SENESTECH LAUNCHES SUCCESSFUL CAMPAIGN IN NATION’S CAPITAL
THE CHALLENGE

Washington, D.C.’s Department of Health (DOH) has one of the highest 311 calls for rat complaints in the United States. An increase in citizen’s outdoor activities compounded by mild temperatures supported the increase in rat sightings in and around Washington D.C.

According to The Washington Post, the growing number of restaurants in D.C. over the past few years has not helped either, as food has become more readily available, allowing rodents to thrive. Typically, in a city like D.C. where population growth is at an all-time high, more food sources generally lead to increased food waste.

High rat populations can lead to increased spread of disease or other public health problems that plague many cities today. In order to combat this growing problem, DOH deploys an integrated pest management (IPM) program using a range of lethal and non-lethal methods to control rat activity; however, these efforts have not yielded the desired results.

THE APPROACH

The Washington, D.C. ContraPest® program began in December 2018. The goal of the program was to determine the effectiveness of ContraPest at reducing the number of juvenile rats over time by reducing fertility, which simultaneously lowers the growth of the population.

This program was tested at 13 locations throughout D.C. with 139 total bait stations. ContraPest was deployed as part of an Integrated Pest Management (IPM) approach at all 13 locations.

Two locations, Site A and Site B, were monitored closely for 12 months to measure changes in the rat population during treatment.

Site Overviews

Site A consists of approximately ¼ mile alley with nearby residential and commercial buildings. Trash, including food refuse, is abundant, allowing rats to flourish. Three ContraPest bait stations are deployed in this location.

“More people with more money means more restaurants, which means more garbage, which means more rat food,” according to Gerard Brown of the DOH’s rodent control division.

Following the completion of a four-month study of the effectiveness of ContraPest, there is no longer any doubt that Contrapest is an effective treatment for rat control.

–Ian Gilson, ZACKS SMALL CAPITAL RESEARCH
Site B consists of approximately ¼ mile long alley that is bordered on both sides entirely by residential properties. There is an abundance of food sources in the form of trash cans and food provided by residents for birds and feral cats. Eight ContraPest bait stations are deployed in this location.

THE METHODS

Throughout the ContraPest study, lethal rodenticides were deployed by both private pest control companies and DOH personnel in an ongoing effort to manage rat populations. Consumption of lethal rodenticides was not monitored.

ContraPest Consumption

ContraPest consumption was monitored by DOH and reported to SenesTech. Due to challenges associated with COVID-19 consumption data was provided when possible.

Population Monitoring

Camera surveys were utilized to monitor changes in rat activity and estimate a reduction in the number of juveniles over time. Population monitoring began at both sites in November 2019 after the implementation of ContraPest by DOH.

Camera image surveys are a scientifically supported method used to help estimate animal populations. Cameras are not intended to measure the total population but can be used to compare relative changes in the population between two or more periods.

One infrared motion sensor camera was placed at each site in an area of high rodent activity. Cameras were secured to a permanent structure at each site; positioned towards the ground at a height of ≤ 1 m.

If ContraPest deployment has had a measurable effect on the rat populations at a given location, the expected results would show a decline in the number of juveniles as fertility is reduced.

To demonstrate this, images that contained the full body of the rat were classified as either an adult or juvenile rat by measuring the body length. Body lengths were calculated using Image J software (NIH) by measuring the length of the rat from the tip of the nose to the base of the tail. The average nose-to-body length of an adult Norway rat is 175 mm or greater, while juveniles are less than 175 mm (Figure 1).
THE RESULTS

Rats readily consumed ContraPest at both sites and their populations declined over 90% during the study.

ContraPest: Consumption Results:

A total of 11 liters was consumed during the study: Site A 1.8L from three bait stations and Site B 9.2L from eight bait stations (Figure 2).

Rat Activity - Site A (3 Bait Stations)

A total of 5,030 photos were analyzed for rat activity during the study. Total rat activity declined 94% with ContraPest deployment (Figure 3).
The decline in the rat activity is caused by a significant reduction in rat births. Juvenile rats measured in the photos declined 98% over the course of the study (Figure 4).

Rat sightings on D.C.’s streets were reduced by over 90%, clear evidence that integrating ContraPest into a rat control strategy significantly reduces a city’s rat population.
Rat Activity - Site B (8 Bait Stations)

A total of 1,626 photos were analyzed for rat activity during the study. Total rat activity declined 99% with ContraPest deployment (Figure 5).

**Rat Activity Reduced by 99%**

![Graph showing rat activity reduction](image)

**Figure 5. Average Rat Survey Counts Site B.**

Similar to Site A, the decline in total rat activity is caused by a significant reduction in rat births. Juvenile rats measured in the photos declined 100% over the course of the study (Figure 6).

**Total Juvenile Rats Reduced by 100%**

![Graph showing juvenile rat reduction](image)

**Figure 6. Total classified adult and juvenile rats from photos in November 2019, April 2020 and October 2020 at Site B.**
THE CONCLUSION

ContraPest successfully decreased the population of rats at two sites in Washington D.C. by reducing the number of rat births and enhancing the overall effectiveness of the existing rodent control program.

Ultimately, results from this large-scale study of 6,656 photos demonstrates the value of fertility management to any rat IPM program.

OVER 90% Reduction in Rat Activity
ContraPest is a proven solution that targets the reproductive capabilities of Norway and roof rats. By reducing reproduction, ContraPest can be the anchor to your Integrated Pest Management (IPM) program and magnify the success of your IPM methodologies.

FOR MORE INFORMATION

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