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NOV 23 2004

This report is required by law (7 USC 2143) Failure to report according to the regulations can result in an order to cease and desist and to be subject to penalties as provided for in Section 2150

Set reverse side for additional information

Interagency Report Control No 0180-DOA-AN

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO. 13-R-0001

FORM APPROVED  
OMB NO. 0579-0036

ANNUAL REPORT OF RESEARCH FACILITY  
(TYPE OR PRINT)

2. HEADQUARTERS RESEARCH FACILITY (Name and Address, as registered with USDA Include Zip Code)

University of Vermont  
116 Hills Building  
Burlington, VT 05405

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)

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, research, 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 those 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			12		12
5. Cats					
6. Guinea Pigs		284		61	345
7. Hamsters					
8. Rabbits		69	49		118
9. Non-human Primates					
10. Sheep					
11. Pigs			55		55
12. Other Farm Animals					
Calves			5		5
13 Other Animals					
Amphibians		348	21		369
Gerbil		8			8
Peromyscus		22			22

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 such exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals affected.
- 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).

NAME & TITLE OF CEO OR INSTITUTIONAL OFFICIAL (Type or Print)

DATE SIGNED

8) which is obsolete



## Column E Explanation

This form is intended as an aid to completing the Column E explanation. It is not an official form and its use is voluntary. Names, addresses, protocols, veterinary care programs, and the like, are required as part of an explanation. A column E explanation must be written so as to be understood by lay persons as well as scientists.

1. Registration Number: Customer # 273, Certificate # 13 - R- 0001  
Protocol # 03-207.
2. Number 61 of animals used in this study.
3. Species (common name) Guinea pigs of animals used in this study.
4. **Explain the procedure producing pain and/or distress.** The purpose of this study is to study the interactions between the nervous system and the immune system that occur with inflammatory bowel disease. Inflammatory bowel disease is a chronic inflammatory disorder of the colon in humans characterized by diarrhea and severe abdominal pain. This study utilizes a guinea pig model for *in vitro* experiments involving analysis of intact layers of the colon. Alterations in colon reflex nerve pathways during inflammation and the responses of colon neurons are studied. The study is designed to establish what changes occur in neuronal circuitry in the colon during inflammation. The inflammation is produced by injecting 0.5 ml of the chemical agent trinitrobenzene sulphonic acid (TNBS) under anesthesia into the lumen of the guinea pig's colon by enema. The animals recover from anesthesia and undergo three days of suppressed food intake. Feeding frequency is not altered, only amount consumed. Animals are observed twice daily for five days followed by once daily for an additional five days. They are weighed daily post-TNBS until they have gained weight three days in a row. Any guinea pig losing >20% of body weight in a three-day period post-TNBS is euthanized. The guinea pigs also receive cyclooxygenase (COX 2) inhibitor subcutaneously to block prostaglandin formation and eliminate the protective effect of prostaglandins on the intestinal mucosa. With the described procedures, the guinea pigs develop mild inflammatory bowel disease, then recover and resume weight gains. The animals are euthanized over the next 3-56 days. Since these animals are developing inflammatory bowel disease which is painful in people, the UVM IACUC has insisted that this animal model be classified as an E level protocol.
5. **Provide scientific justification why pain and/or distress could not be relieved. State methods used to determine that pain and/or distress relief would interfere with test results.** The UVM IACUC insisted on the use of an analgesic agent when this model was first proposed and attempted at the University of Vermont. The analgesic agent buprenorphine decreased intestinal motility in this model resulting in increased TNBS residence time in the colon. Perforation of the colon occurred with secondary peritonitis and death of all six animals on the initial experiment. No useful research data were collected on inflammatory bowel disease from these animals. All six had evidence of TNBS in the peritoneal cavity. After observing the transient nature of the disease, the veterinarians recommended that the model be allowed without analgesic drug use, and that the protocol be classified as an E level protocol so that the study could proceed.
6. **What federal regulations require this procedure?** Not Applicable.

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO. 13-R-0009  
CUSTOMER NO. 265

FORM APPROVED  
OMB NO. 0579-0036

**ANNUAL REPORT OF RESEARCH FACILITY**  
(TYPE OR PRINT)

2. HEADQUARTERS RESEARCH FACILITY (Name and Address, as registered with USDA, include Zip Code)  
VERMONT TECHNICAL COLLEGE  
VERMONT TECHNICAL COLLEGE  
P O BOX 500  
RANDOLPH CENTER, VT 05061

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)

VERMONT TECHNICAL COLLEGE  
RANDOLPH, VT 05061

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, research, 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			10		10
5. Cats			11		11
6. Guinea Pigs		2			2
7. Hamsters					
8. Rabbits			6		6
9. Non-Human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals					
Horses			5		5
13. Other Animals					
Rats		14			14
Mice		28			28

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. In addition to identifying the IACUC-approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals affected.
- 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)

SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL	NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL (Type or Print)	DATE SIGNED
		11/29/2004

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. CERTIFICATE NUMBER: 13-R-0010  
CUSTOMER NUMBER: 9011

FORM APPROVED  
OMB NO. 0579-0036

**ANNUAL REPORT OF RESEARCH FACILITY**  
( TYPE OR PRINT )

Middlebury College  
Stss Department  
Middlebury, VT 05753

NOV 18 2004

Telephone: (802)-443-3262

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

FACILITY LOCATIONS ( Sites ) - See Attached Listing

**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 animal being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not ye used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use o 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 an 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 wh the use of appropriate anesthetic, analgesic, or tranquiliz drugs would have adversely affected the procedures. res or interpretation of the teaching, research, experiments, surgery, or tests. ( An explanation of the procedures producing pain or distress in these animals and the reas such drugs were not used must be attached to this report	F. TOTAL NUMBER OF ANIMALS  ( COLUMNS C + D + E )
4. Dogs					
5. Cats					
6. Guinea Pigs					
7. Hamsters					
8. Rabbits					
9. Non-human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals					
13. Other Animals					
Gerbils		36			36
Deer mouse		49			49

**ASSURANCE STATEMENTS**

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- 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 )

NAME & TITLE OF CEO OR INSTITUTIONAL OFFICIAL (Type or Print)

DATE SIGNED

11/11/04

(This is obsolete.)



### Column E Explanation

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1. Registration Number: 13-R-0010
2. Number 3 of animals used in this study.
3. Species (common name) Shrew of animals used in the study.
4. Explain the procedure producing pain and/or distress.

Animal death due to exposure is considered pain category "E". These mortalities occurred during the trapping

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results. (For Federally mandated testing, see Item 6 below)

Protocol 163A-03 "Small Mammal Trapping" is an approved field study teaching protocol in which Sherman live traps are used in capturing rodent sized mammals. These animals are then identified, assessed and released. All of the live traps used are set out at dusk, supplied with nesting material and a food source, and are checked within the 12 hour time period. Shrews tend to be a bit more sensitive to trapping. During this year, 3 shrews out of 13 were found dead.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9 CFR 113.102):

Agency \_\_\_\_\_ CFR \_\_\_\_\_

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1. Registration Number: 13-R-0010

2. Number 1 of animals used in this study.

3. Species (common name) Red Squirrel of animals used in the study.

4. Explain the procedure producing pain and/or distress.

Animal death due to exposure is considered pain category "E". This mortality occurred during the trapping.

5. Provide scientific justification why pain and/or distress could not be relieved. State methods or means used to determine that pain and/or distress relief would interfere with test results. (For Federally mandated testing, see Item 6 below)

Protocol 163A-03 "Small Mammal Trapping" is an approved field study teaching protocol in which Sherman live traps are used in capturing rodent sized mammals. These animals are then identified, assessed and released. All of the live traps used are set out at dusk, supplied with nesting material and a food source, and are checked within the 12 hour time period. During this year, 1 red squirrel was found dead.

6. What, if any, federal regulations require this procedure? Cite the agency, the code of Federal Regulations (CFR) title number and the specific section number (e.g., APHIS, 9 CFR 113.102):

Agency \_\_\_\_\_ CFR \_\_\_\_\_

DEC 07 2004

This report is required by law (7 USC 2143). Failure to report according to the regulations can result in an order to cease and desist and to be subject to penalties as provided for in Section 2150.

See reverse side for additional information.

Interagency Report Control 0180-DOA-AN

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO.

FORM APPROVED  
OMB NO. 0579-0036

2. HEADQUARTERS RESEARCH FACILITY (Name and Address, as registered with USDA, include Zip Code)

VA Headquarters  
810 Vermont Avenue, NW  
Washington, DC 20420

ANNUAL REPORT OF RESEARCH FACILITY  
(TYPE OR PRINT)

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)

VA Medical and Regional Office Center  
Research and Development Service/ARF/B44  
215 North Main Street  
White River Junction, VT 05009-0001

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

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4. Dogs					
5. Cats					
6. Guinea Pigs					
7. Hamsters					
8. Rabbits	0	7			7
9. Non-human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals					
Mice	686	1895	2	10	1907
13. Other Animals					
Rats	22	89			89
Mice	686	1895	2	10	1907

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.
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SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL

NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL (Type or Print)

DATE SIGNED

11/2/04

UNITED STATES DEPARTMENT OF AGRICULTURE  
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

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4. Dogs					
5. Cats					
6. Guinea Pigs					
7. Hamsters					
8. Rabbits	0	7			7
9. Non-human Primates					
10. Sheep					
11. Pigs					
12. Other Farm Animals					
Mice	686	1895	2	10	1907
13. Other Animals					
Rats	22	89			89
Mice	686	1895	2	10	1907

ASSURANCE STATEMENTS

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**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)

SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL

NAME AND TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL

DATE SIGNED

11/4/04