



HUSBANDRY OF ANIMALS IN SCIENCE

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The following is a selection of frequently asked questions (and their respective answers) concerning the *CCAC guidelines: Husbandry of animals in science* (2017).

1. WHY DEVELOP GENERAL HUSBANDRY GUIDELINES FOR ALL SPECIES?

The husbandry guidelines are part of a series of general guidelines that streamline the presentation of information by providing basic principles applicable to all animals housed in scientific institutions. For animal care committee members and others who need to apply guidelines to a number of situations, this approach facilitates quick access to fundamental information. Redundancy is minimized by cross-referencing animal care guidelines within those developed for specific types of animals.

2. DO THE HUSBANDRY GUIDELINES APPLY TO WILDLIFE STUDIES?

Husbandry requirements for wildlife held in the field for scientific purposes are covered in Section H, “Moving and Holding Wildlife”, Subsection 2, “Husbandry”, in the *CCAC guidelines on: the care and use of wildlife* (2003). The wildlife guidelines emphasize the importance of understanding the habits and behaviours of the species in determining suitable husbandry procedures. Basic elements of husbandry required for short-term holding of wildlife in the field include appropriate holding cages and bedding, adequate sources of suitable food and water, regular monitoring with as little disturbance as possible, etc. When animals are to be held for a longer period in field facilities (i.e. more than a few days), additional husbandry practices are required to address the animals’ needs, such as enrichment opportunities for physical and psychological stimulation. The *CCAC guidelines: Husbandry of animals in science* provides additional requirements when wild animals are brought into laboratory animal facilities.

3. HOW ARE RESEARCH NEEDS BALANCED WITH THE NEEDS OF THE ANIMALS?

Husbandry practices outlined in this document apply to all animals housed in institutions, including those on experimental protocols. Providing animals with appropriate husbandry is important to both the welfare of the animals and the reliability of the scientific outcomes. Where a particular husbandry practice interferes with research objectives, it is the responsibility of the investigator to provide justification for modifying that practice to the animal care committee.



4. HOW DO YOU DISTINGUISH BETWEEN MEETING THE BASIC NEEDS OF THE ANIMALS AND PROVIDING ENVIRONMENTAL ENRICHMENT?

Basic needs of animals include good quality food and water; space for normal species-specific movement; clean areas to eat, hide and rest; appropriate temperature and humidity; and safety from injury and predation. Environmental enrichment aims to provide additional welfare benefits beyond meeting these basic needs, and requires monitoring to ensure the anticipated benefits are attained.

5. THERE IS A LOT OF EMPHASIS ON SOCIAL HOUSING, BUT ARE THERE SITUATIONS WHERE IT IS NOT APPROPRIATE?

For most animals housed in institutions, social housing with compatible animals addresses an important basic need. However, if the welfare of an animal is compromised by the social grouping and all efforts to rectify the situation have been unsuccessful, incompatible individuals may need to be separated. Additionally, a particular study may require single housing. In these situations, the animals should be provided with some form of social contact (e.g., visual, olfactory, and/or auditory contact with conspecifics or increased contact time with people as appropriate) and returned to group housing as soon as practical.

6. WHY DO THE GUIDELINES ONLY STATE THAT FRESH, CLEAN DRINKING WATER SHOULD BE SUPPLIED IN A MANNER THAT MAKES IT AVAILABLE TO ALL ANIMALS. ISN'T WATER OF SUCH IMPORTANCE THAT IT *MUST* BE MADE AVAILABLE?

The term *should* introduces the flexibility to permit water to be withheld in special circumstances, provided it has been approved by an animal care committee as part of an animal protocol.

7. HOW CAN BEDDING REQUIREMENTS BE GENERALIZED FOR ALL SPECIES WHEN SOME SPECIES DO NOT REQUIRE BEDDING (E.G., FARM ANIMALS RAISED ON CONCRETE OR SLATTED FLOORS)?

The intent of the guideline on bedding is to ensure that bedding of an appropriate material is made available to those animals whose welfare is improved by its presence, unless this interferes with the study. For many facilities, standard operating procedures describe the routine application of bedding for the particular animals and facilities, as approved by the animal care committee. Where studies require changes to routine bedding, it must be justified to the animal care committee.

8. WHAT ARE THE TRAINING REQUIREMENTS FOR HUSBANDRY PERSONNEL?

As noted in the *CCAC guidelines on: training of personnel working with animals in science* (2015), training for husbandry personnel should be relevant to the particular animals and equipment they will be working with. Such training is important for the well-being and safety of the animals and for the safety of personnel, as appropriate interactions can result in animals being less frightened and/or aggressive and more manageable.



9. IS IT ALWAYS NECESSARY TO WEAR GLOVES WHEN HANDLING ANIMALS?

The guidelines advise wearing light latex, nitrile, or other thin gloves in the laboratory when handling animals, as part of regular personal protective equipment to reduce exposure to contact allergens and to protect the animals. However, the guidelines do acknowledge that there may be some species for which gloves are less critical, and this will be further addressed in guidelines developed for specific types of animals, where applicable.

10. CAN PERFUMES/SCENTS WORN BY PERSONNEL AFFECT THE ANIMALS?

Research has shown that perfumes/scents affect animals¹, and scent-free zones may be useful to consider in animal facilities. This may be particularly important for rodent breeding facilities or behaviour studies.

11. WHY IS THERE SO MUCH DETAIL PROVIDED FOR RECORD KEEPING?

Good record-keeping practices that are suited to each facility are a component of quality assurance. Animal husbandry involves a team approach and includes veterinarians, investigators, research assistants, animal care personnel, facility managers, and the animal care committee. It is critical that pertinent information about the animals and their care is available to all involved. It is also important that investigators have access to husbandry records to determine if any unanticipated variables have been introduced into studies, and to comply with funders, publishers, and regulatory requirements.

¹ For example, see:

Dhanjal P. (1991) *The assessment of stress in laboratory mice due to olfactory stimulation with fragranced odours*. Birmingham UK: University of Birmingham. (cited in Howard B., Nevalainen T. and Perrata G. (2011) *The COST Manual of Laboratory Animal Care and Use*. Boca Raton FL: CRC Press).