Florida State University
Animal Care and Use Committee Guidelines

Policy for Use of Avian Embryos

All use of vertebrate animals in research, teaching and testing is regulated by the Institutional Animal Care and Use Committee (IACUC). Avian embryos that hatch (intentionally or unintentionally) are live vertebrate animals and are regulated by PHS Policy; therefore any project in which avians may hatch must have an approved Animal Use Protocol on file. While avian embryos are not considered live animals by U.S. regulatory agencies (*ILAR News.* 1991; 33(4):68-70, question #1.), there is a consensus in the scientific community that avian embryos greater than two-thirds of the way to hatching can experience pain. This is due to the fact that certain avian species (chickens, quail, etc.) are precocial[1] and are more advanced morphologically during development than altricial[2] species. Therefore, the following guidelines have been adopted:

1) Any intent to use avian embryos must be filed with the FSU IACUC via one of two methods.

a) Investigators that use embryos on or before day 17***** must submit to he IACUC a "Notice of Intent to Use Avian Embryos" (form below). No formal animal use protocol need be filed.

b) Studies using embryos on or after day 18 or hatchlings must be reviewed by the normal IACUC procedure for vertebrate animals via the IACUC Animal Use Protocol.

Species other than chickens or quail will be considered on a case-by-case basis.

2) Chick embryos younger than embryonic day 15 (E15) are assumed to be unable to experience pain. It is recommended that E14 or younger embryos be euthanized by hypothermia, typically by placing the eggs in a −20°C freezer (<4°C for 4 hr.). Death should be confirmed by decapitation or other suitable method (membrane disruption/maceration).

3) Chick embryos from E15 to E17 can experience pain and should be euthanized by decapitation or other rapid and humane method.

4) Embryos E18 and older must be euthanized by humane methods such as $C0_2$, anesthetic agents or decapitation. It should be noted that embryos and chicks up to 72 hr. old are resistant to $C0_2$. If this method is chosen, the embryos/hatchlings must be exposed to 90% $C0_2$ for at least 20 min. Dry ice is unacceptable as a source of $C0_2$ for euthanasia.

5) The IACUC recognizes that inadvertent hatching may occur. Investigators are asked to describe their methods for humane euthanasia of hatchlings.

***NOTE**: Chick embryos are considered the model species. If other avian species are used, then the guidelines should be adjusted based on relative time to hatching.

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[1] Precocial - Offspring able to locomote and feed or care for itself soon after birth/hatching. In birds, covered with down and able to move about soon after hatching.

2 Altricial - Young are born in a relatively underdeveloped state; they are unable to feed or care for themselves or locomote independently for a period of time after birth/hatching. In birds, naked and helpless after hatching.

Notice of Intent to Use Avian Embryos

I. Contact Information

Principal Investigator:
Department:
Project Title:
Building: Room: Mail code:
E-mail:
Phone: Fax:

II. Avian Embryo Use Summary

1) Avian Species:

2) Maximum Age(s) of Embryos For Use:

3) Method of euthanasia of chick embryos older than E14:

4) Age at which unused embryos will be discarded:

5) Procedures for humane euthanasia should hatching occur inadvertently:

6) Building and room number where avian embryo use will occur:

III. Investigator Assurances

I have read the FSU IACUC "Policy for Use of Avian Embryos" and agree to abide by it.

Signature Date