

STANDARD OPERATING PROCEDURES

DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA

SOP#: 700.17 Date Issued: 11/03 Date Revised: 10/24 Page 1 of 8

TITLE: Livestock Husbandry
SCOPE: Animal Care Personnel
RESPONSIBILITY: Facility Manager, Technical Staff, Veterinary Staff
PURPOSE: To Outline the Proper Procedures for Receiving, Physical Examination,
 Evaluating Health Status, Handling, Care and Husbandry Practices
 Related to Livestock

I. PURPOSE

1. To ensure the highest quality of animal health and preclude the development of spontaneous diseases or disorders, which could compromise the integrity of studies and the interpretation of results.
2. To ensure personnel handling livestock perform their duties in a manner that complies with all current governing laws, regulations, and guidelines.

II. RESPONSIBILITY

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3. Individual Animal Medical Records are prepared for each animal, to include (see **SOP #012** entitled, **Animal Medical Records**):
 - a. **Arrival Status Sheet** CMDC #008
 - b. **Progress Notes** CMDC #013
 - c. New animals are recorded on the **Monthly Per Diem Sheet** CMDC #175 and on a **Progress Notes** form CMDC #013 located in the **Room Log Book**
4. N95 mask and face shield are recommended when working with/handling livestock.
5. Physical Examination
 - a. A physical examination (PE)/general health evaluation is performed by the veterinary staff, or animal care staff, within 24 hours of arrival (unless animals appear to be in good health and will be used in terminal procedures within 24 hours).
 - b. Animal is examined, and observations are recorded on the **Arrival Status Sheet**. The following parameters will be observed and recorded:
 1. ID number (if any) and/or description
 2. Weight
 3. Body temperature
 4. Heart or pulse rate
 5. Respiration rate
 6. Capillary refill time
 7. Hoof (trim if necessary)
 8. Teeth
 9. Ears
 10. Eyes
 11. Skin/coat condition
 12. An impression of general attitude and condition
 13. Any treatments implemented
 - c. A notation of PE having been performed is placed on the **Progress Notes** CMDC #013 for each animal.
6. Handling and Restraint
 - a. To isolate group-housed animals for examinations/treatments, animals can be herded into a holding pen by opening holding pen first, then animal's pen, and encouraging the animal to move on its own accord.
 - b. Pigs less than 8 kg:
 1. Pick up by grasping around midsection with both hands, then transport/restrain with the hand/forearm supporting the head/neck and the other under the hind quarters.
 2. Restrain by grasping the pig by the rear feet with one hand and lifting the animal by the hind legs.

1. Can be moved using a lead or harness
 2. Restrain by gently pressing up against pen or wall to administer injections or treatments
 3. Blood withdrawal requires two persons, one to immobilize the head/neck, and the other to hold the vessel and obtain the sample.
7. Environmental Enrichment and Social Housing
- a. Appropriate social interactions among members of the same species and enrichment of the animal's environment are essential to normal development and well-being.
 - b. All livestock receive environmental enrichment, unless an exemption has been approved in writing by the IACUC.
 - c. Each animal will have a minimum of one enrichment device, either suspended inside the cage or on the floor inside the cage (e.g., flexi keys, rattle triangles, suspended plastic apples, Kong® toys on chain).
 - d. Any environmental changes made must be communicated to and approved by the researcher prior to implementation.
 - e. Single-housing of livestock should be the exception and should be justified based on experimental requirements or veterinary-related concerns about animal well-being.
8. Feeding and Watering
- a. Refer to **SOP #022** entitled, **Feed and Bedding** for specific diets. NOTE: procedures below are not for animals on special diets or water. Special diets must be described in an approved IACUC protocol (e.g., type, amount, and form).
 - b. Feeding
 1. Ruminants are fed once a day. Type of feed is determined by species.
 2. Swine are fed twice daily and once daily on weekends and holidays.
 3. The amount fed is based on age, size, and level of activity (e.g., 50-70kg pig @ 3 cups/feeding twice daily on weekdays or 6 cups/feeding once daily for weekends and holidays).
 4. Animals group-housed are fed in several feed stations to assure less aggressive animals have sufficient access.
 5. Sweet feed can be mixed with pelleted feed to entice finicky eaters.
 6. Hay should be available at all times for ruminants.
 7. Feed troughs and/or bowls are sanitized on an as-needed basis depending on the type of food used, but at least weekly. Receptacles at CAMLS can be returned to (MDD or COM) for cagewash sanitation.
 - c. Watering
 1. Water is provided *ad libitum* by way of a water trough or by a drinking valve (lixits).
 2. Lixits are checked daily to ensure water is available.
 3. Water troughs are dumped and refilled each morning and checked for adequate supply each afternoon.
 4. Water troughs are sanitized on an as-needed basis at least weekly. Those at CAMLS can be returned to (MDD or COM) for cagewash sanitation.
 5. Sanitize lixits in occupied rooms weekly, and prior to occupancy, with Oxivir Tb and thoroughly rinse/flush after the appropriate contact time.

9. Health Surveillance:

- a. Each housing room is assigned to an Animal Care Technician. Daily observations of the Animal Care Technician are recorded on the **Room Status Sheet** within the **Room Log Book**.
- b. Surveillance frequency:
 1. On weekdays, health surveillance will occur twice per day, prior to 9:30 AM, and again about mid-afternoon.
 2. Health surveillance on weekends and holidays will occur once per day.
- c. Observations and communications must be noted on the **Room Status Sheet**, the Facility Manager's **Animal Health and Environmental Concern Form** CMDC #077 and the **Animal Health Concerns Form** CMDC #155.
- d. Performance of daily observations and general health surveillance:
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- e. Clean pen floor, room floor, and floor trough (e.g., by lifting each individual flooring panel and hosing waste towards trough and trough drain) using a scrub brush or pad and Dawn soap.
 - f. Clean Lixits® with a scrub brush or pad with Dawn soap.
 - g. Clean feeders with a scrub brush or pad; lift feeders to allow cleaning of area between underside and pen with Dawn soap.
 - h. Return animal to clean pen.
 - i. Only one animal and its cage card will be moved at one time, unless group housed. When group housed, the entire cohort is moved together.
 - j. Repeat procedures for each pen to be cleaned.
 - k. After all pens have been cleaned, and floor trough is clean, turn off flush gate valve.
 - l. Squeegee floor dry.
2. Weekly-
- a. With each active pen emptied of animals, pen wall panels, floor panels, feeders, and lixits are cleaned and then sanitized in place using a scrub brush or pad, a sponge mop, a degreasing cleansing solution (e.g., KrudKutter, PRL Grease-free), a disinfectant (e.g., Oxivir Tb, Sporidicin, Virkon), and thorough rinsing.

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Livestock Husbandry

1. Daily - complete **Room Status Sheet** by recording:
 - a. Minimum and maximum room temperature and humidity (measurements out of the acceptable range are described under the **Health and Environmental Concern** column of the **Room Status sheet** and reported to the Facility Manager via the **Health and Environmental Concern Form**).
 - b. Feed and water are available.
 - c. Husbandry duties (e.g., pen cleaning/equipment changes/procedures performed).
 - d. Housekeeping duties (e.g., room duties/procedures performed).
 - e. Significant health or environmental concerns
 - f. Time of observation and the initials of technician.
 - g. If no animals are present on this day, record "No Animals Present" and initial.
2. Assure no investigator's supplies or trash is left in the room.
3. Check and replenish supplies (e.g., soap, paper towels) as needed.
4. Wipe down all surfaces/areas with 10% bleach solution (1:10)

