E. Species-specific provisions for ferrets

1. Introduction

Ferrets (*Mustela putorius furo*) are carnivores which under natural conditions feed on small mammals, birds, fish and invertebrates. They have complex hunting behaviour and tend to hoard food, but will not eat decayed matter.

Although in the wild the ferret is generally a solitary animal, there seem to be welfare benefits if they are housed in socially harmonious groups in captivity. Ferrets normally live in burrows, and thus in captivity they appreciate the provision of materials, such as tubes in which they can crawl and play games.

Ferrets usually breed once a year, mating in the spring. Male animals are hostile to, and will fight vigorously with, unfamiliar males during the breeding season. As a consequence, at this time single housing of males may prove necessary.

The ferret is an intelligent, inquisitive, playful and agile animal, and this should be taken into account in the design of the accommodation and when handling. A complex, escape-proof enclosure is required which provides opportunities to the ferret to exhibit a wide behavioural repertoire.

2. The environment and its control

2.1. Ventilation

(See paragraph 2.1. of the General section) It is important to attenuate the musk odour while minimising the risk of viral respiratory diseases, to which the ferret is very sensitive.

2.2. Temperature

Ferrets should be maintained in the temperature range of 15°C to 24°C. As ferrets do not have well-developed sweat glands, to avoid heat exhaustion they should not be exposed to high temperatures.

2.3. Humidity

It is considered unnecessary to control or record relative humidity as ferrets can be exposed to wide fluctuations of ambient relative humidity without adverse effects. However, to minimise the occurrence of respiratory disease, high humidity levels should be avoided, especially if the temperature is low.

2.4. Lighting

The source and type of light should not be aversive to the animals and particular care should be taken with albino ferrets.

Holding of ferrets under the natural twenty-four-hour light-dark cycle is acceptable.

Where the light part of the photoperiod is provided by artificial lighting, this should be a minimum of eight hours and should generally not exceed sixteen hours in any 24 hour period.

However, it should be noted the duration of light-dark cycles is important for the manipulation of the reproductive cycle in the ferret and the light period may be reduced to six hours and then increased (up to fifteen hours) to stimulate oestrus in the female. The male is light negative and requires opposite light cycles to the female to stimulate its season. Manipulation of the light cycle for males should commence several months before mating is required to ensure sperm maturity.

If natural light is totally excluded, low level night lighting should be provided to allow animals to retain some vision and to take account of their startle reflex.

2.5. Noise

Lack of sound or auditory stimulation can be detrimental and make ferrets nervous. A soft and varied background noise may stimulate the sensory and social development of the young ferret. However, sharp, loud unfamiliar noise and vibration have been reported to cause stress-related disorders in ferrets and should be avoided. It is important to consider methods of reducing sudden or unfamiliar noise in ferret facilities, including that generated by husbandry operations within the facility and also by ingress from outside sources. Ingress of noise can be controlled by appropriate

siting of the facility and by appropriate architectural design. Noise generated within the facility can be controlled by noise absorbent materials or structures. Expert advice should be taken when designing or modifying accommodation.

2.6. Alarm systems

(See paragraph 2.6. of the General section)

3. Health

(See paragraphs 4.1. and 4.4. of the General section)

As breeding can have a considerable impact on bodyweight and condition, jills should be assessed for continued suitability for mating by a competent animal technician, in consultation with the Named Veterinary Surgeon.

The following conditions in ferrets require expert advice and attention:

Virus infections – Ferrets are susceptible to a number of viral diseases, such as Aleutian disease and distemper. Human influenza virus may cause clinical disease in ferrets, and appropriate preventive measures should be in place to minimise the risk of infection.

Pregnancy toxaemia – This is a common consequence of feeding an inadequate diet during pregnancy to jills carrying large litters.

Oestrus induced anaemia/hyperoestrogenism – as the ferret is an induced ovulator, jills kept in the absence of a male during the breeding season may remain in oestrus for several months. Not only may the vulva become grossly swollen and susceptible to trauma, but also haematopoiesis is suppressed and severe anaemia may ensue.

4. Housing, enrichment and care

4.1. Housing

Animals should be kept in socially harmonious groups unless there are scientific or welfare justifications for single housing.

During the breeding season, adult males may need to be maintained singly to avoid fighting and injury. However, males can be maintained successfully in groups at other times.

Pregnant females should be housed singly only during late pregnancy, no more than two weeks prior to parturition.

Animals should not be weaned before 6 weeks of age, without good veterinary or husbandry reasons.

Separation of animals that are normally group-housed can be a significant stress factor. Where this is for a period of more than twenty-four hours, it should be regarded as severely compromising the welfare of the animals. Therefore, ferrets should not be single-housed for more than twenty-four hours without justification on veterinary or welfare grounds. For single housing for more than twenty-four hours on experimental grounds, see paragraph 4.5.2 of the General section.

Where animals are single-housed, whether for scientific or welfare reasons, additional resources should be targeted to the welfare and care of these animals. Additional human socialisation time, and visual, auditory and, where possible, tactile contact with other ferrets should be provided for all single-housed animals on a daily basis.

The social behaviour of ferret should be taken into account by providing regular interaction with other ferrets through group housing and regular handling. In general, ferrets seem to benefit from such regular and confident handling and this should be encouraged as it results in better quality and more sociable animals.

Social behaviour in ferrets develops at an early age and it is important that the young ferret has social contacts with other ferrets (e.g. litter-mates) and with humans. Daily handling during this sensitive stage of development is a prerequisite for the social behaviour of the adult ferret. It is reported that the more frequent the interaction, the more placid the animal will become, and this interaction should be continued through into adult life.

Females should not be mated before 9 months of age.

Mating can be a prolonged and noisy affair, and can result injury to the female (particularly neck injuries). Therefore, careful monitoring for injuries is important, and veterinary advice should be sought when they occur. Mating should take place in a separate room to those animals with litters, as the disturbance can lead to cannibalism.

4.2. Enrichment

The design of the ferret enclosure should meet the animals' species-and breed-specific needs. It should be adaptable so that innovation based on new understanding may be incorporated.

The design of the enclosure should allow some privacy for the ferrets and enable them to exercise some control over their social interactions.

Separate areas for different activities, such as by raised platforms and pen subdivisions, should be provided in addition to the minimum floor space detailed below. The ferret in captivity requires a dry, warm sleeping chamber, discrete eating and food storage areas and a vertical surface for scent-marking well away from sleeping and eating areas. A nest box and nesting material must be provided. Care is needed in the choice of nesting material to avoid damage to young at birth (desiccation, damage to the umbilical vessels).

Provision of containers and tubes of cardboard or rigid plastic, and paper bags, stimulates both investigative and play behaviour. Water baths and bowls are used extensively by ferrets.

4.3. Enclosures – dimensions and flooring

4.3.1. Dimensions

These guidelines are intended to encourage the social housing of ferrets and to permit adequate enrichment of the environment. It should be noted that within this concept and strategy every encouragement is given to holding ferrets in large and socially

harmonious groups both to increase the available floor space and to enhance the socialisation opportunities.

Animal enclosures, including the divisions between enclosures, should provide an easy to clean and robust environment for the ferrets. Their design and construction should seek to provide an open and light facility giving the ferrets comprehensive sight of other ferrets and staff, outside of their immediate animal enclosure. There should also be provision for the ferrets to seek refuge and privacy within their own enclosure and, in particular, away from the sight of ferrets in other enclosures.

As ferrets have a remarkable ability to escape, the design of the enclosure should be such that the animal is unable to escape or to injure itself should any such attempt be made.

The recommended minimum height of the enclosure should be 50 cm. The ferret enjoys climbing and this height facilitates provision of suitable enrichment. The floor space should provide an adequate area for movement and to allow the animal the opportunity to select sleeping, eating and urination/defecation areas. In order to provide enough space for environmental complexity, no animal enclosure should be less than 4500 cm². Minimum space requirements for each ferret are as follows:

Table E.1. Ferrets: Minimum enclosure dimensions and space allowances

	Minimum enclosure size (cm²)	Minimum floor area per animal (cm²)	Minimum height (cm)
Animals up to 600g	4500	1500	50
Animals over 600g	4500	3000	50
Adult males	6000	6000	50
Jill and litter	5400	5400	50

Animal enclosures should be of a rectangular shape rather than square, to facilitate locomotor activities.

Constraint in less than the above space requirements for scientific purposes, such as in a metabolism cage, may severely compromise the welfare of the animals

4.3.2. Flooring

The flooring for ferret accommodation should be a solid continuous floor with a smooth non-slip finish. Additional enclosure furniture such as beds or platforms should provide all ferrets with a warm and comfortable resting place.

Open flooring systems such as grids or mesh should not be used for ferrets.

4.4. Feeding

(See paragraph 4.6. of the General section)

The ferret is a carnivore, with a particular requirement for a high level of animal protein and fat. It eats to satisfy calorie requirements and therefore can become protein-deficient if fed diets which have a high proportion of carbohydrates. There is little requirement for dietary fibre.

4.5. Watering

(See paragraph 4.7. of the General section)

4.6. Substrate, litter, bedding and nesting material

Bedding material is required for all ferrets. In addition, nesting materials such as hay, straw or paper should be provided. Deep litter systems are considered to provide additional enrichment.

It is good practice to use some litter or substrate material at least to facilitate cleaning and minimise the necessity to wash/hose down regularly.

4.7. Cleaning

Wet cleaning by hosing down of animal enclosures should not result in ferrets becoming wet. When animal enclosures are hosed down, the ferrets should be removed from the enclosure to a dry place and returned only when it is reasonably dry.

Ferrets tend to defecate against a vertical surface in one area of the enclosure. Provision of a litter tray may be beneficial and reduces the frequency of cleaning required for the remainder of the enclosure.

All excreta and soiled materials should be emptied at least daily, and more frequently if necessary, from litter trays and/or removed from all other areas used by the animals as a toilet.

Frequency of cleaning of the remainder of the enclosure should be determined on factors such as stocking density, enclosure design and stage of breeding e.g. periparturient period.

4.8. Handling

(See paragraph 4.10. of the General section)

4.9. Humane killing

(See paragraph 4.11. of the General section)

4.10. Records

(See paragraph 4.12. of the General section)

4. 11.Identification

(See paragraph 4.13. of the General section)

The preferred method of permanent identification is by microchipping. However, use of collars, as for cats, or coat dyes for albino animals may also be suitable methods of identification. Ear tattooing and ear tags are not suitable.