

Aim: Maintenance of Laboratory Animals as per CPCSEA Guidelines.

References:

- CPCSEA Guidelines for Laboratory Animal Facility, Ministry of Environment, Forest and Climate Change, Government of India.
- Institutional Animal Ethics Committee (IAEC) Standard Operating Procedures.

Objective:

To provide guidelines for the proper maintenance, housing, and care of laboratory animals in compliance with the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) standards.

Materials and Equipment

- Animal housing cages
- Bedding material
- Animal feed and water
- Cleaning supplies
- Personal protective equipment (PPE)
- Environmental control equipment (temperature, humidity, ventilation)
- Record-keeping materials

Procedure:

1. Housing and Environment:

1. Cage Design and Space Requirements

- Ensure cages are of appropriate size to allow free movement of animals.
- Cages should be made of non-toxic materials, easy to clean, and escape-proof.
- Space requirements per animal should meet CPCSEA standards for different species.

2. Environmental Conditions

- Maintain temperature within the specified range (e.g., 20-26°C for rodents).

- Maintain relative humidity between 30-70%.
- Ensure proper ventilation to prevent accumulation of harmful gases.
- Control noise levels to minimize stress.
- Provide a 12-hour light/dark cycle.

3. Bedding

- Use clean, non-toxic, and absorbent bedding materials.
- Change bedding regularly to maintain hygiene.

2. Nutrition and Water:

1. Feed

- Provide nutritionally balanced feed specific to the species.
- Ensure food is free from contaminants.
- Store feed in a cool, dry place to prevent spoilage.

2. Water

- Provide clean, fresh water at all times.
- Use automatic watering systems or bottles, cleaned regularly.

3. Health Monitoring and Veterinary Care:

1. Daily Observation

- Check animals daily for signs of illness, injury, or distress.
- Record any abnormalities in the health log.

2. Veterinary Care

- Have a qualified veterinarian conduct regular health checks.
- Isolate and treat sick animals promptly.
- Maintain records of all veterinary care and treatments administered.

4. Cleaning and Sanitation:

1. Cage Cleaning

- Clean cages regularly to prevent build-up of waste.
- Use appropriate disinfectants that are safe for animals.

2. Facility Cleaning

- Maintain a regular schedule for cleaning floors, walls, and equipment.
- Ensure proper disposal of waste materials.

5. Record Keeping:

1. Animal Records

- Maintain individual records for each animal, including species, age, sex, health status, and any experimental procedures performed.
- Update records regularly to reflect any changes.

2. Facility Records

- Keep records of environmental conditions, cleaning schedules, feed and water supply, and any maintenance activities.

Ethical Considerations

- Adhere to the principles of the 3Rs (Replacement, Reduction, Refinement) to minimize animal use and suffering.
- Ensure all personnel handling animals are adequately trained and certified by CPCSEA.
- Obtain necessary approvals for all experimental protocols involving animals from the Institutional Animal Ethics Committee (IAEC).

Safety Precautions

- Use appropriate PPE (gloves, masks, lab coats) when handling animals and cleaning cages.
- Follow biosafety guidelines to prevent zoonotic infections.
- Handle animals gently to minimize stress and avoid injury.

Conclusion

Proper maintenance of laboratory animals in accordance with CPCSEA guidelines ensures their well-being, enhances the validity of experimental results, and upholds ethical standards in scientific research.

Notes

- Regular training sessions should be conducted for staff to stay updated with the latest guidelines and best practices.
- Any deviations from the guidelines should be documented and justified.

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