



CM SOP #201 – Environmental Health Monitoring for Innovive Caging

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I. Purpose & Scope

This SOP describes procedures for sentinel-free environmental health monitoring (EHM) of rodent colonies using pooled soiled bedding sampling. This method is used in static or individually ventilated cage (IVC) systems with cage-level filtration (e.g., disposable Innovive caging) where traditional environmental dust sampling is not feasible.

The goal of this program is to detect rodent pathogens circulating within colonies while reducing the use of live sentinel animals, consistent with the principles of the 3Rs (Replacement, Reduction, and Refinement). This SOP applies to all Comparative Medicine (CM) personnel responsible for rodent colony health surveillance within FAU-managed vivaria.

II. Roles & Responsibilities

Comparative Medicine Staff

- Perform routine collection of soiled bedding samples according to this SOP.
- Maintain appropriately labeled soiled bedding collection cages (SBCs).
- Follow procedures to prevent cross-contamination between sampling sites.
- Prepare and submit diagnostic samples to the designated laboratory.
- Document sampling activities and maintain required records.

Research Staff, Students, Visitors

N/A

CM Assistant and Associate Directors

- Ensure personnel are appropriately trained in EHM procedures.
- Ensure sampling schedules are maintained (typically quarterly).
- Verify proper labeling, sample handling, and submission procedures.
- Oversee quality control and recordkeeping.

CM Director and AV

- Oversee the institutional rodent health surveillance program.
- Approve pathogen testing panels and sampling strategies.
- Review diagnostic results and determine appropriate response to positive findings.
- Ensure the monitoring program aligns with current professional standards and regulatory expectations.

III. General Notes & Definitions

- Sentinel-free soiled bedding monitoring is commonly used in modern rodent facilities to replace live sentinel animals, particularly in cage systems with filtration barriers.



- Sampling typically occurs quarterly, although frequency may be adjusted based on risk assessment or veterinary guidance.
- Soiled bedding cages should represent the animals under surveillance and remain associated with a specific rack or room.
- Procedures must minimize the risk of cross-contamination between colonies or racks.
- **Environmental Health Monitoring (EHM):** A surveillance program designed to detect infectious agents in rodent colonies using environmental or pooled samples rather than individual animal testing.
- **Sentinel-Free Soiled Bedding Sampling (SFSB):** monitoring method in which pooled bedding from colony cages is collected over time and tested for pathogens using PCR or other diagnostic methods.
- **Soiled Bedding Cage (SBC):** A designated cage used to accumulate small amounts of bedding from colony cages to represent animals under surveillance.
- **Collection Media:** Material provided by diagnostic laboratories designed to collect environmental DNA or pathogens from bedding.
- **Flocked/Sticky Swabs:** Sterile swabs used to collect microbial or viral nucleic acids from environmental material.

IV. Materials & Equipment

- Disposable gloves
- 50 mL sterile conical tubes
- Diagnostic collection media (provided by diagnostic laboratory)
- Flocked or sticky swabs
- Permanent marker for labeling
- Disinfectant for surface cleaning
- Soiled bedding collection cage (SBC)
- Animal bedding transfer scoop or equivalent
- Biohazard waste container

V. Procedure

A. Sampling Frequency

1. Samples are typically collected every three months (quarterly).
2. After sample collection, the current SBC should be discarded and replaced with a clean cage to begin the next collection cycle.

B. Establishing a Soiled Bedding Collection Cage (SBC)

1. Label the SBC to identify:
 - a. Room number
 - b. Rack number
 - c. Colony or study group
2. The SBC should remain on the same rack as the animals being monitored.
3. If a static cage is used, ensure it has an appropriate lid that allows air exchange.
4. At each cage change, transfer approximately 15–60 mL (1 tablespoon to 2 oz) of soiled bedding from colony cages into the SBC.
5. If the SBC becomes full during the monitoring cycle, start an additional SBC.

C. Sample Collection

1. Label a 50 mL conical tube with:



- Hands must be washed after completing procedures.

VII. References & Attachments

- *Guide for the Care and Use of Laboratory Animals*. National Research Council.
- Public Health Service Policy on Humane Care and Use of Laboratory Animals.
- NA3RsC Environmental Health Monitoring Sentinel-Free Soiled Bedding Sampling Method.
- FELASA Recommendations for Health Monitoring of Rodent Colonies.
- Current professional standards for environmental rodent pathogen monitoring.

VIII. Revision History

Revision Date	Revision Number	Summary of Changes

Approved by: Nicole Compo, DVM, DVSc, DACLAM, Attending Veterinarian