



# Complete Manual



ContraPest® is registered federally as a General Use Product when used as directed. However, in some states, due to applicator expertise, it is a Restricted Use Product. Please check with your local state regulatory agency to determine restriction status. Read and follow all label instructions for target species Norway and roof rats.

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# INTRODUCTION

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**ContraPest** is liquid contraceptive bait developed for wild Norway rats (*Rattus norvegicus*) and roof rats (*Rattus rattus*). Although there are many methods on the market used to manage rats, these techniques have limitations due to the rapid reproduction rates seen in rats. ContraPest is an additional tool that can be used to combat these common problems and helps provides a long-term solution. Our non-lethal bait is proven to reduce rats by preventing new offspring from entering the population.



# 1. PRODUCT OVERVIEW

ContraPest and SenesTech Pre-Bait are compatible with two different bait stations - PROTECTA® EVO EXPRESS\* and JT Eaton Rat Fortress bait stations:

## PROTECTA® EVO EXPRESS\* Bait Stations

### SenesTech Pre-Bait (400mL tanks)

Used for pre-baiting, SenesTech Pre-Bait has no active ingredients.

### ContraPest (400mL tanks)

ContraPest contains active ingredients of 4-Vinylcyclohexene diepoxide (VCD) and Triptolide.

*Note: NY, CT, and CA are RUP-restricted states.*

### Trays (Pair) 400mL

Ordered as a pair, with universal components.



## JT Eaton Rat Fortress Bait Stations

### SenesTech Pre-Bait (550mL tanks)

Used for pre-baiting, SenesTech Pre-Bait has no active ingredients.

### ContraPest (550mL tanks)

ContraPest contains active ingredients of 4-Vinylcyclohexene diepoxide (VCD) and Triptolide.

*Note: NY, CT, and CA are RUP-restricted states.*

### Trays (left & right) 550mL

Ordered as a pair, with Left and Right components.



## 2. SITE ASSESSMENT

Before integrating ContraPest into any new or existing rodent control, an in-person, on-site evaluation is required. Individuals are encouraged to take past rodent activity into account when determining the best strategy for optimal outcomes.

### Examples of Rodent Pressures Include, But Are Not Limited To:

- Man-made access points (i.e. utility or manhole covers) or natural openings along the ground
- Urban sprawl or residential development in surrounding area
- Trash accumulated near or on-site
- Shrubbery or foliage in contact with buildings
- Foot traffic to and from site
- Location relative to water sources like hoses, sinks or standing water
- Location near other known rodent infestations
- Cluttered areas, spaces not in regular use
- Materials stored on site
- Residential or commercial access points, i.e. doorways, windows
- Number of visitors or patrons to the site
- Processing plants or raw materials storage areas
- Storage of finished goods and products
- Sanitation or trash collection locations



All on-site assessments require the participation of stakeholders prior to administering ContraPest or any other SenesTech product. By being transparent with your rat control strategy, all parties are made aware of the effort and investment required to prevent and/or combat a rodent infestation.

### Without Clear Communication Beforehand, End Users Run the Risks Of:

**1)** receiving sub-standard service from their PMP as a result of underestimating the work and cost necessary to achieve acceptable control and **2)** the end-user has unrealistic expectations of the control program, resulting in dissatisfaction with the product and service.

## Man-made Structures

Place ContraPest bait stations externally within 1 foot of perimeter of structure such as transit systems, public and private buildings, commercial residential structures, and/or other man-made structures. ContraPest may also be used internally in nonfood areas. Refer to the label for additional details.

## Foraging Areas

Successful bait uptake in any rodent control program is imperative. ContraPest should be placed near frequent foraging areas. These areas may not necessarily be rat runs, burrows, or areas with obvious rat signs. To locate best baiting locations, non-toxic baits or SenesTech Pre-Bait can be used. Known rodenticide hotspot bait stations can also be considered foraging areas:

- Dumpsters
- Fruit trees
- Heavy foliage
- Feed bins
- Animal waste
- Any area where rats may be searching for food

## Population Dynamics

Using ContraPest will help decrease populations by preventing births of new generations. Adding ContraPest to a rodent control program that utilizes lethal means will help decrease populations quicker. This will help out balance the population dynamics and keep populations low.

- If the number of births is greater than the number of deaths, the population will increase.
- If the number of births and the number of deaths are equal, the population will remain the same.
- Only when the number of deaths exceed the number of births will the population decrease.

# SITE ASSESSMENT

Always place ContraPest in a manner that ensures the majority population of rats will have access to the bait.



# CLIMATE CONSIDERATIONS

## Hot Temperatures

Excessive heat may cause bait to evaporate. This is why we recommend placing bait stations in shaded areas, away from direct sunlight. If possible, use white or gray bait stations. If signs of evaporation are seen due to excessive heat, please refer to trouble troubleshooting section.

## Cold Temperatures

ContraPest has been observed to freeze in temperatures under 17°F but will perform normally upon thawing. For optimal success, during the colder months, place bait stations within building structures.

## Neophobic Behaviors (Bait Aversion/Bait Shyness)

Neophobic rats are wary of new objects in their environment, including new foods and bait stations. Neophobia may have been initiated after a poisoning campaign or other human pressures. It is likely that neophobic rats will take longer to feed and will require a different deployment strategy for ContraPest.

Neophobic behaviors are specified by one of two realities: bait aversion or bait shyness.

**Bait aversion** is the avoidance of bait due to experience or changes in rat behavior. In other words, any ill effects caused by consuming a particular bait will stop a rat from consuming more of it.

**Bait shyness** is defined as the natural avoidance of new objects and situations. For rats, this translates after taking very small samples, rather than consume the entire food source.



# 3. DEPLOYMENT OVERVIEW

## Personal Protection Equipment

Applicators are required to wear personal protective equipment (closed-toed shoes, protective nitrile or butyl gloves  $\geq 14\text{mm}$ , long-sleeved shirts, and long pants) while working with ContraPest. If ContraPest comes into contact with skin, thoroughly wash any areas exposed with soap and water (refer to Safety Data Sheet for more information).

## STEPS FOR DEPLOYMENT



### PLACE STATIONS

- Best baiting locations are where rats are known to be feeding on site (ex: dumpsters, animal feed, loose trash, etc.)
- In addition, utilize areas where previous baiting has been successful (keep bait stations at least 30 feet away from lethal methods).



### PRE-BAIT AND ACCLIMATE (OPTIONAL)

- Insert one (1) SenesTech Pre-Bait tank and tray into stations to confirm successful baiting locations while acclimating rats.
- Remove stations containing SenesTech Pre-Bait if no consumption is seen after 1 month. Consider a new baiting location if possible.



## DEPLOY CONTRAPEST

Replace SenesTech Pre-Bait with one (1) ContraPest tank and tray in stations that have verified consumption.



## MONITOR

- Add a second ContraPest tank and tray to stations when 50% or more of the tank has been consumed between service visits to ensure a constant supply.
- If consumption is repeatedly low or ceases, try relocating the bait station to a different location as rats may migrate.



## MAINTAIN

Replace ContraPest trays monthly, or as often as needed to retain optimum flow of bait.



# 4. MAINTENANCE AND SERVICING

## Monthly Servicing

ContraPest needs to be maintained at minimum on a once-monthly interval. During each visit, the bait station should be checked to ensure that continuous supply of ContraPest is made available to the rats.

- If no consumption is evident after a 30-day period, it may be necessary to reevaluate the bait station location.
- If there is no ContraPest left after a 30-day period, it may be necessary to add additional stations to the site. This can also occur if there is only one tank in each bait station as foraging patterns may have shifted and/or rat migration may have taken place, resulting in greater demand in a foraging area or ContraPest feeding station area.

## During Service Checks:

- Ensure that there is a supply of ContraPest in the bait station (enough to last until the next service date). It is required that tanks be replaced every 30 days.
- Make sure that ContraPest is flowing freely into the feeding trays attached to the tanks (no coagulation, build up, or film). It is recommended to replace trays on a monthly basis.
- Clean any debris that may have accumulated inside of the bait stations, such as leaf litter or nesting material.
- Ensure that trays and tanks have not been chewed by rats. If they have, replace them.



**PMPs should ensure a continuous supply of ContraPest**

## DISPOSAL PROCESS:



### IF TANK IS EMPTY

Place container in trash or offer for recycling.  
NOTE: Do not re-use empty tanks.



### IF PARTIALLY FILLED

Cap the tank and place in the trash container or recycling



### WHY SO SIMPLE?

The EPA performed a risk assessment and reviewed the disposal procedure provided on the label when ContraPest was registered and found the procedure was sufficient because of the following:

- Low concentration of active ingredients, less than 0.1%
- The remaining 99.9% of ContraPest is composed of Generally Recognized As Safe ingredients



# 5. EXPECTATIONS AND BENEFITS

## EXPECTATIONS

### When Should a Decline in the Rat Population be Noticed?

ContraPest impacts fertility within 24 hours of consumption but takes several breeding cycles to translate into population declines. ContraPest can remain effective in the rats for as long as 60 days. The below factors also contribute:

- **Size of the site:** The site needs to be large enough that it encompasses the entire population of the rat infestation as mentioned in Site Evaluation (Section 1 of this document).  
If not, the results will be diluted.
- **ContraPest as a stand alone product:** As a stand alone product, ContraPest will take more time to realize results. The rat population will decrease as rats naturally die off but will not increase due to the inability of rats to reproduce.



**Impacts fertility  
within 24 hours of  
consumption**

If ContraPest is used as part of an IPM program, results can be hastened as lethal methods are used to increase the death rate. Adding ContraPest to an IPM program allows the populations to decrease quickly and keep it at a manageable level by minimizing reproduction and therefore, limiting population rebounds. You will notice decreasing signs of rats and fewer juveniles as you continue to use ContraPest.

- **Please note:** that lethal methods should be placed 15-30 ft. away from all ContraPest stations.
- **History of Rodent Control at the Site:** If there has been an ongoing rodent control program on the site, it is possible that rats have become bait-averse. This may delay or even cease consumption of ContraPest. This is true when lethal methods, such as rodenticides, are used in a responsible fashion which ensures rats do not become bait-averse.

## How Long Must I use ContraPest?

ContraPest is a contraceptive, not a sterilant or one-dose product. The effects of ContraPest are reversible, but this is a slow process. Continuous baiting will provide the best results and ensure the population does not rebound due to migration and renewed reproduction. When consumed, ContraPest targets reproduction, limiting fertility in male and female rats beginning with the first breeding cycle following consumption. The average duration of infertility ranges from 77 to over 180 days (2 to 6 months) but averages 119 days ( $\pm 4.6$  days, N=61; Dyer and Mayer 2014; Siers et al. 2014; Shuster unpubl. SenesTech data). Both in the lab and in the field, ContraPest consumption has documented effects on fertility reduction and therefore in reducing rat populations.

However, as part of a maintenance program, you will need to still supply continuous levels or amounts of ContraPest to ensure maximum success. As the population sizes decrease, consumption of ContraPest will decrease. Noticeable signs of rat-infested areas will also decrease, evidenced by the decreased number of juveniles and nests seen onsite.

## BENEFITS

### ContraPest Protects Your Time and Labor

Callbacks to combat unexpected rat rebounds or frequent critical service calls cut into your time and labor. ContraPest protects your accounts from population rebounds, safeguarding your schedule from unexpected calls. In addition, ContraPest integrates seamlessly into your current business model without requiring additional service time.

### ContraPest Saves Materials



**ContraPest protects against population rebounds.**

ContraPest should be deployed in known foraging locations rather than the standard spacing increments around a perimeter, which greatly minimizes the amount of product needed for the site.

### ContraPest is Cost-Effective from the Outset

Lethal rodenticides pose a potential for secondary exposure, resistance and rebounds, which costs you more in products over time. Rats do not develop resistance to birth control; therefore, you always know how much ContraPest you need to maintain your successful IPM efforts.

## ContraPest Can Increase Revenue Over Time

The key to effective ContraPest deployment is consistency. This product needs to be deployed on a monthly basis, which means your customers need to commit to ContraPest as a rodent control tool, requiring a regular invoice from you.

## ContraPest is a Profitable Solution

A long-term, proven solution, ContraPest supports your IPM programs, integrating seamlessly and strengthening your efforts. ContraPest provides a consistent strategy designed to deliver ongoing returns to your business.



# 6. TROUBLESHOOTING

## Insects

Ants and other insects have been reported inside stations. The bait is made of sweeteners and is an attractant to not only rats, but also ants.

This does not occur frequently and is a sign that rats are not feeding in the station. In this case, stations should be relocated to a better location or an area where insects are not a problem.



### What issues are Observed?(describe bait)

#### Thickening or Clogging

How long has ContraPest been deployed and/or last checked?

Less than 30 days

More than 30 days

Is there rat activity or consumption in the station?

Were the trays changed or cleaned during servicing?

If YES, stir bait and/or replace trays

If NO, trays may be clogged. We recommend replacing trays every 30-60 days

If NO, add incentive treats and/or relocate bait station

**If problem persists, contact SenesTech Customer Success at 1-844-CNPSTECH (267-7832)**

#### Evaporation

Is the bait station black?

If YES, replace with a white/grey bait station

If NO, see below

If problem persists, see right

Is the station in direct sunlight?

If NO, see below

If YES, move bait station to a shaded area



## Frequently Asked Questions

The table below describes in detail some common troubleshooting scenarios and our suggestions for addressing these situations when using ContraPest.

SCENARIO	SYMPTOMS	SUGGESTIONS/SOLUTIONS
<p><b>Rat infestation has been a battle throughout time. Rodenticides/trapping have been used, but rats are still a problem.</b></p>	<p>Rodenticides/trapping started out successful, but have become less efficient. Rats are now immune, bait averse, and or trap shy.</p>	<p>It is likely that rats will be skeptical of ContraPest for an extended amount of time before they consume the bait. Incentive treats (peanut butter, fruit paste, Nutella) are recommended to be placed inside of the bait stations near the bait tanks to entice bait consumption. Rat acclimation period to bait will be longer than normal. Recommended to continue with SenesTech Pre-Bait until consumption occurs.</p> <p>In situations where rats have been consuming animal food / feed, it is beneficial to place pieces of the rats' preferred food into the bait station and not to mix with ContraPest.</p>
<p><b>ContraPest has been placed, but there hasn't been any consumption.</b></p>	<p>Rats are feeding in a different location. Bait stations may have been placed near burrows, not foraging areas. Or, rats encounter the stations, but are skeptical of these new objects within their environment.</p>	<p>Using fresh product, move stations to an area where rats are actively feeding/foraging. Place incentive treats (peanut butter, fruit paste, Nutella) in bait stations to entice rats to enter and consume bait.</p>
<p><b>ContraPest was completely consumed well before 30 days had passed.</b></p>	<p>There are too few stations for the population size at the site, or service intervals are not frequent enough. Rats readily consume the bait, but there is not enough for a continuous supply. Tanks may have been chewed through by rats due to desire for more bait.</p>	<p>More stations could be added.</p>
<p><b>Bait stations have been placed in adequate areas, but rats will not enter them to feed.</b></p>	<p>ContraPest stations have been placed in correct foraging areas. Rats will not enter these stations. Stations have been moved numerous times to different locations but still no success.</p>	<p>Assuming that the stations are adequately placed in foraging areas, place incentive treats in the stations (peanut butter, fruit paste, Nutella, etc.). This may entice the rats to enter the stations.</p> <p><u>A note about incentive treats:</u></p> <p>In some cases, food that is already available to the rats can have a better result.</p>

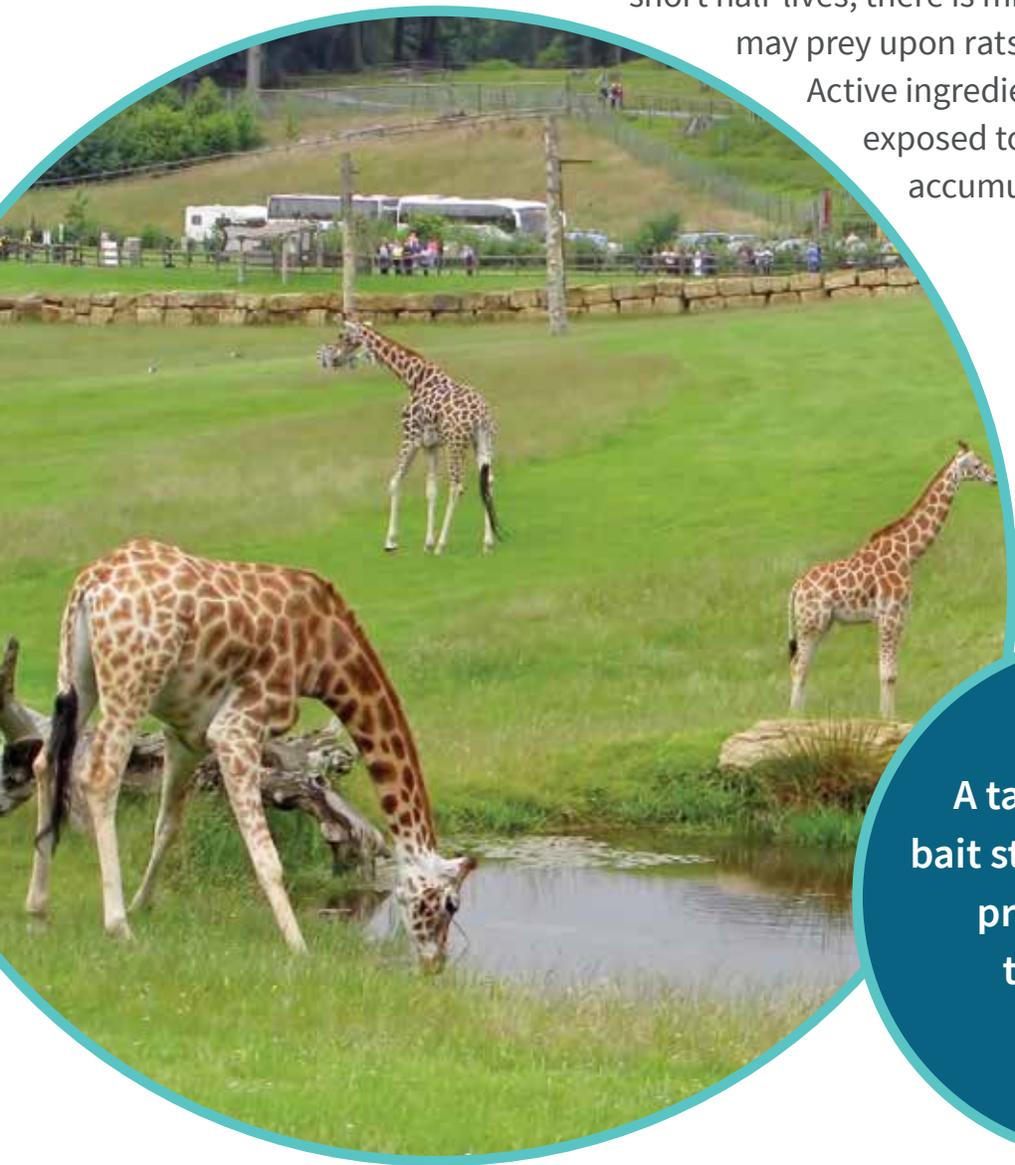
# 7. SAFETY

Applicators should always refer to the Safety Data Sheet (SDS) for the most updated information as this overview is not intended to keep pace with real time SDS updates.

## Environmental Safety

The concentration of active ingredients in ContraPest is formulated specifically for rats, and the bait is delivered inside a tamper-resistant bait station that prohibits access to non-target species. The impact on fertility is reversible, so any incidental consumption by other animals will not lead to infertility.

The active ingredients in ContraPest break down to inactive compounds within 15 minutes of consumption and are excreted by rats. Due to low concentrations of the actives as well as their short half-lives, there is minimal risk to non-targets that may prey upon rats that have consumed ContraPest. Active ingredients also break down when exposed to water and soil, so there is no accumulation in the environment.



**A tamper-resistant bait station is used that prohibits access to non-target species.**

## User/Handler Safety

ContraPest, when used as directed and while wearing personal protective equipment, is not harmful to the skin and cannot be inhaled. Results of a six-pack acute toxicology study revealed only a slight dermal reaction.

Applicators are required to wear personal protective equipment (closed-toed shoes, protective nitrile or butyl gloves  $\geq 14\text{mm}$ , long-sleeved shirts, and long pants) while working with ContraPest. If ContraPest comes into contact with skin, thoroughly wash any areas exposed with soap and water (refer to SDS for more information).

ContraPest comes in single use containers that require no mixing. ContraPest liquid in partially-consumed tanks cannot be combined for reuse.



contrapest

# FOR MORE INFORMATION

Contact our Customer Success Team

EMAIL: [customer.success@senestech.com](mailto:customer.success@senestech.com)

CALL: 1-844-CNPSTECH  
(267-7832)

*senestech* 

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