



Standard Test Method for Comparative Acute and Long-Term Oral or Gustatory Avian Repellency¹

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INTRODUCTION

The development of laboratory test methods for measuring the aversive response of birds to various gustatory chemical repellents has been slow and sporadic. Although single- and multiple-choice methods have been adapted or designed to study the acute aversion induced by chemical repellents, none have been specifically designed to delineate the results of repeated repellent exposure on the intensity or duration of the aversive response. This is a simple laboratory technique to test this response in a variety of avian species.

1. Scope

1.1 This test method covers the evaluation of the intensity and duration of the aversive response of birds to chemical repellents.

1.2 No published methodology exists for determining the intensity and duration of an aversive response caused by a chemical bird repellent.

1.3 Because the feeding habits of birds conflict with man's need for food, many control methods have been devised to minimize the competition between birds and man. Chemical repellents applied to planted seeds and ripening crops represent one method of bird damage control.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

E 551 Test Methods for Developing Effective Bird Control Chemicals²

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

3. Summary of Test Method

3.1 The strength and duration of an aversive response induced by a chemical repellent is measured by monitoring the repellent test performance of birds over a period of time.

3.2 The measurement of performance for oral or gustatory avian repellents is based on the degree of acceptance or rejection displayed by the same birds, over time, when the agent is offered as a component of their normal or preferred food.

3.3 This test method describes the use of a single-choice test procedure that can be repeated, over time, to monitor repellent effects.

4. Equipment, Supplies, and Environmental Conditions

4.1 Test cages or other facilities used in all tests should be designed to allow free movement of the test bird and free access to food and water.

4.1.1 Test cages should have solid sides, and minimum dimensions of 17.5 cm wide by 25 cm long by 17.5 cm deep for birds with a total length of ≤ 17.5 cm. Cages for larger birds should be proportionately larger in all dimensions.

4.1.2 Metal 14 by 18-mesh hardware cloth should be securely attached to the inside floor surface so that no food will be lost through the bottom of the cage; or a means should be provided so that food and feces can be collected and readily separated.

4.1.3 Food containers should not cover more than 10 % of the available floor space, be capable of holding a minimum of 100 g of food, and be attached to the cage so that they cannot be easily upset or food spilled outside the cage.

4.1.4 Water should be provided, ad libitum, from a self-contained, 50-ml (minimum capacity) external waterer.

4.2 The test food should be a single, readily available, normal or preferred food of the test species.

4.2.1 Food particles should be of uniform size and weight ($\bar{X} \pm 25\%$). Particles should weigh between 0.03 to 0.1 % of the weight of the test bird.

4.2.2 Food particles should have no external coverings (hulls, etc.) not consumed by the bird.

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