



Cornell University
Cornell Center for Animal Resources and Education

CARE517.01 Swine Husbandry

The intent of this standard operating procedure (SOP) is to describe the routine husbandry procedures at Cornell University for swine. This SOP is intended for all staff members who perform routine swine care. This procedure is approved by the Cornell Institutional Animal Care and Use Committee (IACUC) and the Cornell Center for Animal Resources and Education (CARE). Individual facilities may have supplemental SOPs that further describe procedures specific to their location. Any exemption must be approved by the IACUC prior to its application.

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1. Introduction

The purpose of this SOP is to describe the basic procedures required for routine swine care.

2. Materials

- Food
- Bedding (when appropriate)
- Rubber mats
- Supplemental heat for piglets
- Enrichment Items

3. Procedures

a. Minimum space requirements

The following table summarizes minimum requirements for the housing of swine:

Sow and litter in pen	35 square feet
Sow in crate	14 square feet
Nursery pens (7–60 lbs)	1.7–4.0 square feet/pig
Growing pens (60–125 lbs)	4–6 square feet/pig
Finishing pens (125–230 lbs)	6.5–8.0 square feet/pig
Late finish pens (231–275 lbs)	8–9 square feet/pig
Mature adults in pens	16 square feet/pig

NOTE: Additional space is provided whenever possible.

- b. Observation of animals
 - i. Observe each animal twice daily, including weekends and holidays, for illness, injury and general condition.
 - ii. Report injuries or health issues to the facility manager.
- c. Food and water
 - i. Feed animals to meet current National Research Council recommendations for swine nutrition.
 - ii. Provide water *ad libitum* with automated watering devices, since pigs destroy and tip over troughs and pans.
 - iii. Keep feeders, waterers, and feeding stations in working condition and free from manure, urine and other contaminants (e.g., insects, soil, etc.).
 - iv. Thoroughly clean feeders and waterers and disinfect prior to use with newly introduced pigs.
- d. Bedding
 - i. Limit bedding to special circumstances (e.g., natural breeding) to reduce clogging of the floor drains. Most swine are maintained on concrete, concrete slats, or raised grates.
 - ii. , Provide rubber mats in farrowing crates for sow comfort.
- e. Pen and crate maintenance
 - i. Clean pens daily.
 - Flush dirty bedding out of pens via a hose.
 - Hose slatted concrete floors, elevated pens, and rubber mats.

NOTE: Do not hose the rubber mats in farrowing crates since hosing may contaminate the nursing piglets and /or mammary glands. Clean the mats by scraping off excreta and debris.

- ii. Clean and sanitize pens and crates thoroughly before a new group of pigs is introduced.
- f. Temperature and ventilation
 - i. Ideal temperature range for adult pigs is between 50 and 75° F. While adult pigs can tolerate temperatures as cold as 5° F and as hot as 90° F, take corrective measures if temperatures fall below 50° F (space heaters, heat lamps, etc.) or above 75° F (mistifiers for lactating sows; frequent hosing of weaned pigs).
 - ii. Provide piglets less than weaning age with supplemental heat as follows:
 - Age ≤1 week: ~95° F.
 - Age >1 week: temperature requirements decrease 5° F per week until weaning.
 - Weaned pigs (age ≥3–4 weeks):~75° F.
 - iii. Equally distribute ventilation throughout the facility to minimize odor, evacuate humidity, and provide fresh air to the animals.

- g. Lighting
 - i. Provide breeding and growing swine with 16 hours of light (L) and 8 hours dark (D).
 - ii. Keep experimental and teaching animals in a L:D cycle of 12:12.
- h. Environmental Enrichment
 - i. Because swine are social animals, house them in groups when possible.
 - ii. If not possible to group house, swine should be able to maintain visual contact with other swine at all times.
 - iii. Provide additional enrichment for swine via manipulanda in the primary enclosure (e.g., chains, bowling balls, strips of durable material, rubber hoses, etc).
- j. Pest control
 - i. Refer to CARE SOP 538 for a description of the vermin control program in agricultural facilities.
 - ii. Rodent and insect control is performed by Acme Pest Control semimonthly.
- k. Waste Management
 - i. Place regular waste in dumpster to be picked up weekly.
 - ii. Place carcasses, placentas, etc. in carcass freezer to be taken to the incinerator approximately every 2 months.

4. Safety

- a. When working with animals wear appropriate PPE, observe proper hygiene, and be aware of allergy, zoonosis and injury risks. Refer to appropriate references below.
- b. Working with swine in a farm setting can be very loud. Check with facility manager regarding requirement for hearing protection.

5. Contingencies

- a. Emergency veterinary care is available at all times, including after working hours, weekends and holidays, through Ambulatory & Production Medicine Clinic (607-253-3140) or CARE (1-800-349-2456).
- b. Post emergency contacts in a conspicuous location.

6. References

- *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*. Federation of Animal Science Societies, Savoy, IL. 1999.
- University of Medicine and Dentistry of New Jersey. Swine Husbandry SOP 1-4-98. <http://www3.umdnj.edu/oraweb/pighusb.htm> (accessed Dec. 2005).
- Grandin, Temple. Recommendations for Investigators Using Pigs for Research. In *Comfortable Quarters for Laboratory Animals*, 9th ed.; Viktor Reinhardt, Ed. Animal Welfare Institute, Washington, DC, 2002.
- National Research Council, 10th Revised Edition, 1998: www.nap.edu/books/0309059933/html/index.html
- Zoonosis : <http://www.research.cornell.edu/care/zoonoses.html>

- Allergens Prevention:
[http://www.research.cornell.edu//CARE/documents/OHS/AllergyPreventionFact Sheet.pdf](http://www.research.cornell.edu//CARE/documents/OHS/AllergyPreventionFactSheet.pdf)
- CARE 538 Vermin Control:
http://www.research.cornell.edu.care/documents/SOPs/CARE_538.pdf
- CARE 707 Animal Related Injury:
<http://www.research.cornell.edu/care/documents/SOPs/CARE707.pdf>
- CARE 713 Hygiene-Hand Washing:
<http://www.research.cornell.edu/care/documents/SOPs/CARE713.pdf>
- CARE 715 Personal Protective Equipment:
<http://www.research.cornell.edu/care/documents/SOPs/CARE715.pdf>

Written by/date :
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January 19, 2004

Effective date :
August 2004

Review date :
Jan. 2009

Referee:
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SOP :
CARE517.01