

UC Davis Office of the Attending Veterinarian Standards of Care

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Title: Husbandry Care of Poultry, Fowl and Quail

I. Purpose:

The purpose of this policy is to outline the minimum standards of care for poultry, fowl and quail.

II. Policy:

All units providing care for chickens, fowl and quail must meet or exceed these minimum requirements which are based on the *Guide for the Care and Use of Agricultural Animals in Research and Teaching* (the Ag Guide). Poultry, fowl and quail used in biomedical research and non-standard Ag practice teaching must additionally meet the requirements in the *Guide for the Care and Use of Laboratory Animals*, current edition.

III. Procedure:

Daily:

(365 days a year without exception)

Check each cage and observe each animal for health problems. Consult with a clinical veterinarian for other health concerns or if potential flock health issues are observed. Check room lights and record minimum/maximum room temperature and record on room log sheet. Spot clean pens. Feed birds ad-lib a complete commercial brand of feed suitable for bird age, species, genetic background, and breeding status. Examine automatic waterers to ensure they are operating properly and check all reservoir systems (such as water pans and jar fonts) to ensure that all birds have access to water. Waterers should be examined at least once per day to ensure they are in good working condition.

Weekly:

Scrape and remove feces from cage. Scrape/brush/clean feeders and waterers (such as troughs with continuous flow water systems). Clean standing watering troughs with a detergent. Perform regular housekeeping duties such as footbath cleaning and sweeping. Scatter oyster shells on the feed for any hens older than one year of age that are showing egg shell thinning.

Cleaning Rooms and Cages:

Cages and floor pens are cleaned and disinfected at the end of studies, when all birds are removed from the room for study purposes, and natural break points in animal care and use

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research protocols. Clean animal room walls and cages. Clean floors of conventional poultry housing. Typically this is done twice a year for chickens housed on the floor and for quail rooms, and annually for chickens in hanging cages. Refer to SC policy 50-103 regarding the testing for Quality Assurance and Monitoring of washed cages.

Facilities and Environment

The facility should be maintained in such a way as to allow the birds to keep themselves clean and free from predators, prevent bird escape and entrapment, and avoid unnecessary accumulation of bird waste. Air quality and the thermal environment should be maintained by ventilation, cooling, and heating to provide birds with the right environmental conditions for their age and time of the year.

Floors should be moisture-resistant, nonabsorbent, impact-resistant, and relatively smooth. Animal housing floors should be non-slip. Handling areas should have good drainage.

Birds should be housed so that the primary enclosure requirements meet the general needs of individual or group maintained birds. This will be based on species needs, age, behavior, and goals of the study.

Husbandry

Provide 12-16 hours of light. Control heating and air in rooms in a manner that supports species specific needs, and will allow birds to acclimate and adapt to thermal environmental changes. Routinely monitor bird's appearance, behavior, and fecal output. Chicks may be started on longer days (23 hours of light) to help ensure they acclimate properly to feeders and waterers. Check toenails and beaks, trim as needed.

Caging:

Chickens should have sufficient freedom of movement to be able to turn around, get up, lie down, and groom themselves. Cages should be tall enough to allow the birds to stand comfortably without hitting their heads on the top of the cages. Cage door should be wide enough to allow for the easy removal of birds. Caging must be in good condition and cage floors should be solid with litter or raised wire floors of appropriate gauge and mesh dimensions. Accumulated droppings should not be permitted to reach caged birds, and should be removed at intervals frequent enough to keep ammonia and odors to a minimum.

Caging Space: Refer to the Guide or Ag Guide for cage space requirements.

<http://www.fass.org/docs/agguide3rd/Chapter09.pdf>

Social housing should be considered the default for housing animals according to the IACUC policy on Social Housing of Social Species.

Floor Pens:

Husbandry practices that maintain proper litter conditions should be used. Type of litter material and the difference in ability to absorb and release water will determine best husbandry practice. All litter being stored for future use should be kept dry and free of vermin.

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Floor pens with wood shaving litter are used for rearing meat chickens from hatch to harvest (usually 6 weeks). The room and pens are cleaned and disinfected and allowed to dry before the chicks are placed.

Shavings may be turned over weekly if the research project allows, and wet shavings (near the water sources) are removed and replaced regularly, as with commercial meat bird operations.

When the birds are harvested, the litter and manure is stripped and disposed of, and the pens and rooms are washed and disinfected.

Young white Leghorn/egg-layer type chickens are also typically reared on wood shavings. They may be reared from day of hatch, or, as some research facilities may do, birds are reared in brooding units for four to six weeks before moving to floor pens and wood shavings. The roosters may be removed at a young age (12 to 14 weeks) to the adult bird cages, but hens are typically left to grow in the floor pens until approaching time of first lay 19 to 23 weeks of age. Care and maintenance of pens are the same as with meat chickens.

When the birds are removed, the pen is scraped and the shavings and dried manure is disposed of. Pens that share open sides are washed and disinfected in groups when they have all been emptied.

Free Range Housing:

During inclement weather or for health-related reasons, birds should remain indoors or shelters until such conditions are improved. Fence height and fencing material should be of appropriate mesh size to retain domesticated poultry and prevent predator entry. Overhead fine netting, as used for game birds, can be used to protect domestic poultry from wild avian predators and minimize disease transmission from wild species to domesticated poultry. Free-ranged birds without access to a permanent building should have covered shelters that provide shade, protection from inclement weather, litter, food, and water. All range, veranda, or any other type of outdoor access should be managed so that birds are protected from potential predators.

Brooding Temperatures and Ventilation:

Because young chicks cannot maintain body temperature under conditions considered normal for adult birds, higher environmental temperatures are required during the brooding period. These can be achieved using either warm room brooding (adding heat to the entire room) or a localized heat source (such as a heat lamp or brooding unit).

Warm Room brooding:

The room temperature should be kept at approximately 85°F for the first week, with close observation of chick behavior that might indicate overheating or chilling; make room temperature changes in response to the behaviors observed. Decrease the room temperature by approximately 5°F each week until birds are at target temperature, which is approximately 70°F.

Cool Room Brooding/Localized heat Source (brooding lamp/brooding unit):

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The brooding room should be kept at approximately 70°F, but chicks should have access to a heat source; which should maintain a temperature beneath the heat source of approximately 95°F at chick level for the first week, decreased by 5°F each week for 4 weeks or until ambient temperature is reached.

Floor Area and Space Utilization:

Space allocation should be based on type of housing, type of bird, and body weight. Refer to Table 9-9 and 9-10 in the Ag Guide for specific recommendations.

<http://www.fass.org/docs/agguide3rd/Chapter09.pdf>

Semen Collection and Artificial Insemination:

Breeder males and females are usually housed separately, and should be acclimated to handling and the insemination process. Careful and calm handling of the birds is needed to prevent injury and facilitates success of the collections. Cloacal strokes should be limited to 4 to avoid damage to the cloacal tissues. Semen should be placed into the everted cloaca and exposed opening to the vagina with an insemination straw, a small syringe, or a pipette tip. Depth of insemination varies with species. Reusable insemination equipment should be cleaned and sanitized between uses.

Standard Agricultural Practices:

Beak trimming: is performed by a beak trimming unit and should be performed at 10 days of age or earlier. The blade temperature is used at the proper temperature setting, and the beak can be cut with the trimmer blade, or the tip of the beak can be pressed against the surface of the hot blade to lightly sear the tip of the upper and lower beak, removing the sharp tip and retarding re-growth. Use of alternatives can prevent or reduce feather pecking or cannibalism, and should be used if possible. (i.e. low light intensity, enrichment devices). Partial comb removal (dubbing): May be needed in cage-kept birds of certain strains that have large comb growth. Use surgical scissors, scalpel blade, or electrocautery radiosurgery electrode during the first few day after hatching and trim the comb as close to the scalp as possible.

Induced Molting: Common procedures include; manipulation of dietary energy, protein levels, and dietary ingredients such as calcium, iodine, sodium, or zinc, and addition of free additives that influence the neuroendocrine system. Variation of the normal light cycle may also be used, such as 6-8 hrs/day of light for up to 2 months. Variation of light cycle and low protein or other non-feed-removal methods will be used.

Environmental Enrichment:

Refer to the Environmental Enrichment SC policy #34-102.

Appropriate substrate can facilitate both foraging and grooming behavior. Perches: When used, should be designed to allow hens to wrap their toes around the perch and to balance themselves evenly on the perch in a relaxed posture for an extended period of time. Perches should be positioned high enough above the floor to allow birds to grasp the perch without trapping their claws between the perch and the floor and to discourage the harboring of pests (such as mites). Edges should be smooth and round. Material should be non-slip. Should be ideally positioned to prevent manure accumulation, minimize fecal contamination of birds, drinkers, and feeders below; and so that it does not expose the birds to vent-pecking from other birds. Nests: Should be dark inside, constructed and maintained to

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protect hens from external parasites and disease organisms. They should be regularly inspected and cleaned as necessary. Nests should be provided with a suitable floor substrate that encourages nesting behavior.

Handling and Transport:

Proper training and development of skilled staff for catching and loading poultry is a necessity, to reduce leg and wing breakage, fear, and possible mortality. Special considerations such as poorly feathered birds vs. well feathered birds needs to be considered when transporting chickens, so proper transit conditions can be maintained or respected. The common procedure is manually loading poultry into commercial transport crates. Increased time in transit, feed and water deprivation, and fatigue, should be minimized since these factors may cause an increase in death and stress. Transit time should be kept to the minimum possible.

Identification:

Refer to the Identification of Animals Standard of Care

Quail Husbandry Care-All care and maintenance is same as caring for Chickens except where stated below:

See recommended floor space per quail (*Guide*, pg. 28) *each department must provide specific cage dimensions and number of animals to be housed*

<http://www.fass.org/docs/agguide3rd/Chapter09.pdf>

Caging must be in good condition, and no taller than 12 inches.

Transfer eggs to hatcher approximately 2-3 days prior to hatching

Beak cautery-trimming should be done at the time birds are placed in adult group housing (usually 4 to 5 weeks of age).

Duck Husbandry Care-All care and maintenance is same as caring for Chickens except where stated below:

Flooring should be litter or wide slat flooring, replacing litter weekly (Floor mats or tender foos should be used if no substrate is provided). Ducks should not be housed in wire bottom cages.

For specific information for flooring requirements and space needs see Ag guide

<http://www.fass.org/docs/agguide3rd/Chapter09.pdf>

Special Considerations: For animals that may enter the food chain, the policy on Quality Assurance - Drug Residues and Labeling of Drugs Used in Food Animals must be followed