

 **BASF**
We create chemistry

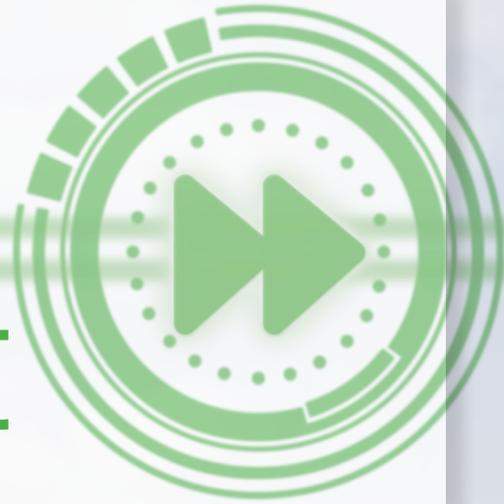
Switch to Selontra®

The speed baiting technology



Get your Selontra® certification to control rodents in as few as 7 days at www.training.selontra.com

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Highly palatable formulation

Mode of action

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Rodent-free within as few as 7 days

Stops rodent damage quickly

Saves you time and money

Balancing performance and environmental impact

Breaks the cycle of resistance

4 Use and technical application

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THE PROBLEM: THE DAMAGE RODENTS CAUSE ON FARMS

1

TRANSMISSION OF INFECTIOUS DISEASES

Rodents transmit diseases via their droppings, feet, hair, urine, saliva and blood to:

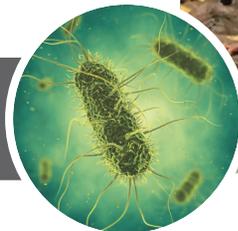
- 1 **livestock , workers and domestic pets.**
- 2 **food and water** intended for healthy animals.
The most significant rodent-related disease is Salmonellosis.

Spread more than
200
human pathogens¹
and carry
45 diseases



⁽¹⁾ <http://www.idph.state.il.us/envhealth/pcpestcntrl.htm>

**RODENTS POSE A MAJOR RISK
TO BIOSECURITY**



ADVERSE IMPACT ON OPERATING COSTS



Feed represents 60% - 75% of farm operating costs on livestock farms.

Anually rodents
consume and contaminate
about
20%
of the world's food supply²



⁽²⁾ <https://www.pestworld.org/news-hub/pest-articles/fascinating-facts-you-never-knew-about-mice/>

STRUCTURAL DAMAGE AND DESTRUCTIVE FIRES



Gnawing on electrical cords and cables. Often, this leads to equipment malfunctions, network shutdowns and even power outages. In some cases, this culminates with a **life-threatening fire.**



Damage the structural integrity of walls, floors, and ceilings Rodents gnaw through walls for access to food and breakdown insulation and building materials to use for nesting.

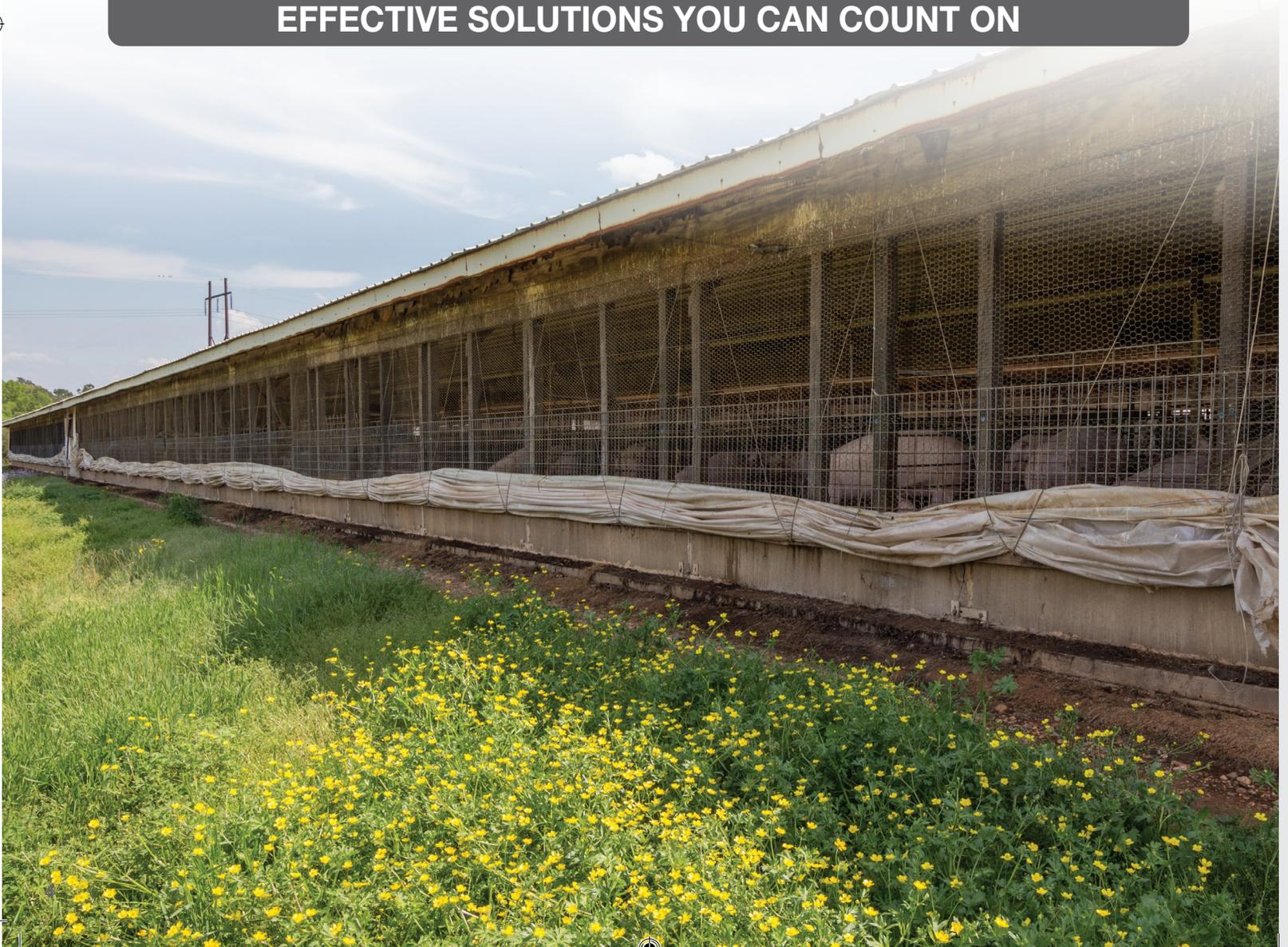
Rodent infestations cause enormous amounts of damage to farms



With an abundance of **food, water and harborage**s, rural sites such as farms are very attractive to rodents. Furthermore, rodents are predators of young livestock.

The health of livestock, minimal contamination of the feed and harvest, and good condition of the buildings and structures are all essential for the business and its profitability - **but rodent infestations can threaten them all.**

TO CONTROL RODENT INFESTATIONS, YOU NEED EFFECTIVE SOLUTIONS YOU CAN COUNT ON



THE SOLUTION: SELONTRA®

2

- Innovative high performance rodenticide
- Ready-to-use and securable
- 20 g green soft block bait
- Highly palatable
- Attractive to rats and mice
- Effective on farms even when highly attractive food sources are available

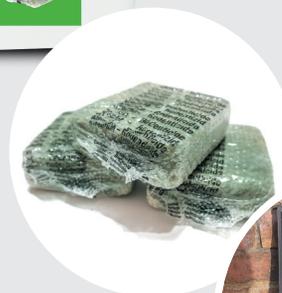


The target species are:

SCIENTIFIC NAME	COMMON NAME
<i>Mus musculus</i>	House mice
<i>Rattus norvegicus</i>	Brown rats
<i>Rattus rattus</i>	Black rats

Including strains resistant to anticoagulant rodenticides and neophobic rodents.

Selontra® is for use by **professionals and trained professionals in urban and rural settings**. In rural areas, Selontra® can help protect stored grain and livestock, farm equipment and buildings. (Please refer to the approved product label in your country for further information)



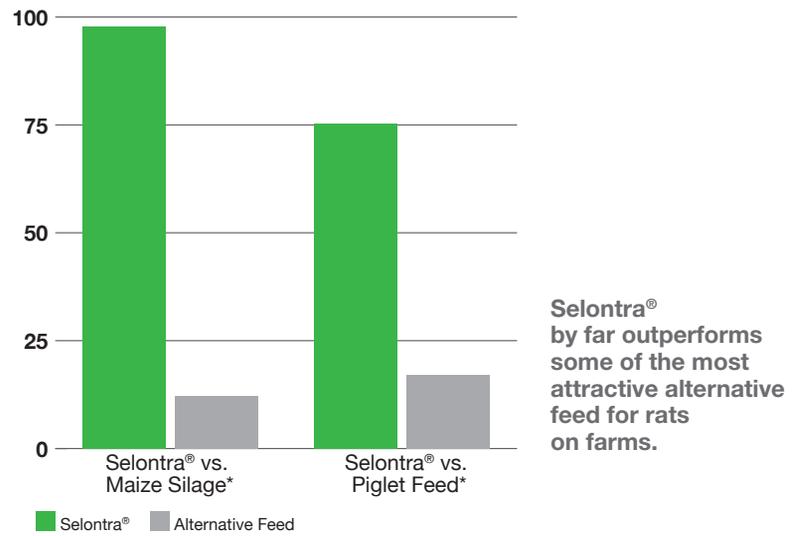
HIGHLY PALATABLE BAIT : RODENTS PREFER SELONTRA® OVER MAIZE SILAGE AND PIG FEED

We gave rats the choice to eat either maize silage or Selontra®. Rats ate over 13 times more Selontra®

Also we gave them the choice between Selontra® and piglet feed, rats ate 4 times more Selontra®.



Amount eaten on day 1 (g)



Selontra® by far outperforms some of the most attractive alternative feed for rats on farms.

Palatability against alternative feed *Tested with 5 Brown rats on day 1. Source: BASF

MODE OF ACTION

Selontra® contains 0.075% w/w (750 parts per million) of the active substance **cholecalciferol** within an innovative bait matrix formulation.

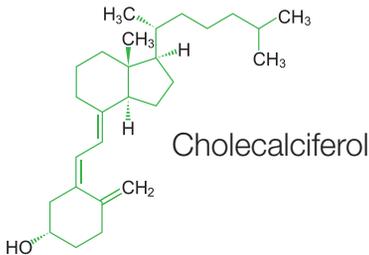
UNIQUE MODE OF ACTION OF CHOLECALCIFEROL



EXTREMELY HIGH PALATABILITY

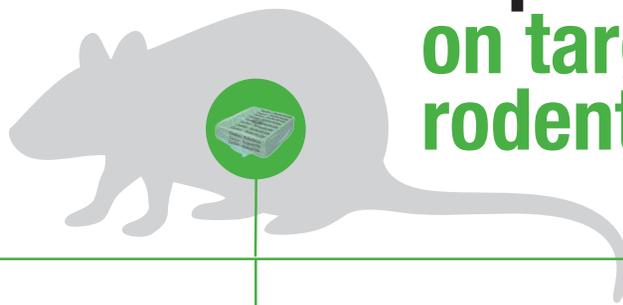


COMPLETE CONTROL POSSIBLE WITHIN AS FEW AS 7 DAYS

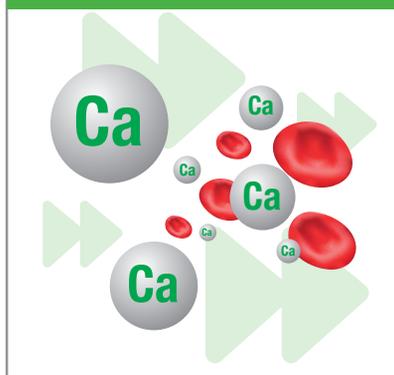


This speed of control is up to three times faster than anticoagulant rodenticides.

Impact on target rodents



Increases calcium in blood



Stop feeding effect after 24 hours



Death from hypercalcaemia



BENEFITS OF SELONTRA®

-  **3x Faster** infestation control than with anticoagulants
-  **No resistance** unlike some anticoagulants
-  **More efficient** uses less product per rodent than leading competitors
-  **Higher palatability** even when attractive food sources are available
-  **Extremely durable** and still effective under extreme temperatures
-  **Not an anticoagulant** the active substance in Selontra® has a different mode of action

STABILITY IN EXTREME TEMPERATURES

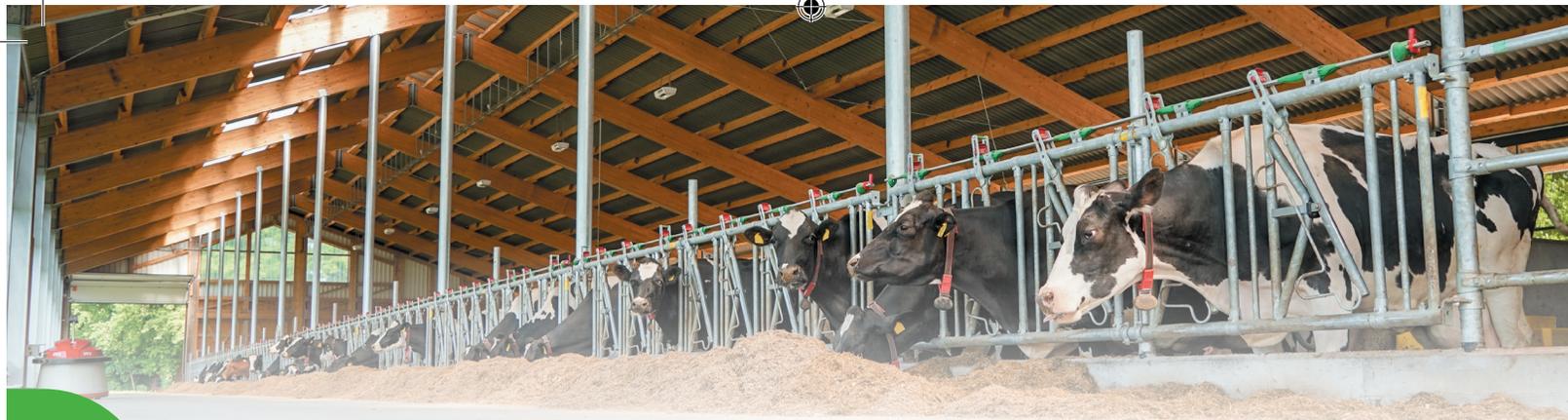
Selontra®'s novel formulation **was proved to be stable and effective in both dry and humid environments and across both hot and cold temperature extremes.** Whatever the weather on your farm, Selontra® will perform.



THERE WAS NO SIGNIFICANT EFFECT ON PALATABILITY AND EFFICACY

SAFEGUARDS

Selontra® contains a **warning dye and a bittering agent**, which is used at a concentration undetectable to rodents, but acts as a human taste deterrent to help avoid accidental consumption.



3

KEY BENEFITS TO FARMERS

SELONTRA® RODENT-FREE WITHIN AS FEW AS 7 DAYS

Selontra® has been tested in numerous trials against tough rodent infestations on farms in challenging conditions, e.g. in the presence of very attractive food sources like maize silage or pig feed.

These studies are designed to answer 3 questions:

1. What is the size of the infestation, i.e. the number of rodents, before Selontra® is applied?
2. How many rodents are left after the Selontra® application? We put this number in relation to the number before the Selontra® application, this gives us the level of control in percent.
3. For how many days do we need to bait with Selontra® in order to achieve 95-100% control?

How do we answer these questions?

We estimate the number of rodents before and after the Selontra® treatment by offering wheat and determining the daily amount consumed by the rodents before (pre-census) and after (post-census) the Selontra® treatment.

On average, consumption of 10 grams equals one rat, 2.5 grams equals one mouse. We also put out tracking patches of fine sand around the site to monitor the rodent activity. The number of footprints on the tracking-patches give us an activity score, independent of any feeding activity.

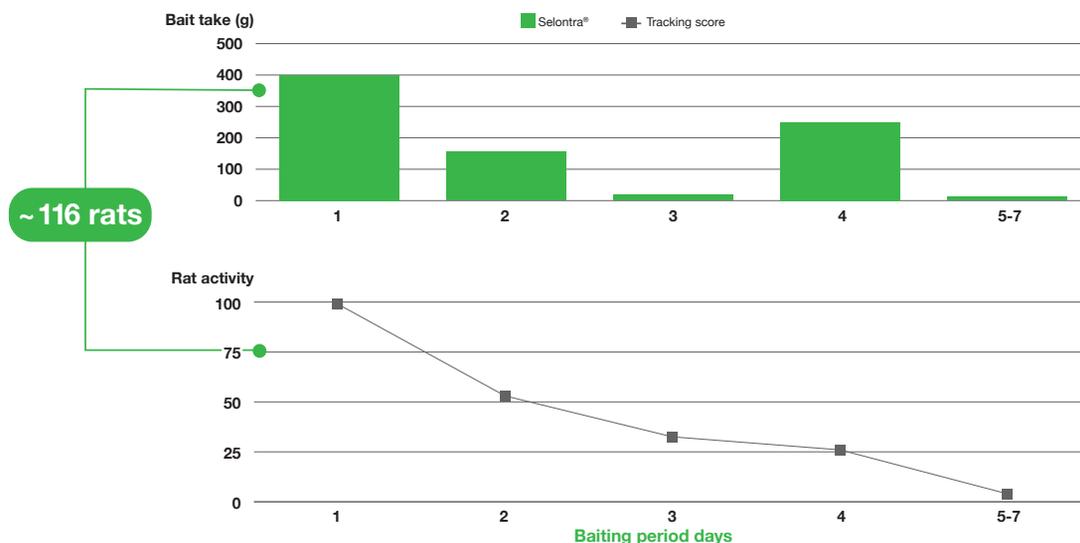


What do the results tell us?

The results of the studies show, that with Selontra®, you can control even large rodent infestations within as few as 7 days, up to 3-times faster than with anticoagulant rodenticides!

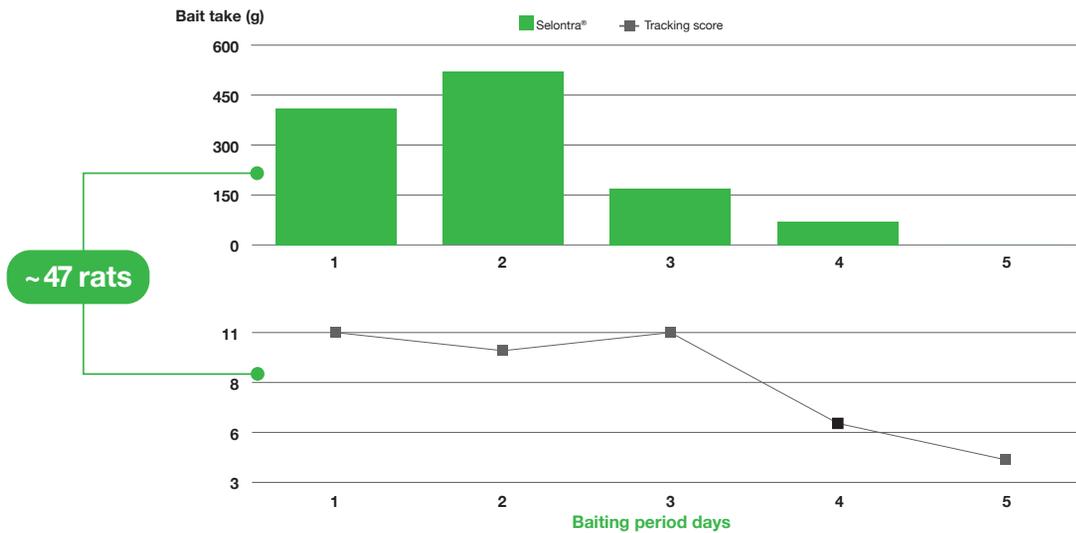
Example study of a Brown rat infestation at a stud farm:

Selontra® achieved 97-99% control with only 7 days of baiting



Efficacy in 'actual use situation' Challenges of this site: High quality horse and chicken feed. Hay and straw harborage
Source: BASF

Example study of a Black rat infestation at poultry farm
Selontra® achieved 100% control with only 6 days of baiting

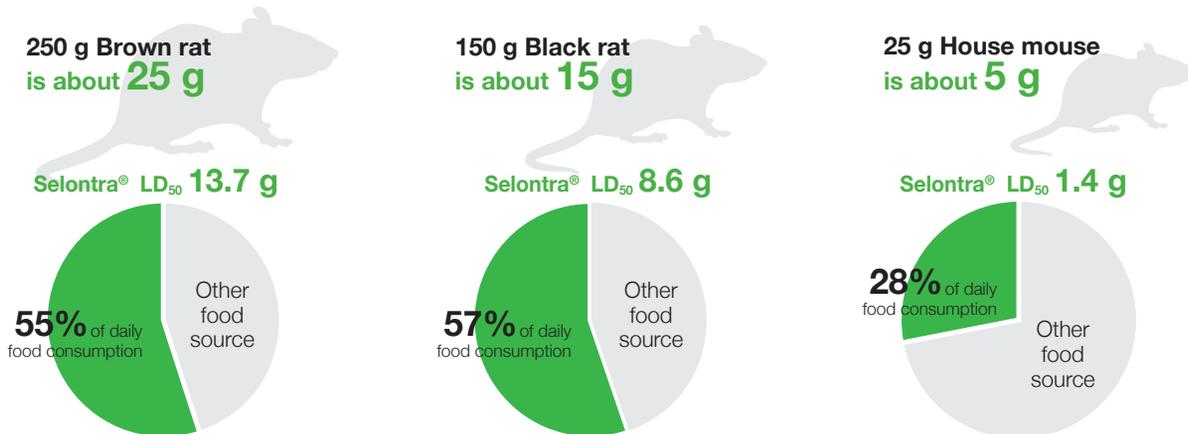


Efficacy in 'actual use situation' Challenges of this site: Henhouse in Corrençon en Vercors (France). Treatment conducted between flocks
 Source: BASF

SELONTRA® STOPS RODENT DAMAGE QUICKLY

Rodents stop feeding, on both the bait and any available food on your farm, within the first day after consuming a lethal dose of Selontra®. **This makes Selontra® up to 30% more efficient than many anticoagulant rodenticides** as it saves on further rodenticide use. It also quickly stops contamination and damage to the site.

Total daily food consumption of a :



A LETHAL DOSE OF SELONTRA® CAN BE EATEN BY RATS AND MICE IN 1 DAY

Source: BASF

SELONTRA® SAVES YOU TIME AND MONEY

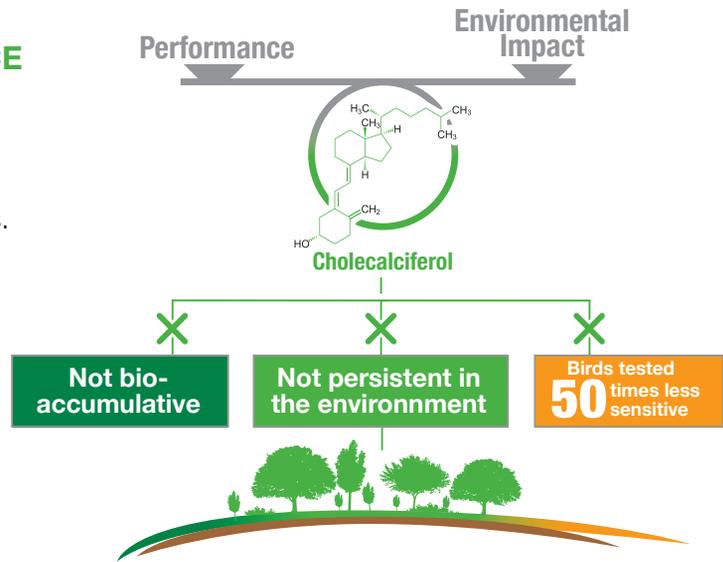
A unique product with a **stop-feeding effect** that prevents rodents from over-consuming and wasting bait. This speeds up control for other rodents to feed on the bait sooner, resulting in less bait used for faster control. Infestation control can be achieved in as few as two bait applications. Selontra® significantly saves time and labor while minimizing the damage and contamination caused by rodent pests.



SELONTRA® BALANCING PERFORMANCE AND ENVIRONMENTAL IMPACT

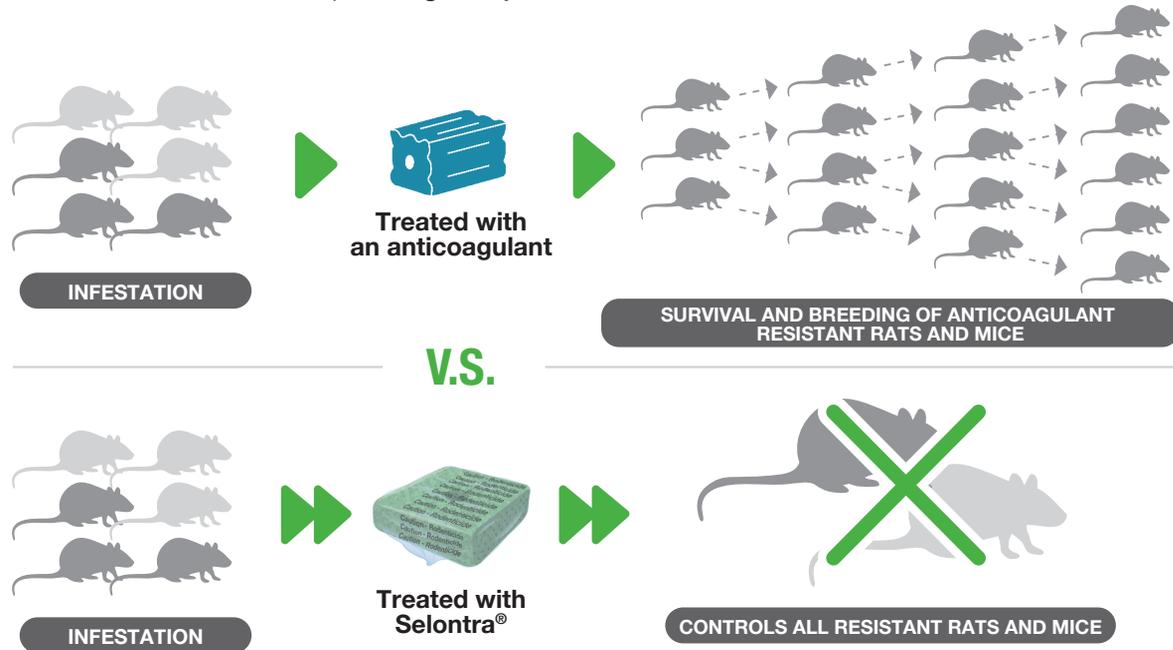
Selontra® combines a unique, quickly accepted and highly palatable formulation with a mode of action that enables faster control of infestations.

Studies on birds (quail and mallard) have shown that compared to rats and mice, they are approximately 50-times less sensitive to cholecalciferol.



SELONTRA® BREAKS THE CYCLE OF RESISTANCE

Selontra® controls all rodents – even those that are resistant to other rodenticides. Due to its mode of action, the development of future resistance is considered highly unlikely. No cases of resistance have been reported globally.



 Susceptible rats
 Resistant to anticoagulants

Breaking the cycle of resistance

Selontra® is palatable and efficacious against anticoagulant-susceptible and resistant rats and mice.

In laboratory trials, Selontra® was tested against several strains of Brown rats and House mice, which show different levels of resistance to anticoagulants:

Brown rat strains:

- Anticoagulant susceptible
- Welsh (resistant to first generation anticoagulants)
- Hampshire (resistant to first generation anticoagulants) tolerant to difenacoum & bromadiolone
- Berkshire (resistant to first generation anticoagulants) resistant to difenacoum & bromadiolone

Mice strains:

- Wild-derived (susceptible)
- Wild-derived (resistant to bromadiolone)

FOR EACH STRAIN 100% CONTROL WITH SELONTRA®



4

USE AND TECHNICAL APPLICATION

NEW SPEED BAITING TECHNOLOGY:

Only Selontra® enables a novel and highly effective baiting procedure called Speed Baiting for the control of even large rodent infestations within only 7 days! The unique combination of the stop-feeding effect (24 hours after a lethal dose is consumed) and high palatability reduces the time each hierarchical level of an infestation feeds on the bait, and ensures each rodent consumes a lethal dose during that time.

THE SPEED BAITING PROCEDURE:

1. Thoroughly inspect the site.
2. Use sufficient baiting points to address the size of the infestation.
3. Use the maximum amount of bait per label instructions at each baiting point.
4. Inspect each baiting point after 1 to 2 days and replenish to the label maximum quantity.
5. Full control of the infestation can be possible within 7 days!
6. Continue replenishing bait every 7 days until consumption ceases.

Selontra® causes rodents to lose their appetite **1 day after eating a lethal dose**, meaning they will not return to the bait to feed. This allows quicker access by less dominant rodents to the bait. Individual rodents can be controlled in as few as two days after a lethal dose has been consumed, and complete control of infestations can be possible within as few as seven days. Infestation control with only two Selontra® bait applications is possible.

DOMINANCE HIERARCHY IN THE INFESTATION

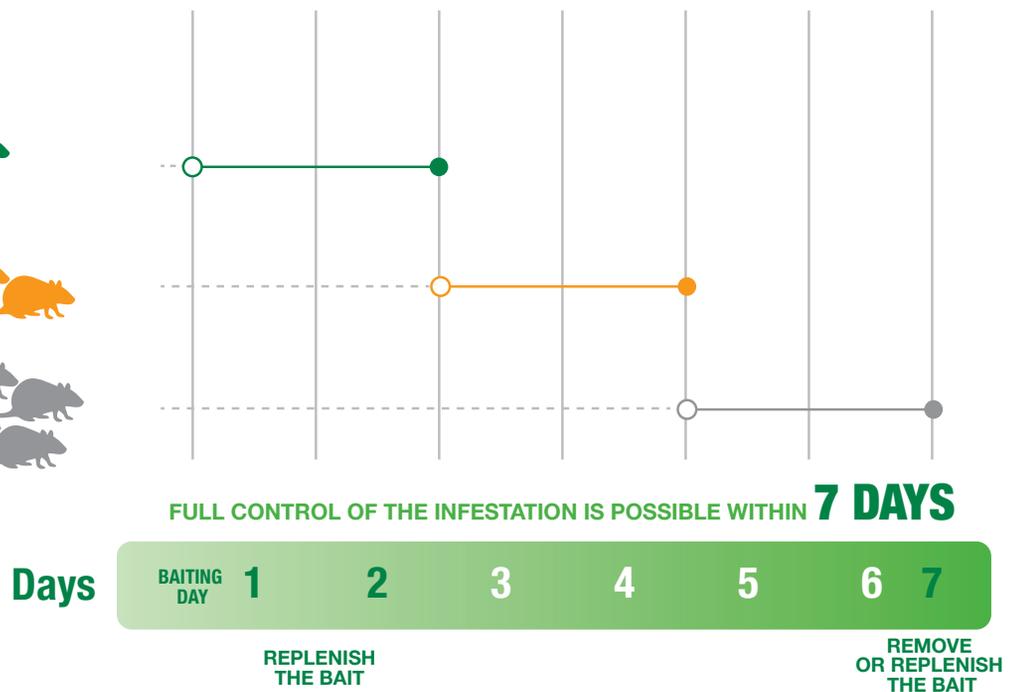
Dominant: eating in 1st wave



Subdominant: eating in 2nd wave



Non dominant: eating after



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FOR QUICK CONTROL IT IS ESSENTIAL TO PLACE SUFFICIENT BAIT FOR THE SIZE OF THE INFESTATION.

If there is not enough bait available to the rodents, some will stop feeding before ingesting a lethal dose and will not be controlled and may even develop bait shyness.

IT IS IMPORTANT TO REVISIT THE BAIT POINTS 1 TO 2 DAYS AFTER THE FIRST BAIT PLACEMENT IN ORDER TO REPLENISH ANY EATEN BAIT.

Directions for use

SPECIES	SITUATION	APPLICATION RATE FOR EACH BAIT POINT
House mice	Indoors and outdoors around buildings	20 g to 40 g (1 or 2 blocks) every 1 - 2 meters
Brown and Black rats	Indoors and outdoors around buildings	100 g to 140 g (5 to 7 blocks) every 5 - 10 meters

Selontra® must be secured in tamper-resistant bait stations or for trained professionals also at covered and protected bait points (if applicable in your country).

- Stations which include bait-securing rods are recommended.
- Place the product out of the reach of children, birds, pets and farm animals and other non-target animals.
- Also place Selontra® away from food, drink and animal feeding stuffs, as well as from utensils or surfaces that have contact with these.

Recommendation: If crop fields are adjacent or run parallel to your farms, you may need to place more stations around the buildings in those areas, especially during times of harvest.



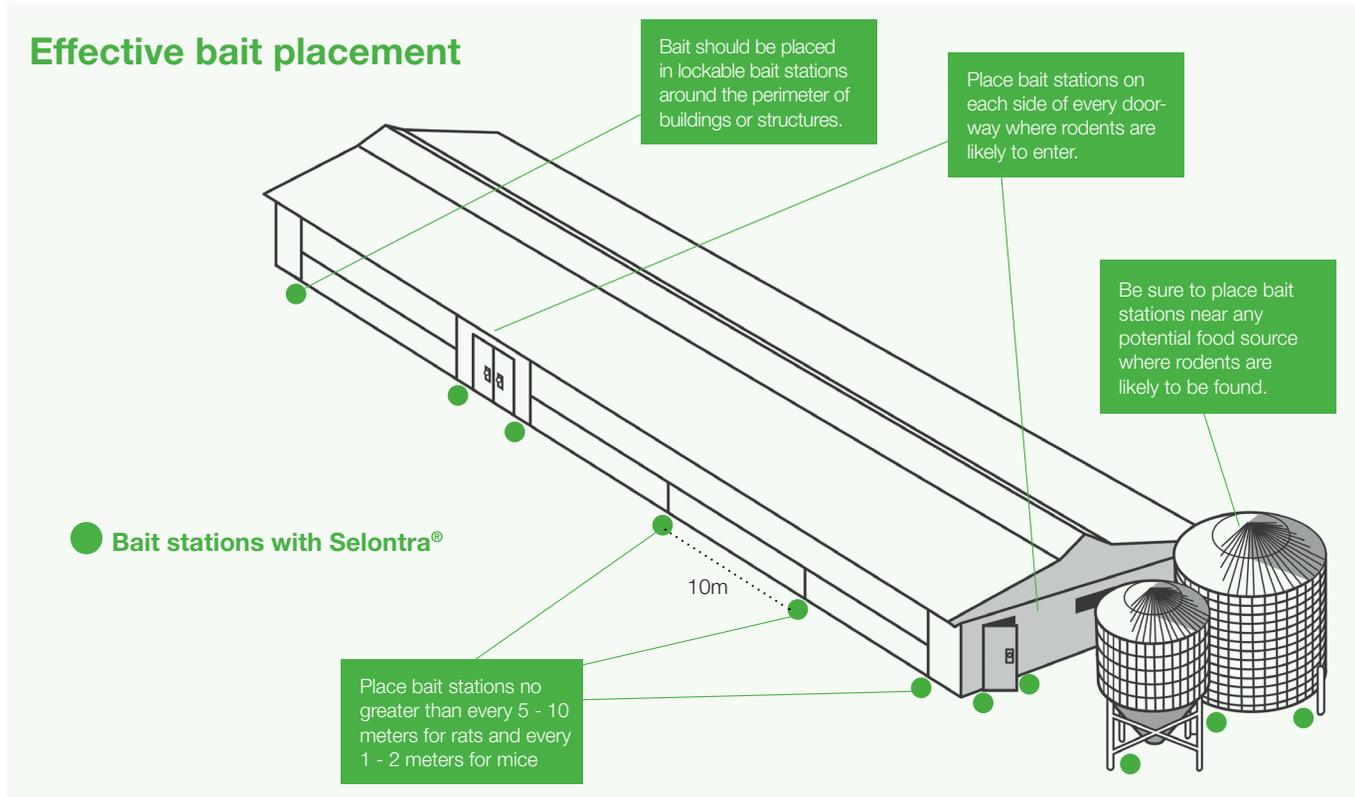
Covered and protected



Securing bait



Effective bait placement



FOR SEVERE INFESTATIONS USE

the highest recommended
NUMBER OF BAIT BLOCKS
For rats 7 blocks
and for mice 2 blocks



HIGHEST DENSITY OF BAIT PLACEMENT
For rats every 5 m
and for mice 1 m

Refer to the product label for specific baiting instructions that may apply in your country.

If no bait has been consumed at a bait point for an extended period of time, **consider moving that bait point to another location.** These strategies will ensure optimum control in the shortest time.

- If bait uptake should **continue for longer than a week, continue placing bait every seven days until consumption ceases.** When the take of bait has stopped, dispose of the uneaten bait and the packaging in accordance with local requirements.
- **Good hygiene practices** should be employed to aid rodent control. Remove rubbish which may attract rodents and provide harborage. To increase the likelihood of bait acceptance, the availability of other food sources should be minimized at the onset of treatment.
- Rodent death will occur two to five days after ingestion of a lethal amount of bait. **Search for and remove dead rodents at frequent intervals during treatment.** (e.g. at least twice a week). Dispose dead rodents and unused bait in accordance with local requirements. Rodents can be disease carriers. Do not touch dead rodents with bare hands, use gloves or use tools such as tongs when disposing them.

Long-term rodent management is achieved only with a continued, well-managed program. It is therefore imperative that a complete rodent control program with adequate site inspection, site hygiene, harborage reduction, rodent-proofing and baiting measures is maintained all year-round.



5

SAFETY, STEWARDSHIP AND FIRST AID MEASURES

PLEASE REFER TO THE APPROVED PRODUCT LABEL IN YOUR COUNTRY FOR MORE SPECIFIC SAFETY, STEWARDSHIP AND FIRST AID MEASURES.

SAFETY INSTRUCTIONS

- Avoid contact of the product with eyes and skin. Protective gloves should be worn when handling the product.
- Do not eat, drink, or smoke while working with the product.
- After using the product, remove protective clothing and wash face and hands with soap and water.

STEWARDSHIP

Stewardship measures for Selontra® include bait-intrinsic safety features and the application methods listed on the product label.

Bait-intrinsic features:

- Baits contain a human taste deterrent. A warning dye helps to distinguish Selontra® from food and when observed in animal feces indicates that an animal has ingested Selontra®.
- The soft bait formulation is securable, reducing the risk of being carried away from bait points.

Recommended application methods that apply in your country can be found on the product label; general recommendations are as follows:

- The product should only be used in and around buildings.
- Baits should never be broadcast or placed indiscriminately.
- Baiting advice aims at efficient and quick control of infestations.
- If sufficient bait is offered for the infestation size, full control may be achieved within 7 days.
- Bait placement should be in covered and protected bait points (if applicable in your country) or tamper-resistant bait boxes to minimize exposure to non-targets animals, domestic pets and children.

STORAGE

Store in original container, tightly closed and keep in a cool, dry, well ventilated place away from products with an odor. Do not store in direct sunlight. Prevent access to bait by children and non-target animals.

DISPOSAL

Dispose of bait safely as per label directions and in accordance with appropriate country and local guidelines, regulations, and appropriate laws.

FIRST AID MEASURES

- If on skin: Get medical advice/attention if you feel unwell.
- If in eyes, if symptoms occur; rinse with water. Remove contact lenses, if present and easy to do. Call a POISON CENTER/doctor
- If swallowed, rinse mouth. Get immediate medical advice/attention. Contact a veterinary surgeon in case of ingestion by a pet.
- If medical advice is needed, have product container or label at hand.

TREATMENT FOR PET, NON-TARGET ANIMAL OR HUMAN POISONING

Call veterinarian/doctor immediately if a pet or other non-target animal or human consumes this product.

NOTE TO PHYSICIAN / VETERINARIAN

Cholecalciferol causes hypercalcemia at toxic doses. Treat symptomatically. Treatment would include a low-calcium diet, high salt and fluid intake and avoidance of exposure to sunlight. Monitoring serum calcium levels may aid treatment. Cortisone has been used successfully in some cases.

POISONING SYMPTOM INFORMATION/INJURY REPORTING

To obtain information on symptoms of poisoning or if you have concerns about using Selontra®, please contact the appropriate emergency advice line below.

BASF RODENT SOLUTIONS

6

BASF recognizes the realities of modern farm operations, which is why we deliver rodent control solutions to serve those facilities' unique needs. We understand the need for the quickest and most-efficient control measures for rodent infestations. We appreciate there are numerous challenges to controlling infestations, including rats and mice that are resistant to anticoagulant rodenticides, restrictions on the types of rodenticides that can be utilized, contamination and residue risks, and the difficulty of restricting rodents' access to animal feed and stored harvest throughout the site.

Our solution is a comprehensive rodent control program tailored to help farmers, commercial facility managers and pest control professionals to:

- Identify rodent activity and the conditions that increase rodent infestation pressure
- Select the appropriate measures that will lead to control and mitigation of rodents
- Eliminate rodents quicker than with anticoagulant rodenticides minimizing their impact on your operations
- Monitor results and respond to new activity

In BASF we stand behind our products and support our customers with comprehensive training and expert technical assistance. Whenever you have questions, we are available to provide answers and to help make your job easier.

Selontra® must be handled responsibly and in compliance with your country label instructions, always taking into consideration humans, non-target animals, and the environment.

See our website to learn how to do a correct application of Selontra.





Become a certified Selontra® user

Get your Selontra® certification to control rodents
in as few as 7 days at www.training.selontra.com

BASF online path:

onlinepath.com

BASF contact information:

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Always read and follow label directions.

Use biocides safely. Always read the label
and product information before use.
Selontra® contains cholecalciferol.

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 **BASF**

We create chemistry