GOVERNMENT OF
WESTERN AUSTRALIA

Department of **Agriculture** and **Food**

MANAGING CATTLE IN DRY CONDITIONS

Pastoralists' options and animal welfare responsibilities

August 2010

Section 1: Cattle management options

AT A GLANCE

- Regularly reassess carrying capacity
- Reduce stock numbers to match carrying capacity
- Wean lactating cows to reduce their nutrient requirements
- Yard-feed weak cows and cows with calves at foot
- Sell dry and aged breeders to reduce feed requirements
- Sell young weaned cattle — if there is a market
- Only agist sale cattle, not breeders
- Focus on feeding cattle to make them fit to travel
- Feed a good diet for 3–4 days before transporting cattle e.g. shipper cubes
- Humanely destroy animals that are unfit to travel unless they can be fed on-site

Following are some short-term management options which provide financial rewards as well as preventing animal welfare problems.

Regularly reassess carrying capacity

Continually assess available feed and water and rainfall predictions (see Table 1) to ensure that the property has adequate supplies for the number of livestock.

If the property cannot carry the number of livestock present, then the owner/manager must take action to avoid animals suffering.

Options to make available feed go around:

- Reduce numbers — sell or agist animals that are fit to travel.
- Feed to ensure animals are 'fit to load' before transport. Do not load unfit animals (see section 2 for fit to load guidelines).
- Feed to ensure animal welfare responsibilities are satisfied.

Rainfall probabilities in coming months

The rainfall information in Table 1 is based on historic rainfall data analysed using the Rainman program. When added to local knowledge, many producers may find this information useful for feed budgeting purposes, but budgets should be focused on the feed currently available with rain as a possible bonus. For other queries about the chances of different amounts of rain at different times of year calculated by using Rainman, see the Department of Agriculture and Food contacts list in section 5.

Table 1: Rainfall probabilities for rangeland regions of WA*

Region	Date when there is a 70% chance** of receiving 25mm of rain over three days running	Date after which no effective rainfall is expected
North Kimberley	Mid-December	End of March
East Kimberley	Mid-December	End of February
West Kimberley	End December	End of February
East Pilbara	Late February	End of June
West Pilbara	Mid-February	End of June
East Gascoyne	End May	End of August
West Gascoyne	Mid-May	End of August
Goldfields-Nullarbor	Late May	End of August

**Predictions current as of 19 April 2010.*

*** Conversely, there is a 30% chance that it will not rain by this time.*

Livestock management

Feed animals so they are fit to travel: To reduce stock numbers to match carrying capacity by sale or agistment, animals need to be fit to travel (see the fit to load guidelines in section 2).

To prepare cattle for transport, feed them an energy diet for at least 3–4 days before transport. Shipper pellets have reasonable energy levels and are a good alternative to hay.

Wean lactating cows: Dry cows require about 40% less energy than lactating cows so weaning is the most effective help that can be provided for lactating cows.

Segregate groups of cattle: Where possible during mustering, segregate different groups of cattle such as:

- breeders with calves too young to wean and heavily pregnant dry cows for preferential management (e.g better paddock, supplementation, future mustering for weaning).
- sale cattle, sometimes in different weight ranges, to make it easier and quicker to respond to market opportunities.

Marketing

Once livestock have been mustered, and priorities for immediate care have been established, consider selling to reduce numbers to match carrying capacity.

Sell cattle to meet market demands: Aim to match what you sell to buyers' preferences to maximise profits.

Reduce breeder numbers: Consider selling all but the most productive and younger breeders, as breeders require much higher feed inputs for survival.

Agist sale cattle: Agistment is usually only a viable option for cattle that are destined for sale, not usually for breeders returning to the property.

Carry some non-breeders: Carrying forward some future sale animals such as surplus females (spayed) and steers with lower nutrient requirements will provide cash flow as the season progresses and/or in the recovery period.

Sell all dry females: Consider selling all dry females at an early muster. Most of them are likely to be pregnant to calve during the dry time and become survival risks. Pregnancy testing may provide better sale options.

Keep weaner mothers: Weaner mothers are likely to be in poorer condition and less saleable. Once they wean their calf, they will become a lower risk group but still with the potential to breed when seasons improve.

Sell young calves: Sell young calves if there is a market. Rearing them can be time-consuming and expensive.

Survival feeding

It is not practical or economic to feed hay to the herd in a rangeland situation. The cost of feeding a dry cow fed for survival will be about $1 a day in the rangelands. Instead of survival feeding, where possible feed animals to make them fit to transport (see fit to load guidelines).

If you decide to survival feed:

- dry breeders in poor condition need 35–40MJ ME/day (about $1 a day)
- cows with calves need about 70MJ ME/day
- yard feed weak cattle and cows with calves
- wean lactating cows as soon as possible and feed the calves well
- feed energy supplements, rather than hay, in paddock situations.

Survival feed for breeders: Poor conditioned breeders need about 35–40 megajoules of metabolisable energy per day for maintenance and a bit less for survival. Reasonable quality grass or cereal hay has about 7–8 MJ/kg/DM, so a dry cow obtaining nothing from grazing would need at least 5–6 kg of hay each every day as a survival feed. Poor cows may have difficulty eating this amount.

Survival feed for lactating cows with calves: Lactating cows with young calves at foot need at least 70 MJ ME/day (e.g. 10 kg of hay each day as survival feed — about twice a dry cow's requirements). Poor cows would not eat this amount and so need a better quality feed.

Yard weak cattle and cows with calves: Hay feeding may not ensure the survival of weak cattle in the paddock. When weak cattle are fed with stronger cattle, the stronger cattle get the bulk of the feed and the weaker cattle use energy unsuccessfully trying to get a feed. Feeding roughage in pellet form is likely to reduce feed wastage and the cost per unit of energy delivered.

When hay feeding, muster and draft off weak cows and those with calves at foot and feed them in a confined space such as a feedlot or a yard. Feeding in a confined space reduces the amount of energy the cattle would normally use and ensures they get adequate feed.

Yarding the weak cattle and cows with calves allows owners to add small amounts of supplements such as grain or lupins to their feed. These supplements are much higher in energy than hay, so much smaller quantities are needed for cattle survival and to get them fit to travel. (Be aware of the risk of acidosis with sudden introduction of grain.) Table 2 below provides examples of suitable feeds for yard feeding cattle suffering from dry season conditions.

Table 2: Examples of cost-effective feeds for dry-season affected cattle*

Product	MJ ME/kg	Crude protein%	Indicative price/tonne 15/4/10 (excluding GST)
Easyway hay replacer – nugget	8.5	6	$199
Cattle Cubes – live export pellets	10	12	$265
Calfgro-S Cubes – weaners	11.5	18	$317
Calfgro Pellets – small calves	12	20	$347
Other feeds			
Lupins	13	30	about $320
Oaten hay – good quality	8.5	6	about $170 +

Note: All pelleted products can be loaded into one-tonne bags on pallets — 22 to a trailer — reducing the transport cost/unit of energy compared with hay. Prices exclude GST ex-Perth in 1 tonne bulk bags.
***Disclaimer:** The feeds in this table are provided as examples only, and are not intended as an endorsement of any particular product or supplier. Check your local supplier for available products.*

Feed supplements, rather than hay, in paddock situations: If paddock feeding is an option, investigate feeding an energy supplement based on grain or lupins. Three kilograms of grain provides similar energy levels to 6 kg of reasonable hay, which reduces transport costs and on-station logistics.

Humane killing of cattle

The information below has been extracted from the draft Australian Animal Welfare Standards and Guidelines for Cattle*. For more information about nationally consistent standards and guidelines for livestock being developed under the Australian Animal Welfare Strategy, visit* http://www.animalwelfarestandards.net.au/ .

Objective: Where it is necessary to kill cattle, it is done promptly, safely and humanely.

Standards

1	A person must ensure humane killing methods for cattle result in immediate loss of consciousness followed by death while unconscious.
2	A person must ensure cattle are humanely killed at the first reasonable opportunity if they are suffering from distress, disease or injury that cannot be reasonably treated and will ultimately result in their death.
3	A person killing cattle must take reasonable action to confirm the animal is dead.
4	A person must only use blunt trauma to the brain to kill a calf if it less than 24 hours of age.

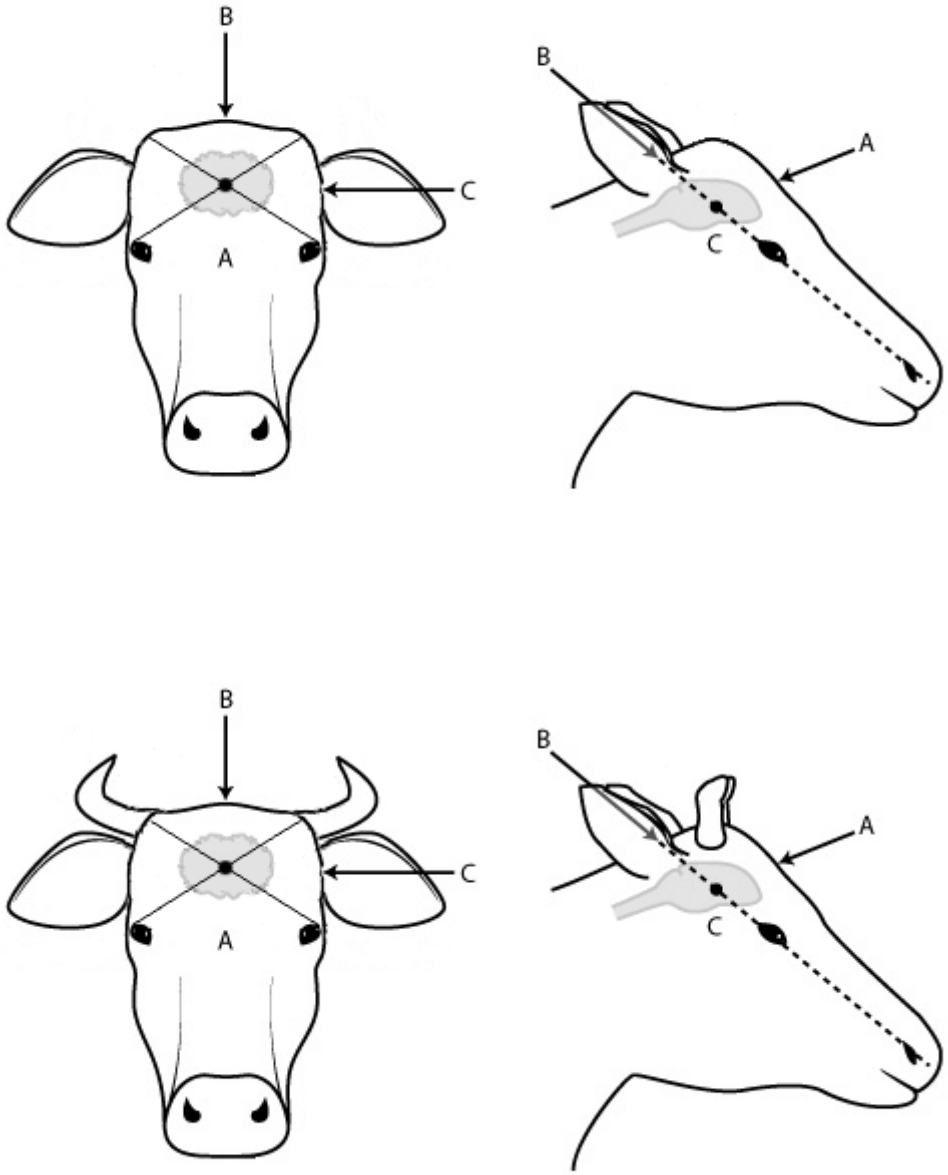
Guidelines

Recommended humane killing methods for cattle

G11.1 Recommended methods of humane killing include:

- for adult cattle — close range firearms use to the brain (including the temporal position) or captive bolt to the brain
- for calves — firearms, captive bolt, or blunt trauma. However, blunt trauma should only be used when there is no other recommended option for humane killing of newborn calves.

Figure 11. Recommended position and direction of fire for humane killing of cattle



Note:

(A) indicates the frontal method, (B) indicates the poll method and (C) indicates the temporal method. The dots indicate the point of aim and the arrows indicates the direction of aim for the positions. For the frontal method, the firearm or captive bolt should be directed at a point midway across the forehead where two lines from the topside of the base of the ears and top of the eyes intersect, or slightly above this point.

For blunt trauma use position A

In general, firearms are the most acceptable method of humane killing for cattle. The distance between the end of the firearm barrel and the cattle is expected to be between 10 and 100 cm. The only approved target organ is the brain. There are three effective aiming points at the head: frontal, poll and temporal. Before firing, the cattle's head must be still.

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For the frontal method, the firearm or captive bolt should be directed at a point midway across the forehead at the intersection of imaginary lines that join each eye with the opposite horn or the point where the horn would be. The line of fire should be aimed into the skull towards the centre of the brain or spinal cord.

For the poll method, cattle are shot through the skull just behind the base of the horns. The line of fire should be in line with the cattle's muzzle.

Note:

The diagrams are representational and individual anatomical differences in cattle to be killed must be taken into account.

G11.2 The preferred option for humane killing should be a firearm directed to the frontal position of the head.

Note:

For adult cattle, a rifle should deliver at least the muzzle energy of a standard 0.22 magnum cartridge. For larger animals and bulls, 0.30-calibre high-power cartridges are recommended. For calves, a rifle should deliver at least the muzzle energy of a standard 0.22-long rifle cartridge.

Confirming death in cattle after humane killing

G11.3 Three or more signs should be observed to determine whether the method used for humane killing has caused death.

Note:

Signs of death include:

- loss of consciousness and deliberate movement
- absence of corneal 'blink' reflex when the eyeball is touched or maximum dilation of the pupil.
- absence of rhythmic respiratory movements for at least three minutes
- absence of heartbeat after three minutes
- absence of a pulse after three minutes.

Firearms

Note:

Firearms energy specifications are as follows:

- the standard 0.22 long rifle cartridge means the use of any 0.22 rim fire cartridge that produces in excess of 100 foot pounds of energy at the muzzle
- the standard 0.22-magnum cartridge means the use of any 0.22 rim fire magnum cartridge that produces in excess of 300 foot pounds of energy at the muzzle
- the centre fire cartridge means the use of any centre fire cartridge that produces in excess of 1000 foot pounds of energy at the muzzle.

Captive bolt devices

Note:

Captive bolt use on cattle should be in the frontal or poll positions and accompanied by appropriate restraint followed by an effective procedure if necessary to ensure death.

The captive bolt stunner should be pressed firmly on the head before being discharged, and should be positioned as described in the approved positions for cattle. The temporal position should not be used.

For penetrating captive bolt stunners, the cartridge power and length of bolt should be appropriate to the class of cattle. Non-penetrating captive bolt stunners are not recommended.

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Operators should make sure that charges intended for use are appropriate for the class of cattle.

Captive bolts should be regularly cleaned and maintained in optimal working condition according to the manufacturer's instructions.

Bleeding-out (exsanguination)

G11.4 Bleeding-out of unconscious cattle should be done using a suitable, sharp knife. The thoracic stick method should be used.

Note:

Bleeding-out (exsanguination) is done by cutting the main blood vessels; at the top of the heart via the thoracic inlet (chest stick), in the neck (neck cut) or in other locations.

Section 2: Welfare decisions for beef cattle

Where feed and water requirements for cattle are not being met on the rangelands due to a poor season, owners must supply supplementary feed, agist or sell stock that are fit to travel, and humanely destroy stock that are unfit to travel.

> ***Allowing animals to lose condition to the point where their strength is significantly impaired could constitute an offence under the Animal Welfare Act 2002, administered by the Department of Local Government.***
>
> ***It is not acceptable to allow animals to starve to death.***

For a guide to welfare decisions, see *Table 3: Welfare decisions for beef cows* on the following page.

Only load fit animals

If deciding to agist or sell stock, first assess whether or not they are fit to transport. Do not transport livestock if they are unfit, or unlikely to survive the journey. Owners or transporters who load unfit animals could face prosecution for cruelty under the *Animal Welfare Act 2002*.

Before loading any animal for transport, check that it:

- √ can walk normally
- √ can bear weight on all legs
- √ is free from visible disease or injury
- √ is strong enough to keep up with the mob
- √ can see out of one eye (both eyes for export)
- √ is not in late pregnancy

If you are not sure whether the animals are fit or not, do not load them. If animals are assessed as being unfit for transport, owners must either feed the cattle on site until stronger, or humanely destroy them.

The pocket guide, *Is it fit to load?,* outlines some of the conditions that make an animal unfit to load. This guide is available free from local Department of Agriculture and Food offices or downloadable from www.agric.wa.gov.au or www.mla.com.au .

Table 3: Welfare decisions for beef cows on the following page provides another useful guide for assessing cattle for transport.

Table 3: Welfare decisions for beef cows

Cow condition	Score 1	Poor	Very poor
			
Description	Lean but strong and healthy and with no significant muscle wastage. Reduced reproductive performance likely.	Healthy but with significant muscle wastage. Unlikely to conceive. Able to recover in time if adequately fed.	Weak, with very low body reserves. At risk of death from cold, wet weather or other stress. Recovery dependent on high quality care and will be slow.
Transport, sale	Suitable for transport and sale but with minimum time off feed	Unsuitable for sale through saleyards or transport over long distances	Not fit to travel
Backbone	Easily seen.	Spines of backbone individually identifiable.	Spines of backbone individually identifiable.
Short ribs	Visible. Fairly sharp to touch	Prominent and very sharp to touch	Very prominent and easy to see individually.
Inside pin bones	Slightly sunken	Sunken	Deeply sunken to the bone
Muscle wastage	Rump muscle concave (between hooks and pins).	Rump muscle concave. Muscle wastage in loin and leg muscle evident.	Muscle wastage obvious over whole body. Rump and leg muscles deeply concave.
Stifle joint		Stifle joint not identifiable	Stifle joint identifiable
Tail bones	Individual bones not identifiable.	Individual bones just able to be felt.	Individual bones easily felt.
Skin	Pliable.	Less pliable.	Tight.
Appearance	Bright, alert.	Healthy.	Lacking energy or dull.
Mobility	Normal gait.	Mobile, able to lie down/rise with ease.	Unsteady gait, may drag hind feet or plait hind legs. Difficulty lying down/standing up.
Ability to calve	Some assistance required.	Moderate assistance required.	High level of assistance required.
Actions required	• Must be fed adequately to prevent further weight loss. • Suitable for transport to agistment. • Suitable for sale but must not be kept off feed for extended periods. • Supervise and be ready to assist during calving.	• Must be fed adequately to prevent weight loss. • Suitable for transport direct to agistment. • Suitable for sale only direct to farm or abattoir. • Supervise closely and be ready to assist during calving.	• Do not transport. • Must be given high-quality feed, water and care; **OR** • Destroy on farm. • Supervise closely and be ready to assist during calving. ***Source:*** *NSW DPI*

Section 3: Rangeland condition

AT A GLANCE

- Pastoralists must prevent landscape degradation on their lease(s)
- Scarce pasture encourages stock to eat perennial vegetation
- Loss of perennial vegetation reduces carrying capacity
- Loss of vegetation increases soil erosion

Prevent landscape degradation

Lack of adequate feed for livestock goes hand-in-hand with reduction of the productive capacity of the rangeland. Scarcity of pasture can result in livestock removing the more palatable, and often more productive, plant species from the rangeland. Loss of palatable perennial vegetation reduces carrying capacity, drought resilience and may promote soil loss.

Under the *Land Administration Act 1997* and the *Soil and Land Conservation Act 1945*, pastoral lessees have obligations to manage the soil and vegetative resources on their lease(s) so as to prevent landscape degradation. Failure to do this may result in a breach of the terms and conditions of that lease.

Section 4: Managing stress

Be aware that the people involved in managing livestock businesses during difficult seasons or market conditions experience an increase in stress. These problems are not confined to owners and managers but include many station staff.

Do not feel isolated — speak to a mate or take advantage of the professional assistance available to help people through these issues (see the contacts section).

Section 5: Contacts for more information

For more information on livestock and rangelands management, pastoralists are encouraged to contact the following Department of Agriculture and Food staff:

Livestock and rangelands management

Region	DAFWA office	Contact		Phone
Kimberley	Broome	Dr Matt Bullard Sandra van Vreeswyk	Livestock Rangelands	9194 1420 9191 0324
Pilbara	Karratha	Peter Smith Rebecca Dray	Livestock Rangelands	0429 087 647 9143 7006
Murchison Gascoyne/Murchison	Geraldton Geraldton Carnarvon	Dr Helen Blake Greg Brennan Anthony Kirwan	Livestock Rangelands Rangelands	9956 8512 9956 8554 9956 3315
Goldfields	Kalgoorlie	Jim Addison	Rangelands	9088 6017

For more information on financial management and assistance, and managing mental health and stress, contact the following government and non-government organisations:

Financial management and mental health information/assistance

Centrelink	
General enquiries	13 10 21
Drought assistance hotline	13 23 16
Farm Help	1800 050 585
Financial Information Services	13 23 00
TTY (hearing impaired)	1800 000 567
Rural Financial Counselling Service WA (RFCSWA)	1800 612 004
Debt Mediation System (Rural Business Development Corporation)	9368 3160
Rural Mental Health Services	1800 676 822
Ruralink Helpline 4.30pm–8.30am Mon–Fri 24hrs Sat–Sun. After-hours local mental health services	1800 552 002
TTY (hearing impaired)	1800 720 101
Mensline Australia	1300 789 978
Wheatbelt Men's Health (Inc)	9690 2277
Beyondblue Infoline	1300 22 4636
Rural Family Counsellors (a free service)	
North Midlands (Morawa)	9971 1030 or 0428 711 030
MidWest (Geraldton)	9921 4477
MidWest (Geraldton Centrecare)	9921 1433
Crisis Care	1800 199 008
TTY (hearing impaired)	9325 1232
Lifeline	13 11 14