

A close-up photograph of two brown rats on a wooden surface. One rat is in the foreground, looking down and to the right. The second rat is behind it, looking up and to the right. The background is a blurred, light-colored wall.

UK RPM

RODENT
PEST
MANAGEMENT



THE WORLD LEADER IN RODENT
CONTROL TECHNOLOGY®

SUPERIOR PRODUCTS FROM THE WORLD LEADER IN RODENT CONTROL

An exclusive manufacturer of rodent control products, Bell Laboratories produces the highest quality rodenticides and other rodent control products available to the pest control and agricultural industries on six continents.

Bell has developed a complete line of products - rodenticides, tamper-resistant bait stations, non-poisonous glue boards, mechanical traps and attractants - to control rodents in any situation.



THE NEXT EVOLUTION OF BAIT STATIONS

Maximise your time at accounts with Bell's PROTECTA and PROTECTA EVO® Bait stations. Equipped with a fast-opening EVO® key and designed for quick cleaning, Bell's innovative designs work for all your baiting needs.



EXCEPTIONAL RODENTICIDE BAIT FORMULATIONS

Bell Laboratories' complete line of rodenticides represents the widest range of rodent baits available anywhere. Bell's rodenticides contain only the highest-grade inert ingredients for maximum results in the field. The overall palatability and efficacy are unmatched in the industry and now include extended shelf-life in the UK. PCO favorites CONTRAC® BLOX with bromadiolone has a 3-year shelf-life and SOLO® BLOX with brodifacoum has a 2-year shelf-life

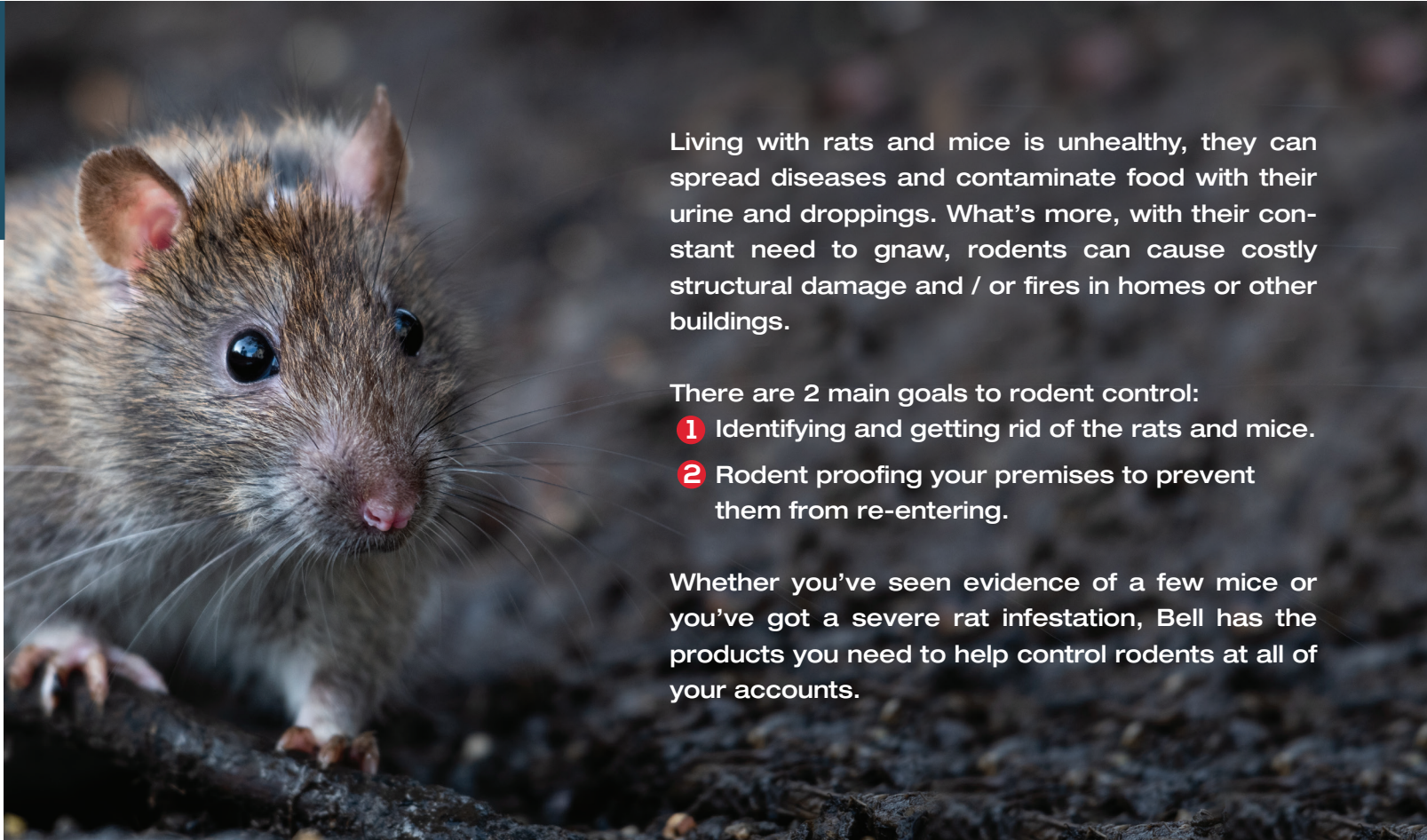


TRAPPER GLUE AND MECHANICAL TRAPS

TRAPPER® Glue Boards capture rats and mice without poison, making them ideal to use in food plants, kitchens, restaurants, food processing plants, hospitals, residences, zoos and other sensitive areas where poison is prohibited or discouraged. Use Bell snap traps like the TRAPPER® T-REX or TRAPPER® Mini-Rex for other non-toxic options.



Product research and development are ongoing at Bell as scientists respond to the needs of the pest control and agricultural industries for new products and improved formulations. Bell Laboratories' modern campus in Windsor, Wisconsin, USA, houses over 55742 m2 of new buildings, including the corporate office, manufacturing operations, biological and chemical laboratories, and warehouse.



Living with rats and mice is unhealthy, they can spread diseases and contaminate food with their urine and droppings. What's more, with their constant need to gnaw, rodents can cause costly structural damage and / or fires in homes or other buildings.

There are 2 main goals to rodent control:

- 1 Identifying and getting rid of the rats and mice.
- 2 Rodent proofing your premises to prevent them from re-entering.

Whether you've seen evidence of a few mice or you've got a severe rat infestation, Bell has the products you need to help control rodents at all of your accounts.

TABLE OF CONTENTS

2-5

Rodent Identification

6-7

Rodent Senses

8-11

Inspection

12-17

Rodent Control Program

Rats and mice have unique characteristics that can easily be spotted if you know what to look for. By being able to accurately identify rodents, PCO's can select the proper products and strategies needed to take care of any infestation.

NORWAY RAT

Rattus norvegicus

**MOST ACTIVE
AT NIGHT**



283g – 482g



Reddish-brown fur,
blunt nose, small eyes
and ears, thick body



30.5cm – 45.7cm including tail



- ▶ Great climbing abilities
- ▶ Tend to travel along lines
- ▶ Excellent jumpers
- ▶ Distinct hierarchy
- ▶ Fearful of new objects
- ▶ Nest in burrows, 27m – 137m from food and water

Norway rats
can be twice
the size of
Roof rats

LIFESPAN

9-18 months

OFFSPRING PER LITTER

6-12 Offspring

GESTATION PERIOD

23 days

LITTER PER YEAR

4-7 litters/year

SEXUAL MATURITY

2 - 3 months

DAILY AVERAGE EATING HABITS

DAILY AVERAGE

28g

ALPHA

56g

PREGNANT FEMALE

85g - 113g

DAILY WATER

28g



Average = 2.8g



Alpha = 56g



Pregnant = 85g-113g

*Images of blocks are not intended
to represent toxicant treated bait.

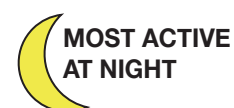


*Always read the label before use. Using this product in a manner that is inconsistent with the label may be an offence. Refer to the CRRU UK Code of Best Practices for guidance.

RODENT IDENTIFICATION

ROOF RAT

Rattus rattus



141.8g – 255g



Pointy nose,
large eyes and ears,
long tail



33cm – 43.2cm including tail
(17.8cm – 25.4cm for head & body)



- Superior climbing abilities
- Tend to travel along lines
- Excellent jumpers
- Distinct hierarchy
- Fearful of new objects
- Nest in tress / rooftops 30m – 91m from food and water

All rats have
4 digits on
each front paw
and 5 on each
back paw

LIFESPAN

18 months

OFFSPRING PER LITTER

6-8 Offspring

GESTATION PERIOD

23 days

LITTER PER YEAR

4-6 litters/year

SEXUAL MATURITY

2 - 3 months

DAILY AVERAGE EATING HABITS

DAILY AVERAGE

28g

ALPHA

56g

PREGNANT FEMALE

85g - 113g

DAILY WATER

28g



Average = 2.8g



Alpha = 56g



Pregnant = 85g-113g

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to represent toxicant treated bait.



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RODENT IDENTIFICATION

HOUSE MOUSE

Mus musculus



21.3g



Pointy nose,
large eyes and ears



15.2cm -17.8cm including tail



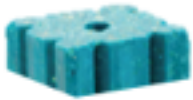
- ▶ Superior climbing abilities
- ▶ Tend to travel along lines
- ▶ Excellent jumpers
- ▶ Distinct hierarchy
- ▶ Curious of new objects
- ▶ Nest in corners, 3m – 9m from food and water

House Mouse
is the
2nd most
successful
mammal on
earth.

| | |
|----------------------|------------------|
| LIFESPAN | 9-18 months |
| OFFSPRING PER LITTER | 6 - 12 Offspring |
| GESTATION PERIOD | 23 days |
| LITTER PER YEAR | 4-7 litters/year |
| SEXUAL MATURITY | 2 - 3 months |

DAILY AVERAGE EATING HABITS

| | |
|---------------|------|
| DAILY AVERAGE | 2.8g |
| DAILY WATER | 1.4g |



Average = 2.8g

*Images of blocks
are not intended to
represent toxicant
treated bait.



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PHYSICAL ATTRIBUTES - DROPPINGS*



NORWAY RAT

Rattus norvegicus

1.9cm long
Various sizes
Putty like texture
Blunt ends



ROOF RAT

Rattus rattus

1.27cm long
Dry texture
Pointed ends



HOUSE MOUSE

Mus Musculus

Elongated
0.32 - 0.64cm long

50-75 per day

Pointed ends
Contains hair



NON-TARGET DROPPING



BAT

0.85cm – 2.5cm



RABBIT

3.05cm Diameter



SQUIRREL

0.95cm Long



LIZARD

0.32cm Long



COCKROACH

0.10cm Long

*Actual Size



RODENT SENSES



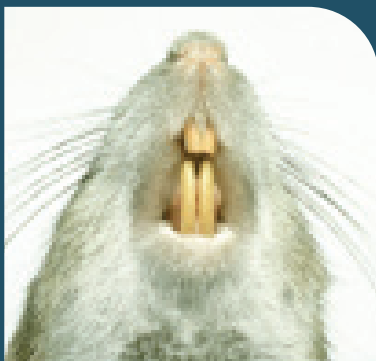
TOUCH

- Rodents' long whiskers, or VIBRISSAE, are located all over the body but are most prominent on face.
- These hairs are used for guidance as they move along walls and other objects.



SMELL

- Rodents have an excellent sense of smell and use it to find food.
- They produce and release pheromones to communicate information with other rodents (i.e., colony status, reproductive behavior, etc.).



Rats can chew through almost anything – their teeth are very hard and can bite six times per second.

TASTE

- Rodents can taste up to 250 parts per billion.
- Newborn rodents can taste their mother's diet through her milk and favour those foods when they mature.
- When baiting, remember that fresh bait always provides the best results.



*Photo may not be representative of a label-consistent bait placement

KINESTHETIC

- A rodent's kinesthetic sense detects bodily position, weight, or movement of the muscles, tendons, and joints.
- This develops when the rodent gets very comfortable and used to its environment.
- Rodents display memorized muscle movement in which they essentially memorise their surroundings.

"Rats develop a muscle memory, a kinesthetic sense that allows them to remember the turns, the route, the course of movement"

EXAMPLE: Maze



SOURCE: Sullivan, Robert "Rats: Observation on the History & Habitat of the City's Most Unwanted Inhabitants" Bloomsbury USA, 2004



CONDUCTING PROPER RODENT CONTROL

Proper rodent control **methods** include:

- INSPECTION
- EXCLUSION
- RODENT CONTROL PROGRAM



INSPECTION

PROPER INITIAL INSPECTION IMPROVES:

- Elimination of current pest problem
- Prevention of future pest issues
- Overall profitability
- Customer Service



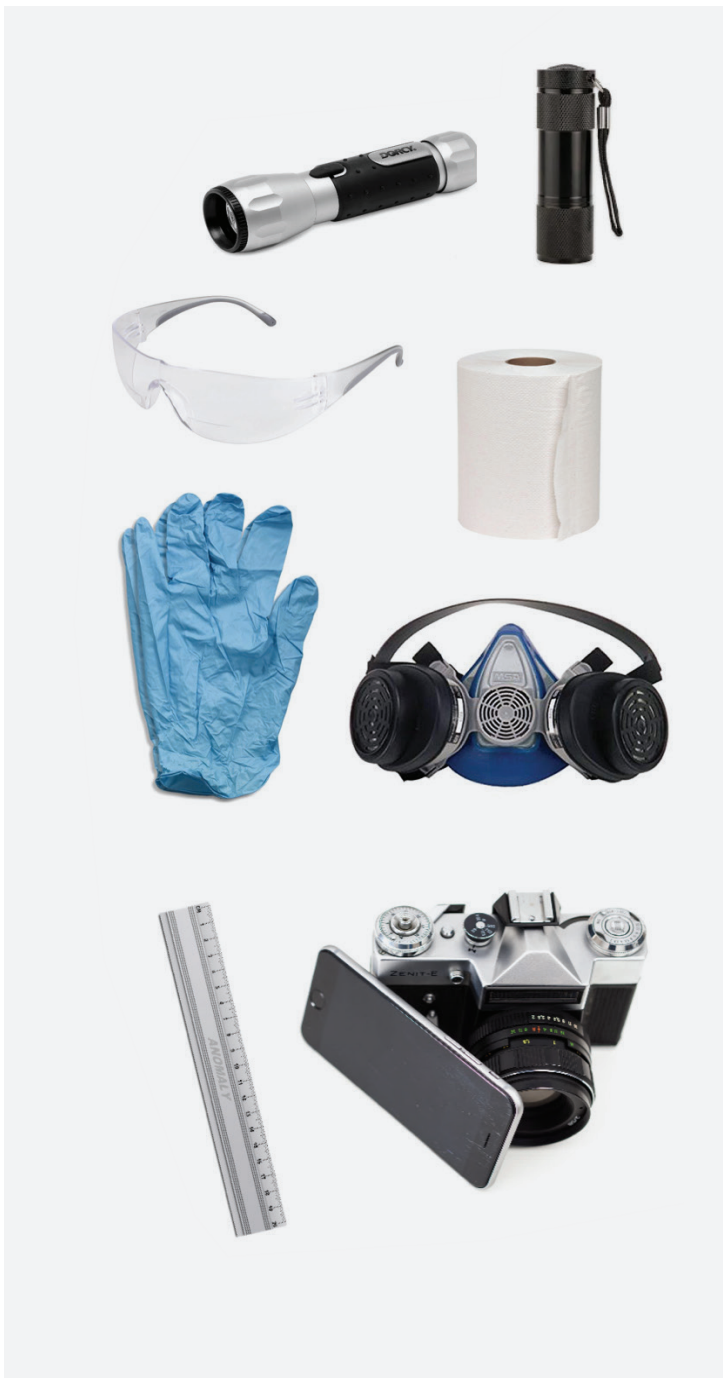
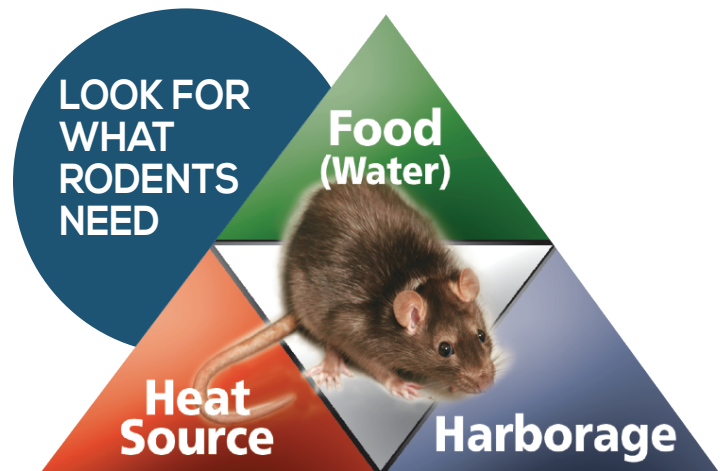
GOALS OF AN INSPECTION:

- Invest most of service time during the initial inspection.
- Identify key factors to solving or preventing infestations.
- Educate the customer.
- Communicate with the customer to establish clear needs and set realistic expectations.

INSPECTION

COMMON AREAS TO EXAMINE

- Lines and pathways around buildings
- Pipes and utility lines
- Poor sanitation areas
- Abutting water sources or vegetation
- Door sweeps and general gaps
- Food storage areas
- New construction or renovations sites



INSPECTION TOOLS

- Flashlight
- Blacklight
- Paper Towel
- Eye Protection
- Respirator
- Gloves
- Phone/Camera
- Ruler
- Your customer
- **COMMUNICATION** with your customer

RODENT PROOFING

Identify areas in need of rodent proofing during the inspection process. Do not proceed with rodent proofing until knockdown of the rodents has been achieved.



1.27cm

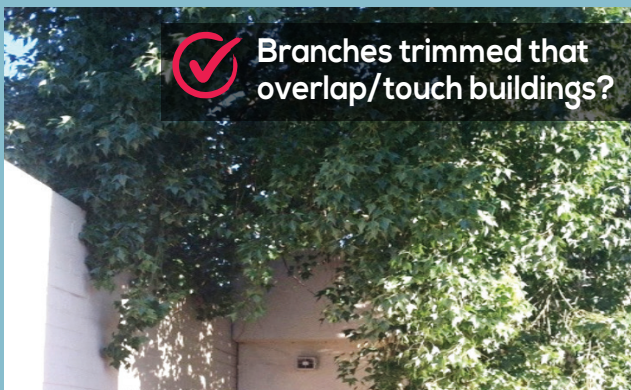
Rats can fit through a 1.27cm opening, or the diameter of a thumb



0.64cm

Mice can fit through a 0.64cm opening, or the diameter of a little finger

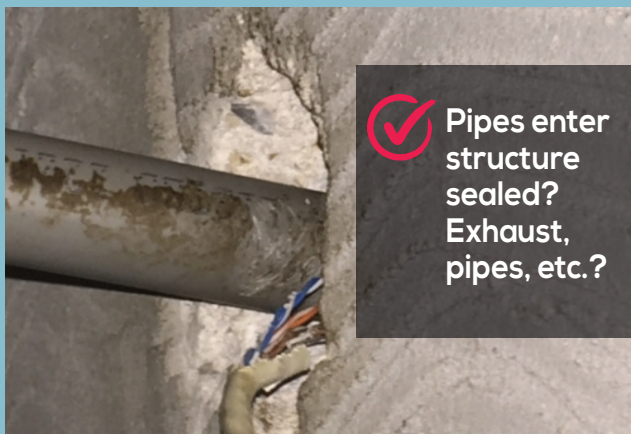
✓ INSPECTION CHECKLIST



✓ Branches trimmed that overlap/touch buildings?



✓ Any changes to the property or surrounding properties?



✓ Pipes enter structure sealed? Exhaust, pipes, etc.?



✓ Gaps sealed?

ELIMINATE CONDUCTIVE CONDITIONS

- Eliminate access to food and water sources
- Eliminate harbourage areas and keep vegetation cut short
- Remove debris and clutter
- Improve sanitation practices



DID YOU KNOW?

Rodents are opportunistic feeders who will consume any food discarded by humans. Waste bins are one of the most common rodent problem zones, especially around commercial establishments. Waste bins should:

- Be placed at least 23m – 46m from the building's exterior
- Be large enough to prevent spillovers
- Have tight / sealed lids
- Be emptied regularly

Bell's TIPS & TRICKS

- Fill small holes with steel wool. Put caulk around the steel wool to keep it in place. Use lath screen or lath metal, cement, hardware cloth, or metal sheeting to fix large holes.
- Fix gaps and use flashing around the base of the house or building.
- If you do not remember to seal up entry holes, rodents will continue to get inside.
- Outbuildings and garages should also be sealed to prevent the entrance of rodents.
- Damaged, gnawed, worn, or missing door sweeps are one of the most common entry points for mice, rats, and other pests.



RODENT CONTROL PROGRAM

RODENTICIDES

The level of rodent activity determines the appropriate bait for the job. Proper selection and application of these baits will determine the success of your rodent control program. Types of Bell rodenticides include:

- **ANTICOAGULANTS** = Chronic
- **ACUTE RODENTICIDES** = Metabolic Inhibitors
- **MONITORING** = Non-Target Exposure

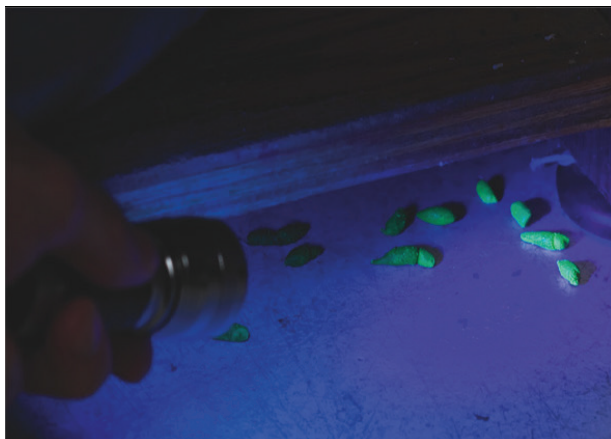


ANTICOAGULANTS

- Kills by preventing blood from clotting
- Most widely used in professional rodent control
- A slow onset of symptoms prevents bait shyness
- Vitamin K1 serves as an antidote

ACUTE RODENTICIDES

Metabolic inhibitors interfere with chemical processes in the body, resulting in organ failure
A very FAST acting rodenticide



MONITORING

Use monitoring baits like DETEX® Non-Toxic Blox as a great tool at sensitive accounts or where non-target exposure is a concern
Provides important information on where to place glueboards and traps

CHOOSING THE RIGHT BAIT

WHY SHOULD YOU USE BAIT?

To provide a "fresh" and "palatable" alternative food source from human or pet food

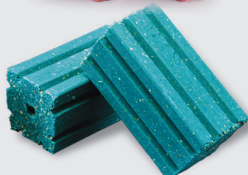
BAIT CHANGE SCHEDULE?

Maintain an uninterrupted supply of fresh bait for 10 – 15 days or until signs of rat activity cease



EXTRUDED BLOX

- Blocks are made with multiple gnawing edges and food-grade ingredients, with a small amount of paraffin, for a highly palatable formulation
- Palatable All-Weather BLOX made with a mould and moisture resistant formula. Works well in wet or dry conditions



PELLETS

- Can be used indoors and outdoors (around buildings)
- Hard, compact shape satisfies a desire to gnaw



Regardless of which Bell bait you choose, the use of a PROTECTA® or PROTECTA® EVO® tamper-resistant bait station is highly recommended.



CONTRAC®

ACTIVE: BROMADIOLONE 50 PPM

SHELF-LIFE: 3 YEARS

- ▶ Clean-out and maintenance bait
- ▶ Lower toxicity second-generation anticoagulant is ideal in areas where non-target animals are a concern

| ITEM# | PRODUCT | SIZE |
|--------|--------------------------|---------------------------------|
| 913040 | CONTRAC® Blox | 8kg PAIL |
| 913041 | CONTRAC® Super Size Blox | 40 x 225g Blox CARTON |
| 911012 | CONTRAC® Pellets | 25kg CARTON |
| 911010 | CONTRAC® Pellets | 4 x 100 x 50g Place Pacs CARTON |



SOLO®

ACTIVE: BRODIFACOU 50PPM

Brodifacoum 25ppm Now Registered

SHELF-LIFE: 2 YEARS

- ▶ For heavy infestations where there is strong food competition
- ▶ Rats and mice may consume a lethal dose in one night's feeding with first dead rodents appearing 4-5 days after feeding begins

| ITEM# | PRODUCT | SIZE |
|--------|-----------------------|-----------------------|
| 933200 | SOLO® Blox | 2 x 4kg PAIL |
| 933200 | SOLO® Super Size Blox | 50 x 200g Blox CARTON |



Sites under a permanent baiting regime should be inspected regularly in accordance with product label directions. Follow any additional instructions provided by the CRRU Guidance on Permanent Baiting.

*Always read the label before use. Using this product in a manner that is inconsistent with the label may be an offence. Refer to the CRRU UK Code of Best Practices for guidance.



RODENT CONTROL PROGRAM

A NON-TOXIC APPROACH TO PEST MANAGEMENT

With an increasing focus on Integrated Pest Management (IPM), non-chemical tools for rodent control are becoming more and more important. There are many cost effective, non-toxic approaches to monitor and control rodents.

MONITORING BAIT



DETEX[®]

ACTIVE: NON-TOXIC

SHELF-LIFE: 2 YEARS

- ▶ Use to monitor rodent activity in schools, food accounts, or other sensitive sites
- ▶ Special additive visible under blacklight makes detecting rodent feces easy

| ITEM# | PRODUCT | SIZE |
|--------|------------------------------|------------------------|
| 993000 | DETEX [®] Blox | 2 x 4kg PAIL |
| 913041 | DETEX [®] Soft Bait | 242 x 15g Sachets PAIL |

MECHANICAL TRAPS

Introducing a trapping program to an account can seem daunting but following the steps below will ensure best practices are met:

- Identify the rodent species
- Place traps where rodents are traveling
- Reuse traps. The rodent pheromones from previous catches will help attract other rodents
- Consider your attractants carefully. Bell's DETEX[®] and PROVOKE are scientifically formulated to be attractive to rodents in as many different situations as possible



TECHNICIANS TIP!

Clip **PRE-BAITED SNAP TRAPS** to your uniform when climbing ladders. This allows you to carry more traps **MORE SAFELY**.

ADHESIVES

Glue boards can be used to monitor the presence of rodents and insects. Always refer to the UK CRUU Code of Best Practices for the proper use of glue boards.

- Place glue boards in active rodent pathways
- Keep glue free of dust, debris, and moisture
- Oreo, or reverse Oreo, with glue boards and trays
- Use glue boards in tight spaces or in natural funnels
- Glue boards should not be used in corners



Utilize tunnels to protect the glue in dusty environments



Use paper release glue boards like the TRAPPER® MAX Glue Trap for a convenient, low-cost non-toxic approach to your rodent control program.

RODENT CONTROL PROGRAM

BAIT STATIONS

Tamper-resistant stations keep bait away from non-target animals and children. They help maintain the freshness of bait and allow PCOs to better track how much bait is being consumed. They also create a comfortable and safe environment for rodents to feed.

Most baiting is done outdoors. The implementation of an outdoor baiting program is a key component of a successful rodent pest management program.

A thorough environmental risk assessment must be carried out. Where no rodent activity is present, consider using DETEX® to monitor and track rodent movement, or to identify species.



BELL'S TIPS & TRICKS

- Place the majority of your stations where the most activity is noticed (droppings, rub marks, etc.)
- Eliminate available food sources
- Space your bait placements according to the severity of the infestation and whether it is preventative or corrective

When rodenticides are used in public areas, they must be marked during the treatment period

DID YOU KNOW?

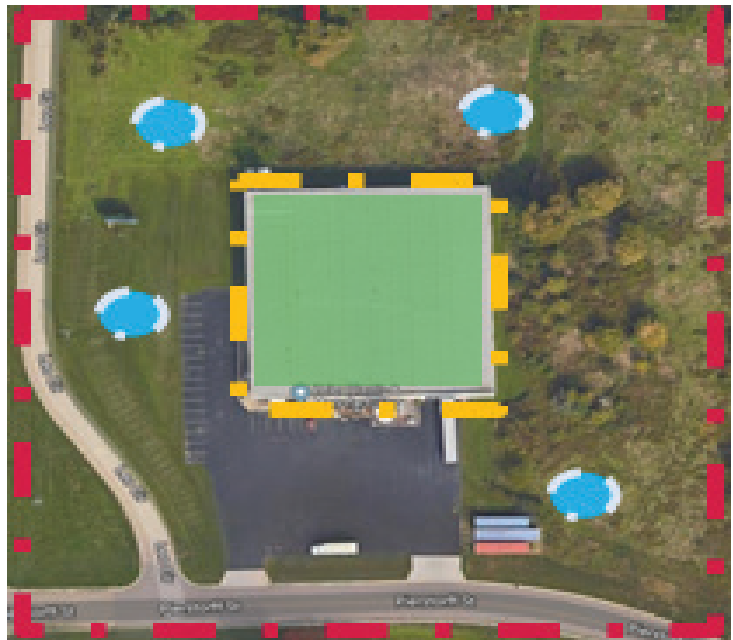
Mice can hoard and store $\frac{1}{2}$ of their bodyweight in their cheek pouches and can drop food or bait "ANYWHERE".

TRANSLOCATION is the movement of something from one place to another and is a major issue with mice. Non-target exposure is preventable! Before using any rodenticide, be sure to survey the intended use area. If there is a possibility that children, dogs or other pets, and wildlife can get to the bait, **tamper-resistant bait stations must be used.**



BAIT STATION PLACEMENT

- PERIMETER OF PROPERTY
- BUILDING EXTERIOR
- BURROWS
- BUILDING INTERIOR



USE
BIOCIDES

! SAFELY AND
SUSTAINABLY

PERIMETER OF PROPERTY

- First line of defense
- Place tamper-resistant bait stations along the perimeter of the property

BUILDING EXTERIOR

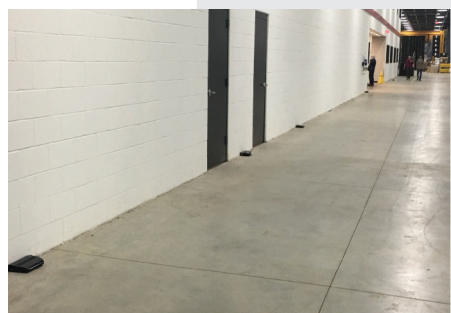
- Tamper-resistant bait stations should be placed 5m 10m intervals for rats and 2m – 4m intervals for mice depending on the severity of the infestation
- Place bait or traps around all entry doors

BURROWS

- Use CONTRAC® Pellets with Bromadiolone to maximize the eradication of rats living within burrows
- Burrows should be baited with bulk-style pellets using a long handle soup ladle or a hose-and-funnel technique

BUILDING INTERIOR

- Tamper-resistant bait stations should be placed 5m – 10m intervals for rats and 2m – 4m intervals for mice depending on the severity of the infestation
- Identification is key! Placement depends on the type of infestation





THE WORLD LEADER IN RODENT CONTROL TECHNOLOGY®

www.belllabs.com

Wisconsin USA