

1 **C. Species-specific provisions for cats**

2

3 **1. Introduction**

4

5 The domestic cat is derived from the solitary African wild cat (*Felis silvestris*  
6 *libyca*), but has a strong tendency to learn social behaviour. With appropriate  
7 socialisation provided at an early age, such behaviour can be expressed both  
8 to conspecifics and man.

9

10 Good social interaction with humans encourage suitable temperament for  
11 subsequent studies. However, as cats lack dominance hierarchies and appear  
12 to lack mechanisms for reconciliation post-conflict, forming social relationships  
13 may be stressful. Visible signs that cats are stressed are not as  
14 straightforward to interpret as are those in dogs.

15

16 Staff levels must be adequate for the size of breeding colony and husbandry  
17 practices followed. In setting staff levels it is most important to take into  
18 account time for the important human social interactions required, especially  
19 of the kittens and single housed animals. This must include regular animal  
20 handling.

21

22 As cats are territorial and become attached to particular locations they are  
23 likely to be stressed by relocation. Cats are excellent climbers and utilise  
24 raised structures (e.g. shelves) extensively, both as vantage points and, when  
25 housed in groups, to maintain a distance from other cats.

26

27 **2. The environment and its control**

28

29 2.1. Ventilation

30 (See paragraph 2.1. of the General section)

31

32 2.2. Temperature

33 Cats may be maintained within a wide temperature range provided that their  
34 welfare is not compromised. A room temperature range of 15°C to 21°C

35 should be maintained when precise control is required for cats under  
36 procedure (see paragraph 2.2.3 of the General Section).

37

38 As kittens have limited thermoregulatory control for around the first ten days of  
39 life, additional local heating should be provided during this period.

40

#### 41 2.3. Humidity

42 It is considered unnecessary to control relative humidity, as cats can be  
43 exposed to wide fluctuations of ambient relative humidity without adverse  
44 effects. However, recording humidity on a regular basis can be help to identify  
45 any potential problems at an early stage.

46

#### 47 2.4. Lighting

48 Holding of cats under the natural twenty-four-hour light-dark cycle is  
49 acceptable. Where the light part of the photoperiod is provided by artificial  
50 lighting, this should be within a range of ten to twelve hours daily.

51

52 If natural light is totally excluded, low level night lighting (5 to 10 lux) should be  
53 provided to allow cats to retain some vision and to take account of their startle  
54 reflex. Some light systems have been shown to be aversive to some animals,  
55 possibly because the cat's Critical Fusion Frequency is higher than that of  
56 humans so they may perceive light sources as flickering whereas humans do  
57 not (Berkley 1976).

58

59 The photoperiod may be varied in cat colonies as a method of controlling the  
60 reproductive cycle. Normal photoperiod allows 14 hours of light, but this may  
61 be reduced to a minimum of 8 hours where control of the reproductive cycle is  
62 being undertaken.

63

#### 64 2.5. Noise

65 (See paragraph 2.5. of the General section)

66 The hearing range of cats is 0.07 – 91kHz, with a peak sensitivity 1- 40kHz.

67 Unpredictable noises cause stress. Sound absorbing materials or the use of

68 background sound (such as radio music when played **quietly**) will help reduce

69 the disturbance caused by husbandry-generated noise or other sudden,  
70 unexpected noises.

71

## 72 2.6. Alarm systems

73 (See paragraph 2.6. of the General section)

74

## 75 **3. Health**

76

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

78 A minimum quarantine period of 2 weeks is recommended because the  
79 incubation period of most diseases is less than 2 weeks and this duration also  
80 allows for additional sampling and analysis if required.

81

## 82 **4. Housing, enrichment and care**

83

### 84 4.1. Housing

85 Female cats and neutered cats of both sexes are generally sociable and are  
86 commonly held in groups of up to twelve. However, the establishment of  
87 groups of two or more cats requires careful monitoring for compatibility of all  
88 the individuals in the group. Special care is needed when regrouping cats,  
89 introducing an unfamiliar cat to a group, housing un-neutered males in a  
90 group or maintaining cats in larger groups.

91

92 Where cats are normally group-housed, single-housing may be a significant  
93 stress factor. Therefore, cats should not be single-housed for more than  
94 twenty-four hours without justification on veterinary or welfare grounds. For  
95 single housing for more than twenty-four hours on experimental grounds, see  
96 paragraph 4.5.2 of the General section.

97

98 Cats which are repeatedly aggressive towards other cats should be housed  
99 singly only if a compatible companion cannot be found. Social stress in all  
100 pair- or group-housed individuals should be monitored at least weekly using an  
101 established behavioural and/or physiological stress scoring system

102 (Reference to be provided). This is especially important for un-neutered  
103 males.

104

105 Females with kittens under four weeks of age or in the last two weeks of  
106 pregnancy may be housed singly. During this time, consideration should also  
107 be given to allowing females which are normally group-housed to have access  
108 to their group e.g. by connecting kitting enclosures to the group housing  
109 animal enclosures. Where females with kittens are confined within a cage  
110 environment, additional exercise must be provided for the queen on a daily  
111 basis with access to human social contact and ancillary play equipment. A  
112 usable shelf or solid nest box lid should be supplied to permit the queen some  
113 personal space distant from the litter.

114

115 The development of social behaviour in cats is profoundly affected by social  
116 experience between two and eight weeks of age. During this period it is  
117 particularly important that the cat has social contacts with other cats (e.g. litter  
118 mates) and with humans and is familiarised with environmental conditions  
119 likely to be encountered during subsequent use. Daily handling during this  
120 sensitive stage of development is a prerequisite for the social behaviour of the  
121 adult cat and it has been shown that a short period of handling even on the  
122 first day after birth is of importance as the young animals are already able to  
123 respond to scent and tactile stimulation. Where possible socialisation should  
124 continue until kitten reach 14 weeks of age.

125

126 All cats should have a period of play and general social interactions with  
127 humans on a daily basis, plus additional time for regular grooming. Particular  
128 attention should be paid to social enrichment for single-housed cats by  
129 providing additional human contact and wherever practicable, cats should be  
130 housed in social groups. Where they must be housed singly, they should be  
131 let out for exercise at least once a day where this does not interfere with  
132 procedures.

133

134

135

136 4.2. Enrichment

137 Raised, part-enclosed structures should be provided (e.g. a bed with three  
 138 walls and a roof on a shelf approximately one metre off the floor) to give the  
 139 cats a view of their surroundings and, if pair-or group-housed, the opportunity  
 140 to maintain a comfortable distance from other cats. There should be a  
 141 sufficient number of these structures to minimise competition. Structures  
 142 should be distributed within the enclosure so that animals can fully use the  
 143 three-dimensional space available.

144

145 There should also be provision for the cats to seek refuge and privacy within  
 146 their own enclosure and, in particular, away from the sight of cats in other  
 147 enclosures. Vertical wooden surfaces should be provided to allow claw-  
 148 sharpening and scent-marking.

149

150 Pseudo-predatory and play behaviour should be encouraged. A selection of  
 151 toys should be available and these should be changed on a regular basis in  
 152 order to ensure ongoing stimulation and avoid familiarity, which decreases the  
 153 motivation to play.

154

155 4.3. Enclosures – dimensions and flooring

156 Enclosures, including the divisions between enclosures, should provide a  
 157 robust and easy to clean environment for the cats. Their design and  
 158 construction should seek to provide an open and light facility giving the cats  
 159 comprehensive sight outside of their enclosure. The design of enclosures  
 160 should also provide an enclosed area out of view of other cats, while at the  
 161 same time allowing for easy inspection of animals by staff.

162

163 4.3.1. Dimensions164 **Table C.1. Cats: Minimum enclosure dimensions and space allowances**

	Floor* (m <sup>2</sup> )	Shelves (m <sup>2</sup> )	Height (m)
Minimum for one adult animal	1.5	0.5	2
For each additional animal add	0.75	0.25	–

165 Note: \* Floor area excluding shelves.

166

167 The minimum space in which a queen and litter may be held is the space for a  
168 single cat, which should be gradually increased so that by four months of age  
169 litters have been re-housed to conform to the above space requirements for  
170 adults. The normal age for weaning is seven to nine weeks.

171

172 Cats should never be forced to spend their entire lives outside and should  
173 always have access to an internal enclosure that meets all standards,  
174 including the minimum dimensions, detailed in these guidelines. Outside runs  
175 however provide an environmental enrichment opportunity for cats in both  
176 breeding and user establishments and should be provided where possible.

177

178 Areas for feeding and for litter trays should be not less than 0.5 metres apart  
179 and should not be interchanged.

180

181 Constraint in a space below the minimum requirement detailed above, such  
182 as in a metabolism cage or any similar type of housing for scientific purposes,  
183 may severely compromise the welfare of the animals. Such constraint should  
184 be for the minimum time and within a space that is as close as possible to that  
185 defined above and no less than that required for the animal to stretch fully  
186 horizontally and vertically, to lie down and turn around.

187

#### 188 4.3.2. Flooring

189 The preferred flooring for cat enclosures is a solid continuous floor with a  
190 smooth non-slip finish. Additional enclosure furniture should provide all cats  
191 with a comfortable resting place.

192

193 Open flooring systems such as grids or mesh should not be used for cats.  
194 Where there is a justification for open flooring, great care should be taken in  
195 their design and construction in order to avoid pain, injury or disease and to  
196 allow the animals to manifest normal behaviours. Practical experience shows  
197 that metabolism cages are not always necessary as urine and faeces can be  
198 collected directly from litter trays.

199

200 The quality and finish of the floor of an outside run need not be to the  
201 standard of the inside enclosure, providing it is easy to clean and not  
202 physically injurious to the cats.

203

204 4.4. Feeding

205 (See paragraph 4.6. of the General section)

206

207 4.5. Watering

208 (See paragraph 4.7. of the General section)

209

210 4.6. Substrate, litter, bedding and nesting material

211 At least one litter tray of minimum dimension 300 x 400 mm should be  
212 provided for every two cats and should contain a suitable absorbent and non-  
213 toxic litter or substrate material that is acceptable to and used by the cats. If  
214 urine and faeces are regularly deposited outside the trays, additional trays  
215 containing alternative substrates should be provided. If this is ineffective in  
216 pair-or group-housed cats, social incompatibility is indicated and cats should  
217 be removed from the group one at a time until the problem is resolved.

218

219 Sufficient beds should be provided for all cats and should be made of a  
220 suitable easy to clean material. These beds should contain bedding material  
221 such as polyester fleece or similar. Cats require sleeping areas that are quiet  
222 and warm and if kept in groups, cats should have the choice to sleep on their  
223 own. Cats also, when allowed to exhibit natural instincts, will often sleep at a  
224 height, so sleeping boxes may be hung on walls or at different heights  
225 especially in the corners of rooms where they cannot be approached from  
226 behind.

227

228 4.7. Cleaning

229 Each occupied enclosure should be cleaned at least daily. Litter trays should  
230 be emptied daily and litter material replaced.

231

232 Cleaning of enclosures should not result in cats becoming wet. When  
233 enclosures are hosed down, the cats should be removed from the enclosure  
234 to a dry place and returned only when the enclosure is reasonably dry.

235

236 4.8. Handling

237 For cats, close contact with the persons caring for them is crucial, especially  
238 for single-housed cats.

239

240 4.9. Humane killing

241 (See paragraph 4.11. of the General section)

242

243 4.10. Records

244 (See paragraph 4.12. of the General section)

245

246 4.11. Identification

247 (See paragraph 4.13. of the General section)

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