1. PURPOSE

1.1. The purpose of this Animal Care and Use Procedure (ACUP) is to describe the routine husbandry and preventative health procedures at the Cornell University Duck Research Laboratory. This ACUP is intended for trained personnel using or caring for ducks at the Duck Research Laboratory. 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 document applies to all duck users at Cornell University.

3. INTRODUCTION

3.1. The purpose of this ACUP is to describe the basic procedures required for routine duck care. Contact the Center for Animal Resources and Education (CARE) at Cornell University by emailing care@cornell.edu for more information or for assistance.

4. MATERIALS AND EQUIPMENT

4.1. NA

5. PROCEDURE

5.1. Animal Care

5.1.1. Observe and care for animals daily, including weekends and holidays. Emergency veterinary care is available at all times through the veterinary staff of the Duck Research Laboratory.

5.1.2. Animal Identification
5.1.2.1. Identify ducks by building and pen numbers. For experimental ducks, use web cutting to identify individual animals.

5.1.3. Records and Documentation

5.1.3.1. For record keeping requirements, refer to ACUP 542 Maintaining Health and Procedure Records for Research and Teaching Animals.

5.1.4. Feeding Routine

5.1.4.1. Feed ducks to meet current National Research Council recommendations for duck nutrition. Store and deliver feed ingredients and finished feeds so that contamination or spoilage is minimized.

5.1.4.2. Ensure that water is available to all ducks at all times. Check water daily for cleanliness.

5.1.4.3. Ensure that permanent watering devices are available and in working order.

5.1.4.4. To ensure water is suitable for animal consumption, have the water tested annually to assure it is free of coliform contamination.

5.1.5. Breeding Program

5.1.5.1. Breed ducks naturally by placing ducks in the breeding pens at a sex ratio of one drake to five hens.

5.1.6. Enrichment

5.1.6.1. House ducks to provide visual and physical contact with one another.

5.2. Animal Health

5.2.1. Vaccination Program

<table>
<thead>
<tr>
<th>Animal</th>
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<tr>
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<td><em>E. coli – Riemerella anatipestifer</em> bacterin</td>
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5.2.2. Potentially Painful or Distressful Procedures

NOTE: Use trained professional staff to conduct the following procedures:

5.2.2.1. Web Cutting

5.2.2.1.1. Perform web cutting only on ducklings at 3 to 10 days of age.

5.2.2.1.2. Restrain the duckling gently by hand and make a 0.5- to 1-cm cut in the web between two digits. Ensure blood vessels are avoided to reduce the risk of bleeding.
5.2.2.2. Bill Trimming

5.2.2.2.1. Trim the tip of the upper bill in ducklings at 1 day of age.
5.2.2.2.2. Hold the duckling gently in one hand while the distal tip of the bill is placed into contact with the surface of the heated blade of an electric beak trimmer for approximately 2 seconds.

5.2.2.3. Induced Molting

5.2.2.3.1. Induce molting a maximum of one time per bird by discontinuing all artificial light and preventing access to feed for approximately 3 days. Do not restrict access to water. Remove and euthanize all sick or emaciated birds prior to inducing molting.

5.2.2.4. Euthanasia and Disposal of Dead Animals

5.2.2.4.1. Euthanize ducks by CO2 inhalation as per ACUP 308 Avian Euthanasia.

NOTE: Conduct euthanasia with trained and experienced staff only.

5.2.2.4.2. Dispose of dead animals by rendering through a commercial company.

5.2.3. Pest Control

5.2.3.1. Follow ACUP 538 Vermin Program.
5.2.3.2. Do not use chemicals or pesticides. Use mechanical means (e.g., trapping) and visual observation of vermin activity.

5.3. Facilities

5.3.1. Housing

5.3.1.1. House ducks in barns with bedded pens, indoor/outdoor pens or in cages or pens with suspended flooring.
5.3.1.2. Use pens and cages that are appropriate for the size and number of birds being housed, meeting or exceeding recommendations set in the Guide for the Care and Use of Agricultural Animals in Research and Teaching (2010 edition).

5.3.2. Sanitization

5.3.2.1. Following cleaning, use one of the following:

5.3.2.1.1. Quaternary ammonium compound, dilute as per manufacturer’s recommendations.
5.3.2.1.2. Sodium hypochlorite, 6 oz. of household bleach per gallon water.
5.3.2.1.3.  Iodine, 2 oz. iodine solution per gallon of water.

5.3.2.2.  Pens and Cages

5.3.2.2.1.  Suspended cages – Flush non-bedded pens and cages daily.
5.3.2.2.2.  Bedded pens – Remove wet litter twice weekly or as it becomes grossly soiled. Add clean straw after removal of old bedding. At the end of each laying cycle, completely remove all litter.

5.3.2.3.  Equipment

5.3.2.3.1.  Clean equipment when grossly soiled.
5.3.2.3.2.  Clean and disinfect equipment at the end of each group cycle (about 6–7 months) along with sanitization of the barns.

5.3.3.  On-site Transportation

5.3.3.1.  Coordinate transportation during best weather conditions available.
5.3.3.2.  Use ramps to walk ducks into open trailer.
5.3.3.3.  Transport birds in trailer.

5.3.4.  Waste Management

5.3.4.1.  Compost soiled litter.
5.3.4.2.  Flush non-bedded pens and cages either into a septic tank or into a manure handling system that consists of a settling pit and an open-air sump.

6. PERSONNEL SAFETY

6.1.  Medical Emergencies: CALL 911.
6.2.  Contact Cornell Environmental Health and Safety at https://sp.ehs.cornell.edu/Pages/Home.aspx or call (607) 255-8200 for concerns regarding the use of chemical agents.
6.3.  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.  Non-emergency veterinary questions and requests for care, email CARE veterinary staff at care@cornell.edu.
7.3.  Emergency veterinary care is available at all times including after working hours. Refer to facility SOPs and postings for contact details.
8. REFERENCES


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

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

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

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

8.7. AVMA Guidelines for the Euthanasia of Animals, 2013 Edition:

9. APPENDIX

9.1. None

10. HISTORY

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<td>New Issued – Original Author: R. Corey, J. Peralta; Referee: Dr. J. Ruiz</td>
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