

**Attachment E**  
**APHIS FORM 7023**  
**Explanation of Procedures Producing Pain or Distress**  
**Column E (Feral Pigs, White-tailed Deer)**

**Registration #:** 74-R-0146

**Number of Animals Used in Study:** 96, 68

**Species:** feral pigs, white-tailed deer

**Procedure Producing Pain or Stress in Feral Pigs:** Intoxication due to consumption of candidate pesticides with sodium nitrite as the active ingredient

**Justification-Feral Pigs:** Anesthetic, analgesic, and tranquilizing drugs were not used on specimens listed in column E during the reporting period. All experiments were toxicological in nature and use of such drugs would compromise key components of the investigation which were assessment of palatability mortality rates, and secondary consumption of a candidate pesticide. Natural feeding behaviors of the subjects used in testing are necessary for determination of the suitability of the active ingredient and bait components as a pesticide.

**Justification-White-tailed Deer:**

Humaneness of CO<sub>2</sub> gas, apparatus (i.e. CO<sub>2</sub> euthanasia trailer and deer working chutes), and handling of subjects was evaluated in search of an alternative euthanasia method (to cranial gunshot) for groups of white-tailed deer. We hypothesized that gradual fill euthanasia with CO<sub>2</sub> would produce a humane death in groups of white-tailed deer while maintaining or improving operator safety and morale. Symptoms of subject stress (i.e. heart rate, serum cortisol, behavior, posture, and vocalization) were the metrics for the study. As such, no attempt was made to reduce pain or stress once optimal procedures and apparatus were identified as doing so would obscure the effects of the treatment. CO<sub>2</sub> has analgesic and anesthetic effects in mammals and may reduce pain or stress in subjects when washed in at a rate of 20% of chamber volume per minute. We further hypothesized that CO<sub>2</sub> would enhance euthanasia.

**Signature of Institutional Official:** \_\_\_\_\_



**Date:** 11-14-18

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