

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

KENT STATE UNIVERSITY

1. REGISTRATION NO. 31-R-0030	CUSTOMER NO. 224	FORM APPROVED OMB NO. 0579-0036
2. HEADQUARTERS RESEARCH FACILITY (Name and Address as registered with USDA, include Zip code) KENT STATE UNIVERSITY DIVISION OF RESEARCH & GRAD. KENT STATE UNIVERSITY 137 CARTWRIGHT HALL PO BOX 5190 KENT, OH 44242 (330)672-2704		

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3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, teaching, or experimentation, or held for these purposes. Attach additional sheets if necessary.)

FACILITY LOCATIONS(sites)

See Attached Listing

(b)(2)High, (b)(7)f

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets if necessary or use APHIS FORM 7023A)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used must be attached to this report)	F. TOTAL NO. OF ANIMALS (Cols. C + D + E)
4. Dogs	6	6			6
5. Cats	-----				-----
6. Guinea Pigs	-----				-----
7. Hamsters		371	141	160	672
8. Rabbits	-----				-----
9. Non-Human Primates	-----				-----
10. Sheep	-----				-----
11. Pigs	8	8			8
12. Other Farm Animals	-----				-----
13. Other Animals	-----				-----

ASSURANCE STATEMENTS

- 1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and following actual research, teaching, testing, surgery, or experimentation were followed by this research facility.
- 2) Each principal investigator has considered alternatives to painful procedures.
- 3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all the exceptions is attached to this annual report.
- 4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and use.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional official)

I certify that the above is true, correct, and complete (7 U.S.C. Section 2143)

DATE SIGNED

11/30/06

b6, b7c

Handwritten signature/initials

COLUMN E EXPLANATIONS

Protocol: 180 EM 05-08

Registration #: 31-4-0030

and Species of Animals: 160 Syrian Hamsters per year

This research project was categorized as category "E" pain level by the IACUC because it involves the euthanasia method of decapitation without anesthesia.

Description of Study: This project is designed to address the question of whether there are sex differences in the control of the body's daily biological clock. This clock is responsible for the timing of daily events, such as sleep and waking, body temperature, as well as for driving the normal cycle of reproductive hormones in females. The vast majority of research on this biological clock has been conducted exclusively using male animals. This project represents an attempt to compare daily clock function between males and females. There appear to be important differences in the timing of daily cycles depending on the state of the female reproductive cycle. This proposal examines behavioral rhythms, the location and expression level of estrogen receptors, and the effect of steroid hormones (estradiol) on daily rhythms of activity. If successful, this research will lead to a greater understanding of how female hormones influence the biological clock, and how males and females react differently to stimuli which affect the clock.

Scientific Justification: Decapitation without anesthesia is used in experiments in which gene expression levels are going to be quantitatively measured. Gene expression levels can change within seconds and can be altered by the administration of anesthetics. In these experiments, it is necessary to obtain a "snapshot" of the gene expression levels without interference from anesthesia or excessive handling of the animal. Decapitation is the most humane method for this procedure in hamsters.

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SUMMARY OF EXCEPTIONS:

The protocols listed below have cage changes slightly less frequently than normal due to the nature of the research (changed every 2 weeks). Fresh bedding is put in cages as needed on top of old bedding. Cage changing/cleaning has a dramatic phase-resetting effect on the circadian system.

177 JDG 05-05 "Neurologic Regulation of the SCN Circadian Clock"

Species: Syrian Hamsters

of Animals Affected: Approximately 134 over the course of a year with approximately 20-30 affected at one time

180 EM 05-08 "Sex Differences in Circadian Rhythm Regulation"

Species: Syrian Hamsters

of Animals Affected: Approximately 100 over the course of a year