POULTRY HUSBANDRY

1. PURPOSE

1.1. The purpose of this Animal Care and Use Procedure (ACUP) is to describe the routine husbandry procedures and preventative animal health care at Cornell University poultry facilities. This ACUP is approved by the Cornell Institutional Animal Care and Use Committee (IACUC). Any deviation must be approved by the IACUC prior to its application.

2. SCOPE

2.1. This ACUP is intended for use by poultry facility staff and Center for Animal Resources and Education (CARE) at Cornell University staff.

2.2. For duck care, refer to ACUP 550 Duck Husbandry and Preventative Health Program.

3. INTRODUCTION

3.1. The purpose of this ACUP is to describe the basic procedures required for routine husbandry of poultry and to detail the preventative animal health care program utilized to reduce the risk of communicable disease in poultry at Cornell University’s teaching and research facilities. Please see facility SOPs for specific husbandry procedures.

3.2. Contact CARE at care@cornell.edu for more information or for assistance.

4. MATERIALS AND EQUIPMENT

4.1. Personal protective equipment (PPE). See facility SOPs for details.

4.2. Wing tags / bands

4.3. Feed and water

4.4. Enrichment devices (perches, cable ties, nest boxes, forage mats, etc.)

4.5. Animal housing enclosures (e.g., suspended cages, bedded pens with litter, or transport crates)

4.6. Other husbandry supplies (e.g., disinfectant, scissors, electric debeaker, CO₂)

4.7. Applicable vaccines
5. PROCEDURES

5.1. Human Health Status

5.1.1. Employees that are showing or feeling any flu-like symptoms should not have contact with poultry. Contact the facility manager to determine if and when poultry facilities can be accessed.

5.2. Observation of Animals

5.2.1. Follow facility specific biosecurity precautions.
5.2.2. Follow facility room order. Typically, attend to youngest birds first, oldest birds last.
5.2.3. Observe all animals for illness, injury and general health daily, including weekends and holidays.
5.2.4. Report any abnormalities, injuries, or illnesses to the facility manager or facility veterinarian. Refer to ACUP 607 Reporting Sick Animals.

5.3. Animal Identification Methods

5.3.1. Identify individual birds by applying wing tags/bands. If animals are identified by cage level or treatment group rather than as individuals, the cage or treatment group should be clearly and appropriately identified.

5.4. Records and Documentation

5.4.1. Refer to ACUP 542 Maintaining Health and Procedure Records for Research and Teaching Animals.

5.5. Food and Water

5.5.1. Feed animals to meet current National Research Council recommendations for poultry nutrition, accounting for breed and age
5.5.2. Store and deliver feed ingredients and finished feed in a manner that minimizes contamination and spoilage (e.g., sealed bags off of floors or open bags in sealed containers).
5.5.3. Offer potable water at all times and check water daily for cleanliness. Flush nipple waterers once per week. Clean and refill battery chick water trays once daily.

5.6. Breeding Program

5.6.1. Breed via natural service or artificial insemination.
5.6.2. If possible, maintain species-specific optimal sex ratios for breeder housing. The optimal sex ratio in the chicken breeding pens is approximately one rooster to ten hens. Optimal quail breeding ratio is one cock to seven hens.
5.7. Social and Environmental Enrichment

5.7.1. Ensure that all animals are housed within visual, auditory, and olfactory contact with conspecifics. When possible, cohouse animals in compatible groups.

5.7.2. Provide at least one environmental enrichment device for singly-housed birds (perches, cable ties, nest boxes, forage mats, etc.).

5.8. Pest Control

5.8.1. Refer to ACUP 538 Vermin Program for a description of the vermin control program in agricultural facilities.

5.9. Housing

5.9.1. House chickens indoors with bedded, group-housed pens, or in suspended cages.

5.9.2. Space requirements:

5.9.2.1. Provide pens and cages that are species appropriate for the size and number of poultry housed.

5.9.2.2. For agricultural facilities, refer to the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, 2010.

5.9.2.3. For biomedical facilities, refer to the Guide for the Care and Use of Laboratory Animals, 2011.

5.10. Cleaning and Sanitization of Pens and Cages

5.10.1. Suspended cages with paper waste collection: remove soiled paper once to twice per week, depending on weather and humidity.

5.10.2. Suspended cages without waste collection: scrape &/or hose waste collection twice monthly.

5.10.3. Bedded pens, agricultural facilities: check daily, remove wet litter and add clean shavings. Remove litter from under the roosts every two weeks. For pit manure facilities, perform complete litter removal once per year.

5.10.4. In between groups of birds, clean and disinfect primary enclosures by exposure to an appropriate disinfectant (e.g., quaternary ammonium or halide, or peroxygen based compounds).

5.11. Cleaning and Sanitization of Equipment

5.11.1. Maintain all animal-related equipment so that it is free of visible biological material.

5.11.2. Thoroughly clean and sanitize all animal-related equipment prior to the addition of new birds.

5.12. Transportation

5.12.1. Transport birds in commercial poultry boxes in accordance with ACUP 547 Animal Transport Outside Animal Facilities.
5.13. Waste Management

5.13.1. Dispose of manure, soiled papers, litter, and unusable eggs via Cornell Farm Services.


5.14.1. Incoming Chickens:

5.14.1.1. Maintain a closed flock whenever possible. If outside birds are required, acquire as hatchlings from approved vendors (e.g., ISA North America: *Salmonella pullorum* negative). Obtain parental health history prior to introducing hatchlings. Confirm that the flock’s pathogen status is consistent with the destination facility requirements.


5.14.2. Incoming Quail:

5.14.2.1. Obtain quail eggs from flocks established to be *Salmonella pullorum* negative.

5.14.2.2. Place hatchlings in a room separate from the other facility birds.

5.15. Chick Husbandry Management

5.15.1. Chickens:

NOTE: Only trained staff are authorized to conduct decombing and beak trimming.

5.15.1.1. Decombing (dubbing): Remove the small protruding comb with a pair of dedicated and clean scissors, with the bird safely restrained manually. Perform this procedure on chickens 0-7 days old.

5.15.1.2. Beak Trimming: Manually restrain the bird and trim beak with an electric debeaker. This procedure is typically performed at 3 days of age, and not later than 10 days of age.

5.15.2. Quail:

5.15.2.1. No potentially painful or distressful procedures are performed.

5.16. Infectious Disease Prevention

NOTE: The following vaccination schedule covers production flocks only. For non-production flocks, follow facility SOPs and / or IACUC approved protocols for infectious disease prevention strategies.
5.16.1. Infectious Bronchitis and Newcastle Disease Prevention:

5.16.1.1. Administer polyvalent Infectious Bronchitis and Newcastle vaccine, per label instructions for coarse spray, to chicks at:

5.16.1.1.1. 2 weeks of age (e.g., Combovac-30® Merck and Triplevac® Merck or Newcastle-Bronchitis Vaccine Zoetis and Newcastle Disease Vaccine Zoetis),
5.16.1.1.2. 8 weeks of age (e.g. Combovac-30® Merck or Newcastle-Bronchitis Vaccine Zoetis and Newcastle Disease Vaccine Zoetis)
5.16.1.1.3. 12 weeks of age (e.g., Triplevac® Merck or Newcastle-Bronchitis Vaccine Zoetis and Newcastle Disease Vaccine Zoetis).

5.16.2. Coccidia (for floor pen birds):

5.16.2.1. 4 days of age, spray Coccidia vaccine (Coccivac ®, Merck) on feed once.

5.17. Euthanasia and Disposal of Dead Animals

5.17.1. Euthanize individual chickens and quail as per ACUP 308 Avian Euthanasia.
5.17.2. Dispose of dead animals through Cornell University’s College of Veterinary Medicine (CVM) waste management facility or via a commercial disposal service.
5.17.3. Assure carcass pick-up at least once weekly if birds are not frozen.
5.17.4. If PI necropsy or tissues are required, place the bird in a plastic bag, label with pertinent information, refrigerate the carcass separate from general disposal carcasses, and notify PI staff for pickup.

6. PERSONNEL SAFETY

6.1. Medical Emergencies: CALL 911.
6.2. When working with animals wear appropriate PPE, observe proper hygiene, and be aware of allergy, zoonosis, and injury risks. Refer to the CARE Occupational Health and Safety webpage for more information.

7. ANIMAL RELATED CONTINGENCIES

7.1. Post contact information for emergency assistance in a conspicuous location within the animal facility.
7.2. Emergency veterinary care is available at all times including after working hours and on weekends and holidays:

7.2.1. Biomedical Settings: CARE (pager 1-800-349-2456)
7.2.2. Farm Animal Settings:

7.2.2.1. Ambulatory and Production Medicine Service at (607) 253-3140.
7.2.2.2. Cornell Animal Health Diagnostic Center at (607) 253-4031.
7.3. Non-emergency veterinary questions & requests for care, email CARE veterinary staff at care@cornell.edu.

8. REFERENCES


8.2. Guide for the Care and Use of Laboratory Animals, 2011; National Research Council:
http://books.nap.edu/openbook.php?record_id=12910&page=R1

8.3. National Research Council Recommendations for Poultry Nutrition, 1994:
http://www.nap.edu/openbook.php?isbn=0309048923

8.4. US Poultry and Egg Association: Cleaning and Disinfection of Premises:

8.5. ACUP 308 Avian Euthanasia:
http://ras.research.cornell.edu/care/documents_k/ACUPs/ACUP308.pdf

8.6. ACUP 538 Vermin Program:
http://ras.research.cornell.edu/care/documents_k/ACUPs/ACUP538.pdf

8.7. ACUP 542 Maintaining Health and Procedure Records for Research and Teaching:
http://ras.research.cornell.edu/care/documents_k/ACUPs/ACUP542.pdf

8.8. ACUP 607 Reporting Sick Animals:
http://ras.research.cornell.edu/care/documents_k/ACUPs/ACUP607.pdf

8.9. CARE Occupational Health and Safety webpage:
http://ras.research.cornell.edu/care/OHS.html

9. APPENDIX

9.1. None

10. HISTORY

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