

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 not 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: 74-R-0108
2. Number 44 of animals used in this study.
3. Species (common name) Feral Swine of animals used in this study.
4. Explain the procedure producing pain and/or distress.
 - 1- Feeding warfarin bait
 - 2- Intramuscular injection of anesthetics.
 - 3- Fasting for 12-24 h.
 - 4- Euthanasia by gunshot in the head
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.)
 - 1- Feeding warfarin bait: The objective and focus of this study were to test the kinetic of active compounds (i.e. warfarin and the blue dye) of a commercial bait for feral hogs. In other words, the goal was to determine how fast the blue dye appears in the tissues relative to that of warfarin (i.e., the poison). The blue dye is used in the bait to warn the hunters that pray tissue contains warfarin. Thus, feeding the bait was imperative for the conduct of this study. We fortified the hog's diet with vitamin K to reduce the negative effect of warfarin. Also we used a low dose of warfarin for this study. We did not see any clinical symptoms of warfarin poisoning in this study.
 - 2- Intramuscular injection of anesthetics: Feral hogs are very aggressive animals. Restraining feral hogs with a snare, rope, or other restraint is almost impossible, and brings great risks for handler safety and is very stressful for the animals. Thus, the animals needed to be anesthetized to reduce the stress of processing/transfer for the animals and to allow safe handling by the personnel.
 - 3- Fasting for 12-24 h: we needed to fast the animals to ensure that the hogs will fully consume the bait allowance.
 - 4- Euthanasia by gunshot in the head: Feral hogs are very aggressive animals. Therefore, the safest and most humane way to euthanize them is the gunshot in the head.
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 USDA CFR _____

Exemptions Approved by Texas Tech University's IACUC
Registration Number: 74-R-0108

- Protocol 17013-02: 6 Calves
 - Individually housed following surgery to minimize contamination and trauma to the incision site.
- Protocol 16074-08: 6 Swine
 - During consumption studies, pigs may need to be individually housed to monitor individual ethanol consumption. Individual consumption is the only way to know how much the pig is drinking and if our therapeutics have an affect on consumption. Pigs will be group housed anytime they can be (i.e. behavior studies).
- Dog Colony protocols: 28 Dogs
 - Colony dogs may be singly housed only if they are found to not be social compatible with other dogs in the cohort for the dog's safety, after attempting pair-housing. Dogs are introduced on leash slowly and signs of aggression are observed to find matched. If a match is found, they will be housed together for a brief observation period and separated if engage in fighting. If dogs are single housed due to incompatibility, they will be given parallel walks with other dogs and still participate in group classes. Dogs may also have group playtime under supervision with compatible conspecifics.
- Protocol 18033-04: 6 Dogs (This is not 6 new animals, but are included in the number above.)
 - Single housing to ensure the feces is from the correct individuals.
- Protocol 18007-01: 23 Swine
 - Single housing for sows in farrowing crates to protect the piglets.
 - Space requirements exempted to follow The Ag Guide for industry standard farrowing crates to protect piglets.
 - Sows are meal-fed once or twice daily to meet NRC nutritional requirements using ag industry standard practices. Pigs may be fasted overnight up to 24h prior to euthanasia to remove digestive contents from the intestine.
 - Allow radios to be used for enrichment purposes.
- Protocol 18028-02: 44 Feral Swine
 - Single housing for swine due to experimental design.

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1. Registration Number: 74-R-0108
2. Number 23 of animals used in this study.
3. Species (common name) Swine of animals used in this study.
4. Explain the procedure producing pain and/or distress.

Pigs are challenged with the allergen to assess whether they have the allergic reaction or not, and if they do, then what is the extent of this allergic reaction. The allergic reaction is monitored using a previously published scale:

0 = no signs; 1 = immobility, lethargy, malaise, 2 = scratching, rash, coughing, gagging, stomach contractions; 3 = diarrhea, emesis; 4 = increase in respiratory rate, neck extension; 5 = forced expiration; 6 = confluent cutaneous reddening, cyanosis, anaphylaxis (*Rupa et al., Vet Immunol Immunopathol. 2008 Oct 15;125(3-4):303-14. doi: 10.1016/j.vetimm.2008.05.028.*).

A broad spectrum of allergic response can be expected, and these are expected to cause distress in the animals. If pigs show a reaction at scale 6, they would be administered epinephrine, with repeat doses every 15 min if required. To date we have only observed response at scales 0-3.

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.)

The objective of the study is to develop a pig model for peanut allergy, and subsequently to use the model to determine treatment efficacy of microneedles coated with the peanut allergen. As such, to develop the model it is required that we challenge the animals to simulate human exposure to peanuts. Allergen challenge is also required to evaluate treatment efficacy so that reduction in allergy-score after treatment can be documented and statistically analyzed. Thus, intervention to reduce distress from allergic reaction cannot be performed. However, animals are monitored continuously for 2 hours after allergen challenge, and in the case of highest-scale allergic anaphylaxis reaction (scale 6), they will be treated with epinephrine after a period of 5 min. If we intervene prematurely, we will not know if the microneedle treatment is effective or not.

Animals

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 _____