

Column E Explanation

This form is intended as an aid to complete the Column E explanation. It is not an official form and its use is voluntary. Annual Reports and explanations should NOT include PII information such as names (principle investigators and research staff), addresses, protocols, meeting notes (either in part or in full), the animals room numbers, grant information, veterinary care programs, and the like. A Column E explanation must be written so as to be understood by lay person as well as scientists.

1. Registration Number: 65-G-0001; Customer ID Number 334027
2. Number 3990 of animals used in this study.
3. Species (common name) of animals used in this study: blue, channel and hybrid catfish.
4. Explain the procedure producing pain and/or distress. Explanations should include a brief description of the procedure, but also explain what the animal's experience, examples of which may include, but are not limited to: Neurological signs, seizures, tremors, paralysis, lethargy, inappetence, respiratory signs, G.I. distress, vomiting, and diarrhea.

Fish were challenged with pathogenic bacteria (*Edwardsiella ictaluri* – ESC) in an immersion bath. As a result of the bacterial challenge, some fish may experience distress due to changes in respiration and/or in the cutaneous osmoregulatory process. Holding units are checked daily and any fish showing visual signs of swimming incoordination, lack of proper buoyancy, general lethargy, or that are otherwise displaying abnormal behaviors consistent with a moribund condition are humanely euthanized with an approved anesthetic. This subpopulation of susceptible fish is reported in column E.

5. Attach or include with the reason(s) for why anesthetics, analgesics and tranquilizers could not be used. (For federally mandated testing, see Item 6 below).

Fish are challenged with bacterial pathogens (*Edwardsiella ictaluri* – ESC) to identify the genome locus responsible for resistance/susceptibility and to enable selection of animals with improved disease resistance for our breeding program. Susceptible individuals cannot be accurately identified until the disease process has advanced to the point where some fish in the population are moribund. Drug intervention to eliminate distress is contraindicated because it interferes with the natural disease process, which requires the ability to quantify the immune response/heritable resistance of fish that are naturally resistant for use in the selection process. There is no alternative to the use of live fish as yet to evaluate inherent resistance of certain lines of catfish to ESC.

Note: No exceptions to the regulations and standards were requested by the PI or approved by the IACUC.

6. What, if any, federal regulation 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): N/A

Agency _____ CFR _____

DEC 01 2016