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Work Manual of Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences on Experimental Animal Feeders

According to the Experimental Animal Management Manual and the Standard Operating Procedures for Experimental Animals, the position of experimental animal feeder, as an auxiliary scientific research role, is responsible for assisting in the experimental animal feeding and experimental animal feeding environmental control services and management at Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences (SIAT) under the leadership of the principal leaders of the Institute.

1. Qualification Requirements

1.1 Graduate in a relevant field of biology or have more than one year of relevant work experience;

1.2 Physically healthy, free from infectious diseases, color blindness, and allergies to animal dander and fur;

1.3 No fear or aversion to experimental animals;

1.4 Do not keep pets;

1.5 During the probationary period, pass the animal facility access assessment organized by this unit; obtain the Guangdong Province Experimental Animal Practitioner Certificate and Special Equipment Operation Certificate (Pressure Vessel) in a timely manner according to the job content;

1.6 Cooperate with holiday shifts;

1.7 In addition to routine work, comply with deployment arrangements for temporary and emergency affairs.

2. Job Requirements

2.1 Obey work assignments and collaboratively complete the feeding management and breeding work of experimental animals according to division of labor. Strictly implement hygiene and epidemic prevention measures;

2.2 Perform cleaning, disinfection, and maintenance management of animal facility environments and ancillary equipment, observe environmental parameters of the corresponding work areas daily, and record them in the corresponding forms;

2.3 Clock in and out on time, and start work promptly after clocking in;

2.4 Strengthen feeding management and routine inspections, feed animals on schedule, and prevent phenomena such as starvation, water leakage, and improper placement of cages. Carefully follow prescribed methods for feeding animals during pregnancy, postpartum, and postoperative periods. Maintain a quiet environment in the feeding facility to minimize disturbance to the animals. Observe the appearance and eating and defecation habits of animals, report abnormalities promptly;

2.5 Supervise animal laboratory personnel to ensure compliance with operating procedures and promptly correct any irregular behaviors;

2.6 Properly use and care for cages and equipment to prevent damage or loss;

2.7 When taking leave, ensure necessary handover of work; personnel on duty must comply with requirements, and communicate promptly in case of uncertainties for resolution;

2.8 Collaborate with experimental personnel and management personnel to prevent diseases and disinfect experimental animals;

2.9 Strengthen professional learning, understand the habits of the animals being raised, and further improve scientific feeding techniques for experimental animals.

3. Job Contents

3.1 Responsible for the work of assigned rooms, including changing cages, water bottles, adding feed, cleaning, disinfection, record keeping, and ledger statistics;

3.2 Observe the health and feed and water consumption of animals (in case of death or abnormalities, contact the experimental personnel responsible for the animals promptly and record, and inform management personnel of special circumstances);

3.3 Carry out feeding work according to special requirements specified by experimental personnel (such as feeding special feed, changing bedding, and self-feeding), and communicate promptly for confirmation in case of uncertainties;

3.4 Cooperate in using the dirty bedding method to feed sentinel animals;

3.5 When the offspring of animals in breeding exceed the day ages of being kept together (3-4 weeks) or the density becomes too high, communicate promptly with the experimental personnel responsible for the animals for division and provide necessary assistance (prepare cages, water bottles);

3.6 Responsible for observing and recording environmental temperature, humidity, and pressure differences, and promptly contact equipment administrators in case of abnormalities;

3.7 When necessary, cooperate in the reception and division of animals upon arrival (preparation before animal arrival, notification of arrival by phone, animal transportation, disinfection of external packaging, and division of animals);

3.8 Responsible for disposing of dirty bedding after changing cages daily, cleaning cages and water bottles;

3.9 Cleaning, airing, organizing, and packaging of sterile isolation gowns;

3.10 Packaging of bedding and sterilization of cages, water bottles, sterile isolation gowns, and other supplies;

3.11 Daily use registration of high-pressure sterilizers, cage washers, and other necessary equipment;

3.12 Supervise registration of pass-through window of experimental personnel, personnel in and out, and arrival of experimental animals;

3.13 Promptly contact maintenance personnel if there are abnormalities or damage to lamps, door locks, and equipment in the rooms under jurisdiction;

3.14 Replenish bedding, disinfectant alcohol, and sharps container in a timely manner when running low in the rooms under jurisdiction, and promptly dispose of garbage;

3.15 Ensure adequate supply of materials such as gloves, disposable dust caps, masks, and disinfectant alcohol every day;

3.16 Responsible for reporting the demand for daily consumables (gloves, masks, shoe covers, dust caps, alcohol, garbage bags, medical waste bags, etc.);

3.17 Responsible for reporting the demand for bedding and providing daily supplies for feeding;

3.18 Assist in completing other temporary tasks (such as material handling, maintenance follow-up).

4. Scope of Authority

4.1 Familiarize oneself with relevant SMP and SOP requirements, and have the right to point out and request correction of violations by experimental personnel, and report to higher authorities depending on the severity of the situation;

4.2 Have the right to require experimental personnel to clearly and prominently mark special feeding requirements on cage labels, and the assigned feeder must remind on-duty personnel during holidays;

4.3 For failure to handle notices of excessive feeding beyond the deadline, have the right to

charge feeding fees for the excess animals, calculated based on every 5 mice per cage or every 3 rats per cage;

4.4 Always prioritize animal welfare and safety in work and take proper self-protection measures;

4.5 Speech is protected, and no retaliation shall be taken for reporting violations or making work demands.

5. Work Procedures

5.1 Cage changing/division

Prepare the required disinfectant and fill out the *Disinfectant Preparation Record* form → Prepare sterilized/disinfected materials and move them to the feeding facility together with disinfectant → Open the cage changing station in the feeding facility and spray or wipe the surface → Move the cages that need to be changed to the cage changing station, with the water bottle inverted to prevent dripping → Open the cage, use forceps (soak in disinfectant for 2 minutes after use) to transfer the mice by clipping the tail root to a clean cage → After transferring one cage, cover it with wire mesh, add feed, and secure the cage cover → Clean the corresponding cage rack position → Hang the label card, return the changed cages to the cage rack and reset the water bottle → Repeat the process, disinfect the cage changing station surface after all cages have been changed, and fill out the *Cage Changing Workbench Equipment Use, Maintenance, and Upkeep Record* and *Barrier Environment Animal Facility Feeding, Cleaning, and Disinfection Activity Record* forms → Timely transfer the dirty cages through the exit buffer room to the washing and disinfection area → Use the disinfectant solution used to wipe the cages to mop the floor and remove dust generated during cage changing

Note: Ensure that except for the lactating period (approximately 3 days before and after birth), feeding cages for mother mice are replaced at least once a week. If experimental animals are taken away during cage replacement, it is necessary to promptly replace the cage or instruct the experimental personnel to do so themselves.

5.2 Room cleaning

Prepare cleaning tools → Prepare the required disinfectant and fill out the *Disinfectant Preparation Record* → Clean all surfaces in the room in the order from top to bottom, from relatively clean to relatively dirty, from items to floor, from inside to outside, from disassembly to washing, from sorting out to organizing, and clean all surfaces in the room → Transfer cleanable cleaning supplies to the disinfection room for reuse after disinfection. For items that cannot be sterilized, soak or wipe them with disinfectant. Classify and store various cleaning supplies and fill out the *Barrier Environment Animal Facility Feeding, Cleaning, and Disinfection Activity Record/Record of Cleaning and Disinfection in the Auxiliary Area of the Barrier Environment*.

Note: Cage racks and floors shall be cleaned synchronously each time cages are changed, and other areas shall be cleaned according to the procedure at least once a week.

5.3 Animal reception

After receiving the animal list from the administrator for the week, prepare the receiving materials: count and sterilize cage equipment, and fill water bottles → Cooperate with the receiving room to inspect the external packaging, count the quantity, and sign for the received animals → Transfer the received animals to the animal rooms on each floor → Prepare disinfectant and fill out the *Animal Laboratory Disinfectant Preparation Record* form → Notify the users who handle the animals themselves to receive the animals promptly → Wipe and disinfect the surface of the transport cages, bring them into the quarantine room through the animal pass-through window, and fill out the *Experimental Animal Entry and Exit Registration* and the *Disinfection Record of Experimental Items/Animal Entry and Exit through Pass-through Window* forms → Open the outer packaging in the quarantine room, transfer the animals to cage boxes according to the division operation standards, and fill out the *Quarantine Observation Record* according to the quarantine cycle.

Note: Except for sterilization pot operators who cannot leave, other animal feeders shall assist in animal reception when needed.

5.4 Dirty cage handling

Transfer the removed cages to the designated location in the washing and disinfection area → Open the bedding dumping machine (if any) → Pour out the dirty bedding in the cages to prevent clogging the drain during cleaning → After pouring out all the dirty bedding, place the cages on the cleaning rack, wash with a cage washer, and fill out the *Large Multi-function Cleaning Machine Usage Record* form; or soak and scrub in a sink, rinse with water to remove detergent and dirt residue → After air-drying, spread the bedding evenly inside the cage, filling it to about 1/4 height, and prepare for sterilization.

Replaced water bottles shall be emptied, and the spouts and bottles shall be washed separately. Some water bottles may contain liquid food and need to be cleaned with a water bottle brush.

Note: The bedding shall be spread out and not overloaded to ensure thorough sterilization. Cage rack vents, iron partitions, and upper cage covers shall be regularly replaced and cleaned, especially for long experiment cycles or mice used for breeding, and immunodeficient mice.

5.5 Sterilization work

Preheat the machine → Turn on the air compressor and tap water switch → Confirm that all parameters of the pot are within the normal range → Arrange items to be sterilized neatly in the pot, and to ensure sterilization effectiveness, it is advisable to fill the pot to 80% of its volume → Start the sterilization procedure and fill out the *Pulsating Vacuum Sterilizer Usage Record* form → Someone shall be present during the sterilization process to handle any abnormal situations in a timely manner → After the sterilization procedure is completed, unload the pot in the back room and store the items in the clean storage room.

5.6 Animal patrol

Enter the feeding facility, turn on the work lighting, and observe each cage to ensure that the cage boxes are properly placed and that the animals have adequate food and water. Ensure that the water and food are sufficient until Monday on Fridays → Observe the animals through the cage racks. If there are any abnormalities or suspicions, gently pull out the cage for inspection or open the lid if necessary → Check the parameters of the IVC host, room temperature, humidity, and pressure, and record the data on the Temperature, Humidity, and Pressure Record form → If there are no abnormalities, exit the room, turn off the work lighting, and contact relevant personnel if there are any abnormalities.

5.7 Sentinel mice cage changing

Place an empty cage box on the cage changing table to collect dirty bedding (designated as "A") → Change cages according to standard procedures → When changing each cage, take a small amount of dirty bedding from the cage and place it in the sentinel mice cage box (A). After all cages represented by the sentinel mice have been changed, fill the bedding in cage A with new bedding → Transfer the sentinel mice from the old cage box to cage A, cover the cage lid, and return it to its original position → Ensure that all cages represented by the sentinel mice have dirty bedding placed in the sentinel mice cage box within one inspection cycle → Pack and send for inspection at the end of each inspection cycle.

5.8 Other tasks shall be carried out according to relevant requirements or procedures, and complete records shall be kept.

6. Reward and Punishment System

6.1 Feeders who perform their duties according to these Management Measures will receive salary increases and grades according to the regulations of SIAT each year;

6.2 The completion of daily tasks and temporary assignments will be an important reference for year-end assessments and bonus distribution;

6.3 If significant economic losses are caused by negligence in work, a corresponding proportion will be deducted from the salary as compensation.

7. Bylaw

7.1 This Manual shall come into effect from the date of issuance, and the original *Work Manual of Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences on Experimental Animal Feeders* (SYK ZI [2019] No. 106) shall be repealed simultaneously.