

CALIFORNIA STATE SCIENCE FAIR 2002 PROJECT SUMMARY

Name(s)

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Project Number

22635

Project Title

The Effect of Commercial Ultrasonic Transmitters on Ra

Objectives/Goals

Rats inhabiting attics and garages bother many homeowners. There are commer cial ı tra sonicp transmitters sold that "promise" to irritate the rats and cause them to flee vhether these devices cause the desired result.

Abstract

Methods/Materials

Procedures

- 1) 30 trails, each 5 minutes in length were conducted under the following 3 conditions:
- Ambient light and noise only, (10 trials).
- Introduction of a single ultra sonic transmitter suspended dyerhead in the center of the enclosure providing non-directional noise, (10 trials).
- Introduction of 3 ultra sonic transmitters into the enclosure. One on the back wall and centered. 1 on each of the side walls 1 foot off of the back wall providing directed nase, (10 trials).

 2) Each trial was conducted with 3 rats placed centrally inside the exclosure for exactly 5 minutes. Their
- behavior and movements were recorded at 1minute intervals. The tests were conducted over 6 days.
- 4 pieces of 4'x 2' heavy duty peg board, assembled into a 4x 2' enclosure, simulating a garage. 6 common pet rats, mixed sex, 6-8 veeks of age. 3 utra sone transmitters rated above 27,000 KHZ. Shredded newspaper and shredded cotton, providing simulated materials found in garages.
- 1 shoebox, providing a safe harbor. Peanut butter as a food source. 1 blanket for flooring material. 3" high rubber barrier for extended room butside of the enclosure to contain the rats should they try to flee.

Results

The results did not support the advertising claims that the rats would flee. The data demonstrates that the ultra sonic noise had minimal impact on the rat's behavior or movements. Within minutes, the rats were demonstrating the same behavior and movement as under the ambient (control) conditions.

Conclusions/Discussion

The data indicates that the use of commercial ultra sonic transmitters alone do not meet the claims made by the advertising. As long as there was sufficient "hiding" areas, nesting areas, and food sources the rats overcame the nuisance factor of the transmitters. At best, they were made nervous until they became accustomed to the noise

Summary Statement

the accuracy of the advertising claims that commercially sold Ultra Sonic will drive rats out of one's home. **Transmitters**

Help Received

My father helped me construct the simulated garage. He was my adult supervisor while I conducted the study.