriate treatment or humanely slaughtered.

Slaughter should be performed humanely, using an approved method.

Appropriate preventive treatment should be administered to the sheep for diseases that are common in a district or are likely to occur in a flock.

Medications, such as vaccines and worm drenches, and external medications, such as dips, should be used in strict accordance with the manufacturer's instructions.

20. DROUGHT

Sheep should have access to or be provided with feed that will maintain their well-being. They should not be deprived of access to feed for periods longer than 48 hours. Animals in poor condition, in late pregnancy or early lactation, should not be deprived of access to feed for periods longer than 24 hours.

Feed available should meet the requirements of maintenance, growth, pregnancy and lactation, and provide for any extra demands, such as exercise or cold stress. When droughts or seasonal feed shortages occur, arrangements should be made to ensure a continued supply of feed adequate for maintenance of sheep.

If the pasture is poor, in quality and/or quantity of feed, and no supplements are being fed, the stocking rate should be reduced accordingly. Appropriate management practices such as early weaning of lambs should be instigated.

Where survival feeding cannot be arranged sheep should be moved, sold or humanely slaughtered on site.

Drought-affected sheep required particular care and protection from wet weather and from stresses occurring during road transportation.

Drought-affected sheep which are still able to walk, but are in an emaciated condition and for which supplementary feed or agistment is neither available or planned, should be sent directly to a slaughtering plant as near as possible to their current location or disposed of on site. They should not be consigned to saleyards.

Sheep suffering from drought conditions which go down after limited exercise can be considered to be at their minimum survival weight and not fit to travel.

Sheep that go down and are unable to rise and sheep that are likely to go down from starvation or dehydration before they are again checked should be destroyed humanely on site.

21. HUMANE DESTRUCTION OF SHEEP

The method of slaughter should be effective and cause sudden and painless death for the sheep.

Use of a suitable firearm is the preferred method. Use of firearms on public property, such as roads, or in built-up areas, may be illegal and, under those circumstances, assistance should be sought from Veterinary Practitioners, the RSPCA or the Police.

To provide maximum impact and the least possibility of misdirection, the range should be as short as circumstances permit.

An alternative to a firearm is a captive-bolt stunner, which is safer since a blank cartridge is used. Two types of captive-bolt stunner are available. The percussion stunner has a wide mushroom-shaped head that delivers a knock-out blow to the skull. The penetrating stunner has a narrow bolt that is driven a short distance into the brain.

22. RECOMMENDED POSITION AND DIRECTION OF FIRE IN SHEEP

22.1 Using a firearm

Hornless sheep and rams

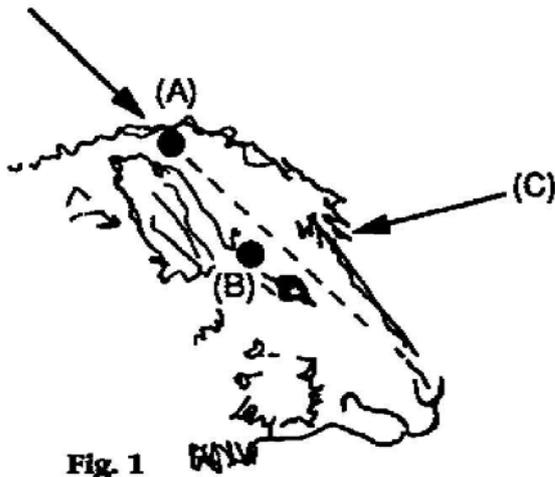


Fig. 1

Horned sheep and rams

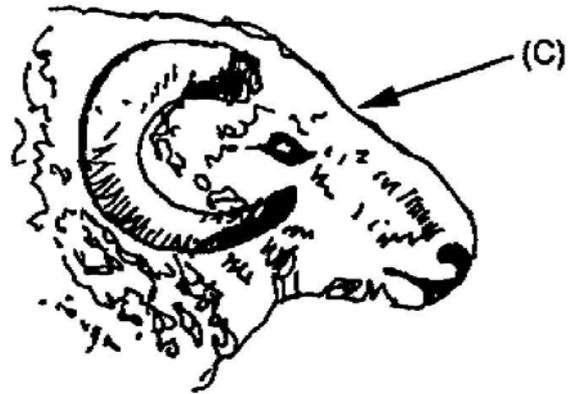


Fig. 2

Either:

- Aim just behind the poll in the direction of the animal's muzzle (A); or
- Aim from the side of the head at a point midway between the eye and the base of the ear (B); or
- Aim at a point in the middle of the face just above the level of the eyes while aiming along the neck (C).

22.2 Using a captive bolt stunner

Hornless sheep and rams



Fig. 3

Horned sheep and rams

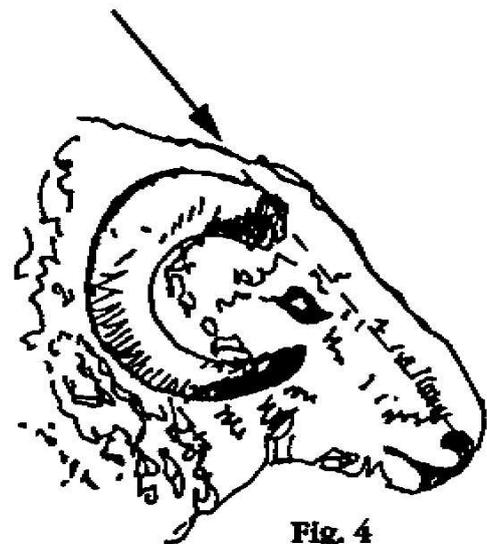


Fig. 4

Place captive bolt stunner firmly on top of head aiming behind the poll in line with the animal's muzzle.