



Standard Test Method for Efficacy of Canine Reproduction Inhibitors¹

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INTRODUCTION

Vertebrate animal control is an art as well as a science. The development and effective application of control methods both require skills gained from extensive training and field experience. This is particularly true in dealing with the life forms which are highly adaptable and capable of elementary reasoning and thus develop widely varied individual behavior patterns. With these species, efficacy is often unusually difficult to attain. Subcommittee E35.17 recognizes, therefore, that standard test methods must be developed and control methods improved to advance the science and to provide reasonable safeguards for legitimate environmental concerns.

1. Scope

1.1 This test method covers the effectiveness of canine reproduction inhibitors. Any method for evaluating the use of a canine reproduction inhibitor should include recognition that the ultimate test for efficacy is whether it functions as an effective population control method under field conditions. While laboratory or pen test data are essential, final efficacy testing and determination must be accomplished under actual field conditions. No suitable standard laboratory test is available. The test method described here attempts to balance the need for and the feasibility of securing efficacy data.

1.2 This test method is intended for use primarily with monestrous members of the family Canidae. Because of great variation in reproductive physiology, (that is, delayed implantation in mustelids, delayed gestation in bats, uterine structural differences, estrous cycle variation, etc.) this method may not be readily applicable to other families and orders of mammals.

2. Referenced Documents

2.1 *ASTM Standards:*

E 552 Test Method for Efficacy of Acute Mammalian Predicides²

E 555 Practice for Determining Acute Oral LD50 for Testing Vertebrate Control Agents²

3. Laboratory Testing

3.1 All target specimens must be tested (see Practice E 555).

3.1.1 Efforts must be made to establish routine procedures and approaches for all test animals. All undue stress should be

avoided since stress may cause or contribute to reproductive aberrations particularly in wild-caught canids.

3.2 *Test Animals:*

3.2.1 Test animals should be laboratory-reared or captured from wild environments.

3.2.2 Test animals should be reproductively mature adults except where juvenile sex hormones might be employed. The age and weight of test animals will vary but should not include very old, emaciated, obese, or seriously injured specimens. Any injuries from capture should be stabilized. The general condition of the test animals should be verified by a competent individual, preferably a veterinarian.

3.2.3 The sex and reproductive condition of animals used will depend upon the type of gametocide, hormone-affecter, or other compound to be employed. In some instances, evaluation of a compound or technique may require testing with both sexes to determine actual effects in the field. In some cases, the opposite sex should be tested as a nontarget organism. For example, evaluation of diethylstilbestrol (DES) would also require testing of males since they are nontarget organisms with DES.

3.3 *Reference Animals:*

3.3.1 The terms “reference animals” and “reference group” are used to denote a group of animals maintained similarly to the test animals for the purpose of determining mortality due to illness, injuries, or other factors not related to test compounds.

3.3.2 Reference animals shall be of the same species and sex as the test animals. When domestic dogs are used as test animals, the reference animals shall be of the same breed and preferably of the same strain for uniformity. When wild species are used as test animals, the proportional numbers of laboratory-reared or wild-caught animals, or both, in the reference group shall be similar to those in the test group. The number of reference animals shall be the same as the number of test animals in each test group.

¹ This test method is under the jurisdiction of ASTM Committee E-35 on Pesticides and is the direct responsibility of Subcommittee E35.17 on Vertebrate Control Agents.

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² *Annual Book of ASTM Standards*, Vol 11.05.