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# Animal Welfare Guidelines – Husbandry of Captive Bred Emus

Approved under Section 44B of the *Animal Welfare Act 1993* by the Minister for Primary Industries and Water – October 2008.  
Replaces Animal Welfare Standard No 1 – Sheep.

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## ANIMAL WELFARE GUIDELINES

Animal welfare considerations are becoming increasingly important in the keeping and farming of animals, both in Australia and internationally. Practices which may have once been deemed acceptable or justifiable, are now being reassessed in the light of new knowledge and changing attitudes. High standards of welfare are not only important legally and ethically, but also have direct economic benefits and are becoming increasingly necessary for continued market access.

Tasmania's Animal Welfare Guidelines are approved by the Minister for Primary Industries and Water, after consultation with the Animal Welfare Advisory Committee, in accordance with section 44B of the *Animal Welfare Act 1993*.

Under the Animal Welfare Act, Animal Welfare Guidelines are to include guidelines for the education and guidance of persons involved in the care and management of animals. Animal Welfare Guidelines are therefore advisory in nature. They are intended to help people involved in the care and management of animals adopt high standards of husbandry. In addition, they may be used by the Courts as a yardstick to assess husbandry and management

The Animal Welfare Guidelines may be based on the *Australian Model Codes of Practice for the Welfare of Animals*, or the *Australian Animal Welfare Standards and Guidelines*, endorsed by the Primary Industries Ministerial Council (PIMC). Alternatively, where there is no suitable national model, Animal Welfare Guidelines may be developed in Tasmania, in consultation with industry and animal welfare groups.

Animal Welfare Guidelines will be revised to take into account changes in animal management practices and in knowledge of animal welfare.

The *Animal Welfare Guidelines – Husbandry of Captive Bred Emus* are based on the *Model Code of Practice for the Welfare of Animals – Husbandry of Captive Bred emus*, (2nd edition 2006).

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# 1. SCOPE AND INTENTION OF THESE GUIDELINES

These Guidelines set out the minimum requirements for the welfare of captive-bred emus. They are intended as a guide for all people responsible for the welfare and husbandry of emus that have been bred and/or reared in captivity.

The Guidelines are based on the knowledge and technology that was available at the time of publication and may need to be varied in the light of future knowledge. It is inevitable that stock handlers will encounter circumstances with emus that are not currently covered by these Guidelines. When this occurs it is essential that commonsense should prevail and that previous experience with stock should be utilised to the fullest so that emus are handled humanely.

In Tasmania, the farming of emus is regulated under the *Animal Farming (Registration) Act 1994*. Under this Act, emus may only be farmed by registered emu farmers. People wishing to apply for registration should contact the Department of Primary Industries and Water.

Emus are kept in situations which vary from extensive grazing to close confinement and housing. Whatever the form of husbandry, owners, managers and handlers of emus have a responsibility for the health, welfare and considerate treatment of the birds under their control.

The basic behavioural, anatomical and physiological needs of emus are considered in this document, irrespective of the degree of intensive husbandry practised, or the climatic conditions to which the emus are exposed.

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

The basic requirements for the well-being of emus are:

1. Appropriate and sufficient food and water to sustain health and vitality;
2. Sufficient area to maintain their well being and to exhibit normal behaviour;
3. Protection from predation;
4. Protection from disease, including disease that can be exacerbated by management;
5. Protection from extremes of climate, but particularly during certain phases of their lives;
6. Protection from pain, distress, suffering and injury.

The management practices and the stocking rates used on emu farms should be such that they are compatible with sustainable agriculture as outlined in the Australian Soil Conservation Council's strategy, the 'Decade of Landcare'.

There is a considerable diversity of opinion about the maximum stocking density that is allowable for different classes of emus. The densities outlined in these Guidelines are conservative, but are recommended on the basis of experiences gained from farming emus under a variety of conditions.

While emus have been studied under natural conditions for many years, they have only been managed under conditions of confinement for a few years and consequently these Guidelines should be reviewed at least every three years until a better understanding is gained of the needs and requirements of captive bred emus.

## 2. DUTY OF CARE

*Under the Animal Welfare Act, persons who have the care or charge of animals have a legal “duty of care” for the welfare of those animals, and must take all reasonable measures to ensure their welfare.*

*In the case of emus, persons with this legal duty of care include the owner (registered emu farmer), the person with control or custody, the operator or manager of the premises where the sheep are kept and the manager or director of a body corporate which owns them.*

## 3. HOUSING

### 3.1 General

3.11 Persons intending to erect new housing and yards, or to modify housing that has been used for other species, should seek advice from the Department of Primary Industry & Fisheries and others with appropriate expert knowledge. Well designed and constructed buildings and yards can provide an ideal environment for rearing and breeding emus.

3.12 The type of housing and yard dimensions required by emus will vary with the geographic location of the emu farm, the age of the emus, the management practices to be employed and the stocking density. The stocking density must be reviewed regularly and adjusted, having taken into account the age of the birds, the flock size, the house or paddock conditions, the behavioural needs of the birds and the likely occurrence of disease.

3.1.3 All emus need to be protected from climatic extremes and emus that are kept in yards or an extensive range must be provided with adequate shade and protection from the elements.

### 3.2 Chicks : 0-12 weeks old

#### 3.2.1 General

Emu chicks may be reared extensively under natural conditions or intensively in buildings, having the capacity to achieve and maintain acceptable levels of temperature, humidity, fresh air, light and hygiene. Chicks require special attention until they lose their "stripe" appearance, which usually occurs by 12 weeks of age.

#### 3.2.2 Natural conditions

Eggs may be incubated by the male under field conditions in either breeding pens or under open range conditions. Where breeding pens are utilised, wire netting to a height of 450mm must be provided on all fences to prevent the escape of chicks and to prevent them from being injured by emus housed in adjacent pens. The hen could attack her own chicks once they hatch. It is therefore recommended that either the hen be removed before the first chicks hatch or else remove the chicks to a rearing shed.

Where breeding pairs are housed under free range conditions, the range must be inspected daily and all chicks must be removed from the range as they hatch.

#### 3.2.3 Intensive rearing

Floors and other surfaces should be designed, constructed and maintained so that they are non-slip and minimise the risk of injury and disease, and adequately support emu chicks so that they can stand and move freely.

Deep litter floors should be checked frequently for dryness and friability. When litter is caked wet, or excessively dusty the problem should be rectified. Chicks should not be allowed to walk on bare concrete floors or those made of wire

Stocking density should be periodically reviewed and adjusted, having regard to age, flock size,  
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temperature, ventilation, lighting, quality of housing and occurrence of disease. Chicks should have access to extensive runs at an early age paying due respect to the climatic conditions.

Under good management and housing conditions it is recommended that chicks can be housed in groups of up to 25 for the first four weeks of life, and a shed density of up to 3 chicks per m<sup>2</sup> is recommended. The provision of an additional outside run is optional. From 5-12 weeks groups of up to 100 chicks can be housed together at the same shed density, but in addition, access to an outside run of 5m<sup>2</sup> per chick must be provided.

Where emus do not have access to daylight, they should be given artificial light for at least eight hours per day. The effect of abnormally long photo periods (in excess of 16 hours) on the growth of chicks is uncertain and may be detrimental. A "blackout" training period each day is recommended from one day of age to prevent panic should lighting fail.

Young chicks reared away from the father require a high light intensity of about 40 lux on the food and water for the first few days after hatching to learn to find food and water. Light intensity may then be reduced to a minimum of 20 lux.

Fresh air is required at all times where chicks are reared intensively to prevent the accumulation of water vapour, heat, ammonia, hydrogen sulphide, carbon dioxide, carbon monoxide and dust particles.

The presence of ammonia may be a problem where there is poor ventilation and is usually a reliable indicator of the build-up of noxious gasses. Ammonia levels should not be allowed to exceed 20 parts per million (ppm) of air, measured at bird level, in enclosed buildings without immediate corrective action being taken. (A level of 10-15 ppm of ammonia in the air can be detected by smell. An ammonia level of between 25-35 ppm will cause eye and nasal irritation in man.)

### **3.3 Juvenile (blackhead) emus - 12 weeks to 6 months**

Young emus require protection from the extremes of hot or cold, wet and windy weather. At this age emus may be kept in groups of up to 250 and should be housed initially in sheds at a maximum density of 2 per m<sup>2</sup> and should be provided with an outside run of at least 40m<sup>2</sup> per chick. Older blackhead chicks should be reared entirely in open conditions depending on the prevailing weather conditions.

### **3.4 Yearling Emus - 6-18 months**

Yearlings should be housed in open conditions and provided with at least 60 m<sup>2</sup>/yearling.

### **3.5 Mature emus**

#### **3.5.1. Free range**

Emus older than 55 weeks of age which have been reared in separate yards until that age, should not be housed at a density of greater than 16 birds/hectare, that is 625 m<sup>2</sup> per bird.

#### **3.5.2 Breeding pairs**

Where emus are kept as breeding pairs, under optimal conditions each pair should be provided with a minimum pen size of 20m x 20m which should be securely fenced. This applies to well-drained, high rainfall areas with plenty of vegetation to provide protection and to obscure the birds' view of adjoining pens. These dimensions should be increased where there is little vegetation, and in low rainfall areas, a pen size of 50m x 50m has been found to be satisfactory for breeding pairs.

## **4. EQUIPMENT**

**4.1** All equipment to which emus have access must be designed and maintained to avoid either injury or pain to the birds.

**4.2** Feeders and waterers should be checked for efficient operation at least once each day. Automated hatchery equipment should have adequate back-up systems, which should include an alarm system or generator in case of a power failure.

## **5. PROTECTION FROM HAZARDS**

*Under the Animal Welfare Act it is an offence to fail to provide animals in your care with appropriate and sufficient shelter.*

### **5.1 Predators**

Emus should be protected from predators and if necessary from each other. Electric fences can be used to discourage predators and are particularly useful in affording protection to young emus.

### **5.2 Accommodation**

5.2.1 Accommodation should be sited to be safe from the effects of fires and floods.

5.2.2 New buildings in which birds are housed should incorporate sufficient exits to allow for emergency evacuation of the building.

5.2.3 Yards should be designed so that emus can be readily evacuated in case of an emergency.

5.2.4 Fire fighting equipment should be available. Fire hoses should be capable of delivering water of sufficient volume and pressure to control a fire in any building or part of any building.

5.2.5 When planning new buildings, the use of construction materials with a high fire resistance should be considered. All electrical and fuel installations should be planned and fitted to minimise the fire risk.

### **5.3 Toxic substances**

The use of toxic substances (for example herbicides and pesticides) should be in such a manner as to avoid any risk to emus.

## **6. FOOD AND WATER**

### **6.1 Food**

*Under the Animal Welfare Act it is an offence to fail to provide animals in your care with appropriate and sufficient food.*

6.1.1 Emus other than newly hatched chicks, should have access to adequate quantities of appropriate food at least once each 24 hours. The period for newly hatched chicks may be extended to not more than 48 hours. In the light of future experience this period may be altered.

6.1.2 Emus should receive a diet containing adequate nutrients to meet their requirements for good health and vitality. Emus should not be provided with food that is deleterious to their health. Young chicks should not be fed fibrous or coarse food as it may become impacted and cause an obstruction.

6.1.3 Medicated food or water, should only be supplied under the supervision of a veterinarian familiar with emus, as the overuse of mixing of medicaments, or the medicament itself, may cause toxic injury.

6.1.4 Where it is proposed to slaughter emus that have received medications, professional advice should be sought to ensure that chemical residues do not contaminate the carcass.

6.1.5 When using mechanical systems for delivery of food, alternative methods of feeding should be available.

There should be enough food on hand, or ready means of obtaining food, in the event of failure of supply.

6.1.6 Where chicks and yearlings are reared in groups, multiple feed points should be provided.

## **6.2 Water**

*Under the Animal Welfare Act it is an offence to fail to provide animals in your care with appropriate and sufficient water.*

6.2.1 Emus should be provided with sufficient drinkable water to meet their physiological requirements. Under no circumstances should emus be deprived of water for more than 24 hours.

6.2.2 When an emu farm is first established, or when a new water source is obtained, the water should be tested for mineral content and microbiological contamination and advice obtained as to its suitability. As the composition of water from bores, dams or water holes may change with changes in flow or evaporation, the water may require more frequent monitoring for its continued suitability.

6.2.3 Where chicks and yearlings are reared in groups, multiple water points should be provided in each pen.

# **7. HANDLING AND YARD FACILITIES**

## **7.1 Fences**

Boundary fences are to be constructed in accordance with the requirements of the licensing authorities. Internal fences for adult emus must be adequate to contain them, the minimum height and their construction is a subject of ongoing research.

## **7.2 Yards**

All fences in handling yards and on transportation facilities should have smooth sides with no projections or "footholds" and should be solid sided so that the emus cannot see outside the confines of the yard or race. Conventional yards can be used, so long as some form of cladding such as plywood, tarpaulin or hessian is placed on the inside of the rails so that a solid, non-see-through barrier is presented to the emus. Emus will behave in a more orderly manner when placed in such an environment.

# **8. SPECIAL REQUIREMENTS**

## **8.1 Inspections**

The frequency and level of inspection should be related to the needs of the emus, but should be at least once each day. Inspections are best made at feeding times. More frequent inspections may be required, during hot weather, during outbreaks or disease, or when groups of emus have been mixed. Checks should be made of the effectiveness of any automated feeding or watering systems where these have been installed.

## **8.2 Health**

*Under the Animal Welfare Act it is an offence to have possession or custody of a sick or injured animal and fail to provide veterinary or other appropriate treatment.*

8.2.1 All persons responsible for the care of emus should be made aware of the signs of ill health. These include separation from other emus, lethargy, refusal to eat, changes in faeces or urine, vomiting, coughing, panting, lameness and swellings on the body or legs. The manager should, if unable to identify the causes of ill health and correct them, seek advice from a veterinarian preferably familiar with emu practice.

8.2.2 Emu farmers should operate an effective program to prevent infectious disease, and internal and external parasitism. Particular attention should be paid to the stocking densities used for yearling and adult groups as aggressive behaviour and injuries may be seen during the breeding season when the stocking density is

high.

Sick and injured emus should be treated as soon as possible. They should be isolated if necessary. Records of sick animals, deaths, treatment given and response to treatment should be maintained to assist disease investigations.

8.2.3 Promptly remove dead emus and, if not required for post-mortem examination, dispose of them in a hygienic manner, such as by deep burial.

8.2.4 Emus with either an incurable sickness, injury or painful deformity should be humanely slaughtered.

### **8.3 Transportation**

The following recommendations are based on current knowledge and will be subject to review as the Industry's experience with transportation increases.

8.3.1 The duration of all journeys should be as short as possible, as transportation can be a stressful experience.

8.3.2 The successful transportation of adult emus starts with orderly, well disciplined husbandry practices which are imposed on emu chicks from day old, so that the emus are used to being handled and moved about the farm. When possible emus older than 55 weeks should not be transported between December and June each year. This may vary depending on the location and sexual maturity of the emus.

8.3.3 Chicks up to 12 weeks of age should be transported in groups of no more than 20, with partitions placed between adjacent groups. The transport vehicle should be dimly lit and provide fresh air, but the chicks must be protected from chilling and extremes in temperature.

8.3.4 Yearling and adult emus. Vehicles for the transportation of emus must be fully enclosed, but provide sufficient ventilation for the comfort of the birds. The transport vehicle should be divided into compartments, each containing no more than 10 emus and it should be dimly lit.

The roof of the vehicle should be 20cm or more above the height of the pelvis of the largest emu occupying the compartment, when the emu is standing erect.

The floor surfaces should provide a firm but soft footing for the birds and should be capable of absorbing any moisture associated with faeces and urine.

The housing density in the transport vehicle should be varied with the size and age of the emus so that a comfortable environment is provided. It is recommended that the densities do not exceed 8 birds/m<sup>2</sup> for birds less than 7kg live weight, 3 birds/m<sup>2</sup> for birds weighing 25-30kg and 2 birds/m<sup>2</sup> for mature birds of 35-45kg live weight.

### **8.4 Records**

The maintenance of good records is an integral part of good farm management. Adequate records will assist in the detection of any husbandry, health or breeding problems. Accurate information should be kept on the sources of all stock, the breeding history of each bird, general husbandry practices, and the case history and treatment of any diseased or injured birds.

## **9. HATCHERY MANAGEMENT**

### **9.1 Incubators**

Incubators must be supplied with adequate quantities of fresh air to prevent the build-up of disease causing organisms, which can result in respiratory disease and in high mortality rates in newly-hatched chicks. Particular attention needs to be paid to the quality of the air circulating in incubators and a microbiological monitoring program should be put into place on farms which artificially incubate emu eggs. This is

important because emu eggs have a long incubation period and incubators may need to be decontaminated whilst in use.

### **9.2 Chicks**

Chicks should be brooded within 24 hours of hatching. Weak, deformed or unthrifty emus should be culled and humanely destroyed.

### **9.3 Chicks in brooders**

Chicks in brooders should be inspected at least once every 12 hours and action taken to correct problems as they occur.

### **9.4 Waste**

Hatchery waste, including unhatched embryos, should be treated quickly and effectively to ensure the rapid destruction of all unhatched embryos. It should not be stored or allowed to accumulate in the vicinity of the incubators.

### **9.5 Destruction of chicks**

When necessary, chicks should be destroyed by dislocating the cervical spine by a person experienced in this technique. Alternatively chicks can be decapitated.

## **10. HUMANE SLAUGHTER**

### **10.1 Individual animals**

Emus of all ages will need to be killed for a variety of health and production reasons and in all cases it is essential that birds be humanely slaughtered using a method approved by the emu farming licensing authority in the State. Emus must be restrained by an experienced handler when they are killed.

### **10.2 Abattoirs**

Methods of slaughter suitable for large numbers of emus in licensed abattoirs are still being developed and more research on the subject is required.

### **10.3 Veterinarians**

Alternatively, emus may be destroyed under veterinary supervision.