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This report is required by law (7 U.S.C. 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.		Interagency Report Control No. 0180-DOA-AN
UNITED STATES DEPARTMENT OF AGRICULTURE ANIMAL AND PLANT HEALTH INSPECTION SERVICE		1. REGISTRATION NUMBER 82-G-0001
ANNUAL REPORT OF RESEARCH FACILITY (TYPE OR PRINT)		2. HEADQUARTERS RESEARCH FACILITY (Name, address, and telephone number as registered with USDA, include ZIP Code) RANGE SHEEP PRODUCTIONS EFFICIENCY RESEARCH 19 Office Loop DUBOIS, ID 83423
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)

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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 on these animals and the reasons such drugs were not used must be attached to this report.)	F. TOTAL NUMBER OF ANIMALS (Cols. C + D + E)
4. Dogs	0	0	0	0	0
5. Cats	0	0	0	0	0
6. Guinea Pigs	0	0	0	0	0
7. Hamsters	0	0	0	0	0
8. Rabbits	0	0	0	0	0
9. Non-human Primates	0	0	0	0	0
10. Sheep	2354	938	0	0	938
11. Pigs	0	0	0	0	0
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 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 provisions 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 (C.E.O.) or Legally Responsible Institutional Official (I.O.))

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

	DATE SIGNED 13-FEB-2018
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Category E Explanation

Explanation of the procedures producing pain and/or distress:

Reduced water quality in 5th use water systems places fish in a suboptimal environment where the water contains reduced saturated oxygen levels, increased carbon dioxide, increased ammonia concentrations, and increased levels of particulate matter, compared to systems where the water has been used less frequently.

Description of the potentially painful conditions:

Reduced performance in fish raised in 3rd or higher-passage water is common in commercial rainbow trout culture, and we are looking at ways to improve fish performance and water quality under specific experimental treatments, such as replacement of fishmeal with barley protein concentrate. Fish in flow-through raceway systems are normally moved from 1st use (higher water quality) to 5th use (lower water quality) water over a period of several months as they grow. Our laboratory has developed a procedure where 3rd use water fish are acclimated to 5th use water by slowly introducing 5th use water into the system over a 2-week period until a complete replacement is achieved. Most fish did not show any signs of significant stress (e.g., gasping or erratic swimming behavior) or increased mortality that typically occurs a few days following transfer when no acclimation is provided. However, some were identified that did meet these criteria, and this subpopulation has been reported in Column E.

Scientific or regulatory justification why pain and/or distress could not be relieved:

Currently, there are limited options of effective analgesics, anesthetics, and/or tranquilizers available for administration to fish. The administration of these drugs would not have provided satisfactory relief for the signs of distress that were observed and may have contributed to a higher death loss by interfering with normal swimming and respiration. Humane endpoints were established, and fish identified in advanced distress were removed from study by transferring them to another tank with 3rd use water. Those that were severely affected were humanely euthanized.

04 DEC 2017