



We create chemistry

Rodent Control

User Guide and Record Book



Farm Name:

Date:

Reasons for control

Annually rodents consume and contaminate about

20%
of the world's food supply¹



Spread more than

200
human pathogens²

and carry

45 diseases



Some of the diseases, parasites and bacteria which rodents can harbour are transmissible to humans, farm livestock and companion animals, justifying their internationally accepted 'significant public health pest' status from the World Health Organisation (WHO).

100 rats
eat and
contaminate

10 tons
annually of stored
grain and feed

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

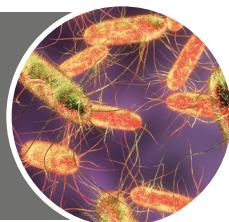
TRANSMISSION OF INFECTIOUS DISEASES

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

- 1** Livestock and domestic pets
- 2** Food and water intended for healthy animals. The highest impacting rodent related disease is Salmonellosis
- 3** Humans The biggest risk to workers and onsite visitors is Weils disease: www.nhs.uk/conditions/leptospirosis

Always wear gloves when dealing with rats and mice.
Wash hands after work and before any food or drink is consumed.

RODENTS POSE MAJOR RISK TO BIOSECURITY



¹ <http://www.idph.state.il.us/envhealth/pcpestcntr.htm>

² <https://www.pestworld.org/news-hub/pest-articles/fascinating-factsyou-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.

In the United Kingdom alone, an estimated 50 percent of farm fires are caused by rodents gnawing on electric cables.

Rodent infestations cause enormous amounts of damage to farms



LEGISLATION AND FARM ASSURANCE

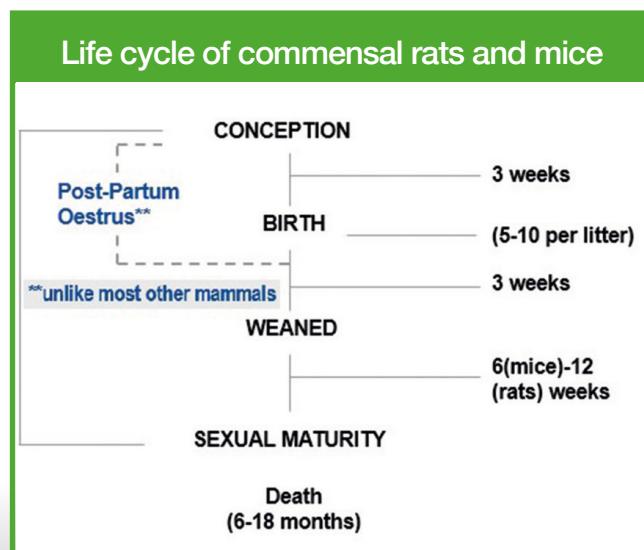
Health and Safety at Work Act: to provide a safe working environment.

Food Safety Act: requires that all food sold for humans must be fit for consumption.

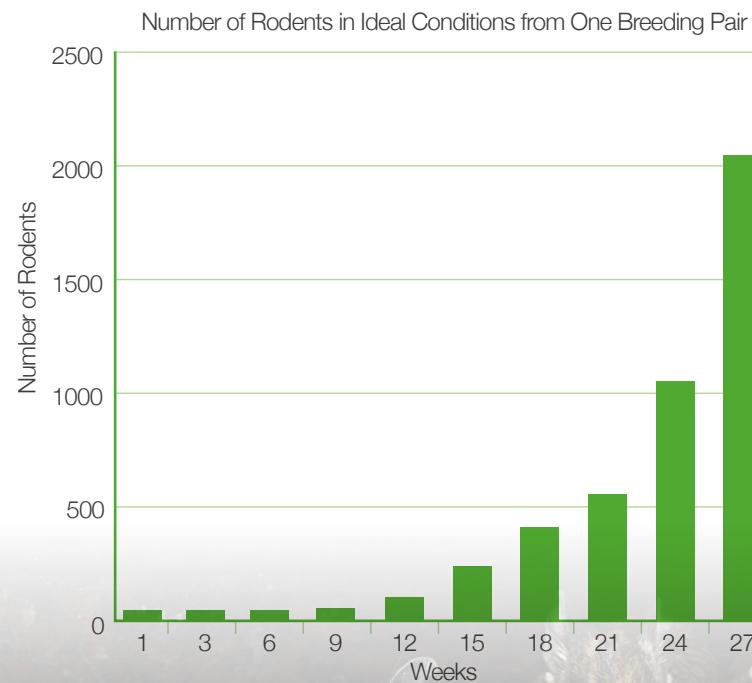
Farm Assurance Standards: Require farms to demonstrate that an effective rodent control programme is in place and being followed. Good record keeping systems should be able to help demonstrate due diligence and where rodenticides are being used, are being placed in accordance with the product label and not putting wildlife at risk.

Breeding

Rate of reproduction – the key point is how quickly infestations can grow.



	Mice	Rats
Sexual Maturity	6 weeks	10 - 12 weeks
Pregnancy	21 days	21 days
Number per litter	8 - 10	4 - 8
Seasonal – Breeding	Throughout the year	Yes
Post Partum Meeting	Probably	Less Common





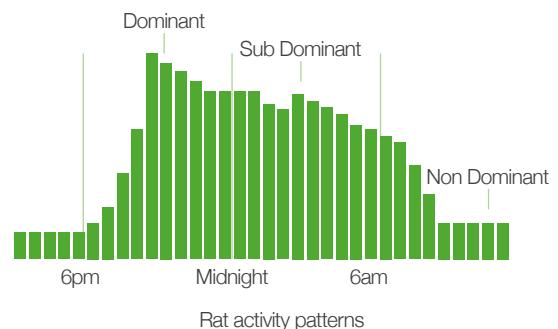
THE IMPORTANCE OF PLANNING, LOOKING AND MONITORING

On Farm: Behaviours



Active rats seen during the day usually indicates a significant infestation and usually is the movement of non-dominant rats.

Rodent Behaviour



Capabilities	Rats	Mice
Adult weight	Average between 300 – 500 g	Average 15 g
Feeding consumptions	10% body weight per 24Hrs; feeding at fewer locations. Gorging / hoarding habits. Requires free water for drinking.	10 – 20% body weight per 24Hrs; feeding over wider ranges. Sporadic feeding (little and often). Obtains water from moisture in foods.
Activity	Generally, 'shy' and tend to avoid new objects – but once in familiar (and safe environments) very active and somewhat predictable. Generally ground dwelling but will nest high if possible; not very agile.	Able to squeeze through gaps as small as 5mm in height. Very active in familiar areas and curious. Able to easily climb relatively smooth walls.
Habitat	Generally outside and often found at lower levels. However happy to come indoors and live higher where possible.	Indoors and generally 3 dimensional – important to position control options away from ground level, raising where possible
Family units	Mostly social groups up to 15-20, very territorial when food and shelter in short supply.	Traditionally less social, with groups of four to nine, dominated by single male.
Droppings	40 per day. Droppings usually found in communal latrines.	80 per day but scatter over areas of activity; dry-out quickly (as don't drink).

Neophobia – Rats are naturally cautious creatures, (and tend to avoid new objects). This means that initially, they will probably avoid new bait boxes when they are placed on site. This period of avoidance is usually 7-14 days but sometimes longer.

Behavioural resistance – Baits may not work quickly where the rodent avoid the baits or traps applied.

Non-Target Animals – it is important that only target pests (rats and house mice) are controlled as part of any eradication campaign. Cover and protect baits or traps and exclude access to other species.

The Problem:

Establish prime locations around the site where rodents live / maybe active; use of motion cameras or sand patches will help. Ideally obtain a satellite image and mark on these boundaries of activity.

Common areas to monitor

- Identify critical points as well as potential pinch points and make these part of the overall site monitoring programme.
- Habitat Modification – (Harbourage reduction) Minimise food opportunities, access into buildings and nesting material around the site.



Habitat modification is clearing up and minimising opportunity for rodents to become active and established.

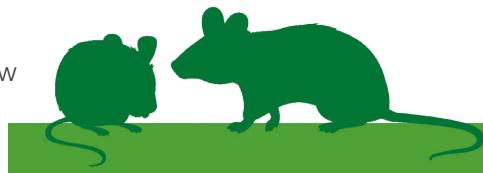


Routinely Monitor for signs of current / fresh activity

A properly conducted survey collects useful information which is essential if efficient and effective control is to be achieved, with the minimum expenditure of time and money.

Frequently looking for signs of rat or mouse activity will identify activity sooner and so allow control (eradication campaign) to be started sooner. Initially this is also to confirm if it is a target pest or non-target species.

Signs of activity may include not only live and dead rodents but also:



Droppings	Footprints	Fresh burrows around the site	Burrows are safe locations for rodents and are often used - so are a key piece of evidence to confirmative rodent (rat) infestations.
Rat droppings are approx 20 mm long; mice 3-6 mm.	Having to walk usually from burrows to a food source, rodents leave tell-tail footprints in mud or dusts. Use this to monitor any activity.	Internally, mice will make nests from insulation and chewed packaging. Rats usually create burrows at ground level, but will also nest internally where possible.	
Smear marks	Runs and tracks	Damage	Burrows can be baited* as part of a control campaign.
Brown 'dirty' marks, usually around a point where rodents frequently pass, such as ingress points or cables.	A worn path leading away from their burrow and usual routes around a site, often towards food sources.	Rodents gnawing on materials including feed-stuff, fabric of buildings, cables, pipes, etc.	*read product labels

Other evidence to collect while looking for rodents includes:

- **Extent and locations of the activity** - horizontally and vertically, remembering they can climb.
- **Size of infestation** - this will have an impact on the quantity of traps needed or the active ingredient, bait type and importantly the quantity of baits required to control the active infestation.

Footprints

Sand tracking patches are an option which can be used to help monitor rodent activity; their footprints indicates where the rats or mice are travelling around a site.



This helps with bait placement as well as indicating areas of heaviest activity.
The location of these patches can be recorded on the map (see pg12).

Generally, rodents use the same paths, so looking for runs, tracks and footprints and knowing where rodents are active is not only useful to gauge activity levels and directions; they are also the best place to position traps and baiting points.

The use of traps also supports a non-chemical element to any control option and should be considered as part of every eradication campaign.

Snap traps are an effective way to control small infestations of rodents – traps are available for both rats & mice.
Inspect traps frequently.



Spring traps are usually used as 'blunder traps' – i.e. place them on runs. *Use with caution!*
Additional legislation is applicable for their use – search: 'spring traps approval order' for local guidance.



Smear marks and tracks over a bait station

Control Risk Hierarchy



The principal consideration when choosing methods for the control of rodents and the 'best' approach is to consider and employ methods that are effective (based on active and formulation), but also have the **least risk** of negative impact on non-target species and the surrounding environment.

CRRU 7 point code

Always have a planned approach
Always record quantity of bait used and where it is placed
Always use enough baiting points
Never leave bait exposed to non-target animals and birds
Search for, collect and dispose of rodent bodies – both dead and dying
Inspect bait regularly – possibly weekly, if not more frequently
Never leave bait down at the end of the treatment

Considered approach:

Non-chemical : Non-lethal

(Habitat modification)

Non-chemical : Lethal

(Physical i.e. traps)

Chemical

(Method to be considered as part of on-site risk assessment)

<https://www.thinkwildlife.org/stewardship-regime/code-of-best-practice/>

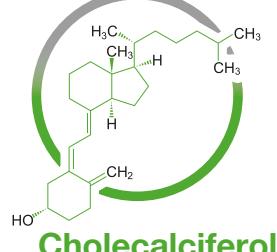


SELONTRA® BENEFITS

Balancing performance & environmental impact

Performance

Environmental Impact



Not bio-accumulative

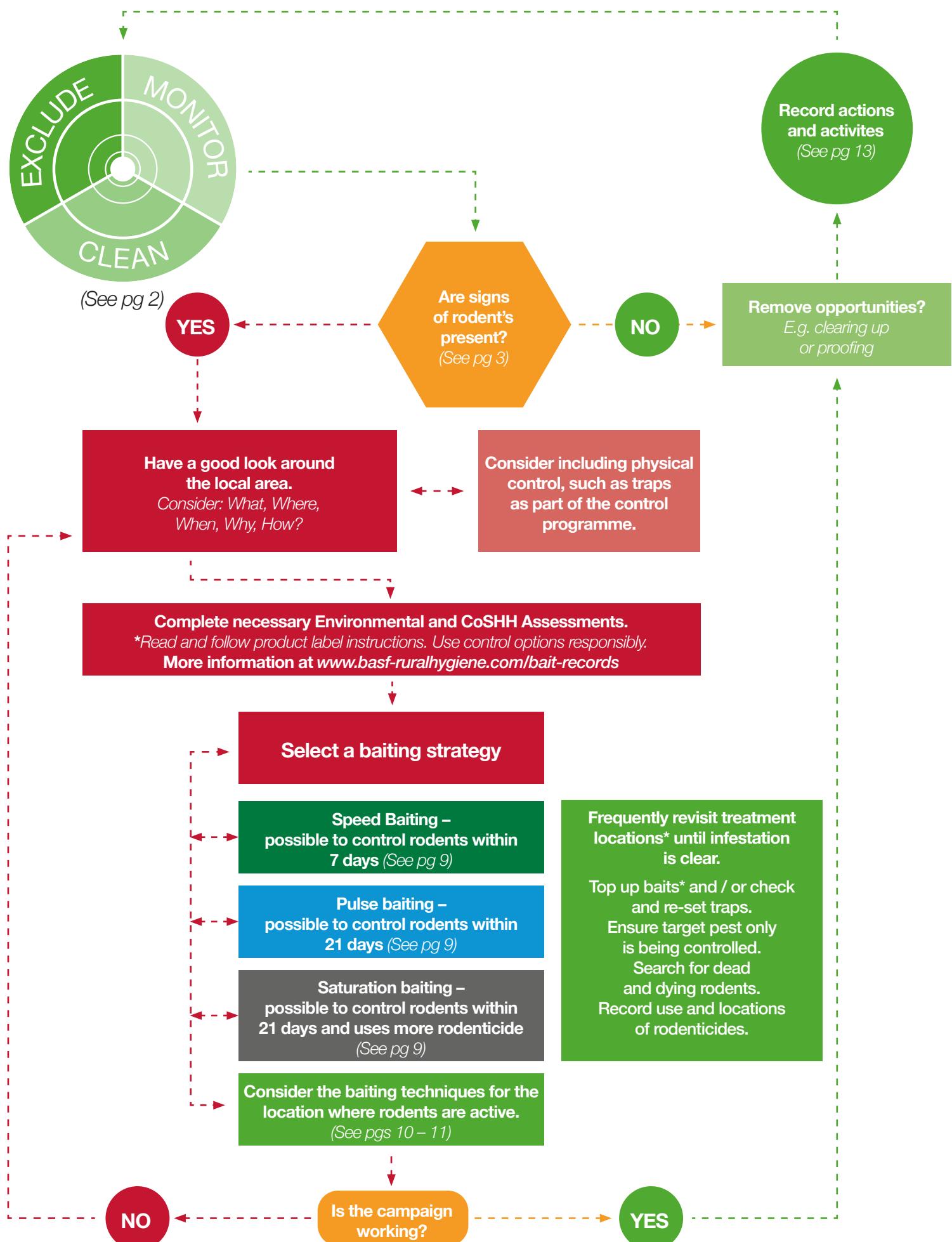
Not persistent in the environment

**Birds tested
50 times less sensitive***

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



Action Plan





Baiting Strategies

	Time to control infestation	Application process*	Quantities to apply and follow up time frames
Speed Baiting (Sub-acute) 	<ul style="list-style-type: none"> - Rats and house mice possible within as few as 7 days - Significant reduction in visual activity within 24Hrs 	<ul style="list-style-type: none"> - In and around buildings - Tamper-resistant bait boxes / covered and protected bait points - Apply on rat runs*, as close to burrow entrance as possible - Permanent baiting possible* - Use in areas of resistance - Use in sensitive areas 	<ul style="list-style-type: none"> - Mice 1-2 blocks (20-40 g) per baiting point - Rats 5-7 blocks (100-140 g) per baiting point <p>Check and replenish as necessary after 1-2 days and every 7 days, until infestation is controlled, up to 35 days</p>
Pulse Baiting (Single feed SGARs) 	<ul style="list-style-type: none"> - Rats and house mice possible within 10 – 14 days - Visual activity will continue during control period 	<ul style="list-style-type: none"> - In and around buildings - Tamper-resistant bait boxes / covered and protected bait points - Burrow baiting - Use in areas of resistance - Treatment in very damp and sewer locations (check table below) 	<ul style="list-style-type: none"> - Mice 25 g (1 block) per baiting point - Rats 50-75 g (2-3 blocks) per baiting point <p>Replace eaten bait only after 3 days and then at maximum 7-day intervals, until infestation is controlled, up to 35 days</p>
Saturation baiting (Multi feed SGARs) 	<ul style="list-style-type: none"> - Rats and house mice possible around 21 days - Visual activity will continue during control period 	<ul style="list-style-type: none"> -In and around buildings, open areas, waste dumps and sewers - Tamper-resistant bait boxes / covered and protected bait points - Burrow baiting - Permanent baiting possible with blocks* 	<ul style="list-style-type: none"> - Mice up to 30 g of bait (1 block) per baiting point - Rats up to 200 g (8 blocks) per baiting point <p>Frequently over first 10-days and regularly as consumption continues, until infestation is controlled, up to 35 days</p>

*always read the product label prior to application

Rodenticide bait approved uses in the UK

	Burrow baiting	Open areas / waste dumps	Permanent baiting	Indoors and outdoors around buildings	Covered and protected bait points	Sewers
Selontra®	No	No	Yes	Yes	Yes	No
Storm® Ultra Secure	Yes	No	No	Yes	Yes	No
Storm® Secure	Yes	No	No	Yes	Yes	Yes
Neosorexa® Gold	Yes	Yes	No	Yes	Yes	Yes
Sorexa® D (House mice only)	No	No	No	No	Yes	No

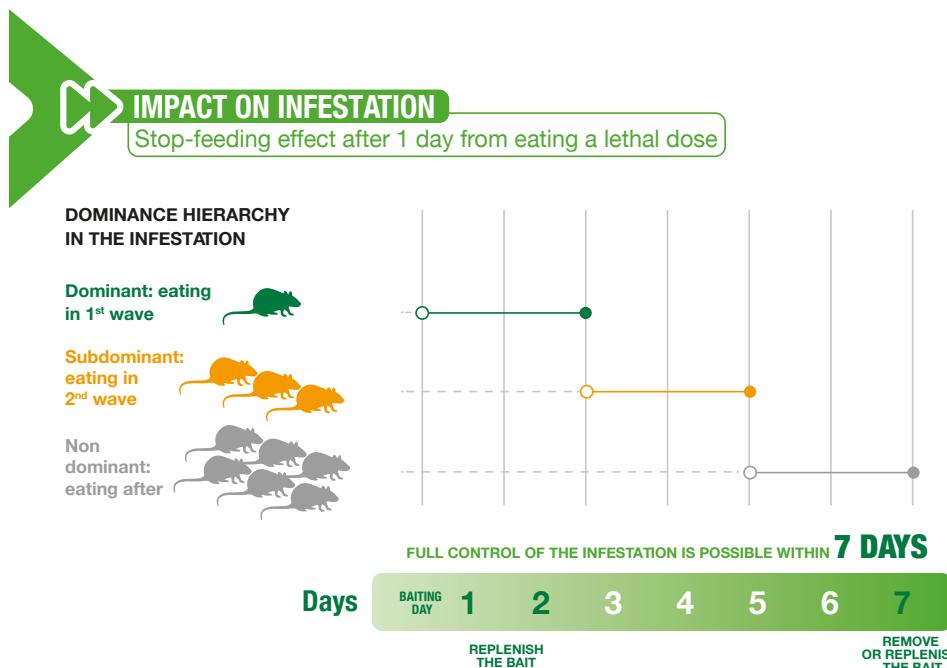


Quantity used, against time taken to control, are important factors when considering which active ingredient to use.

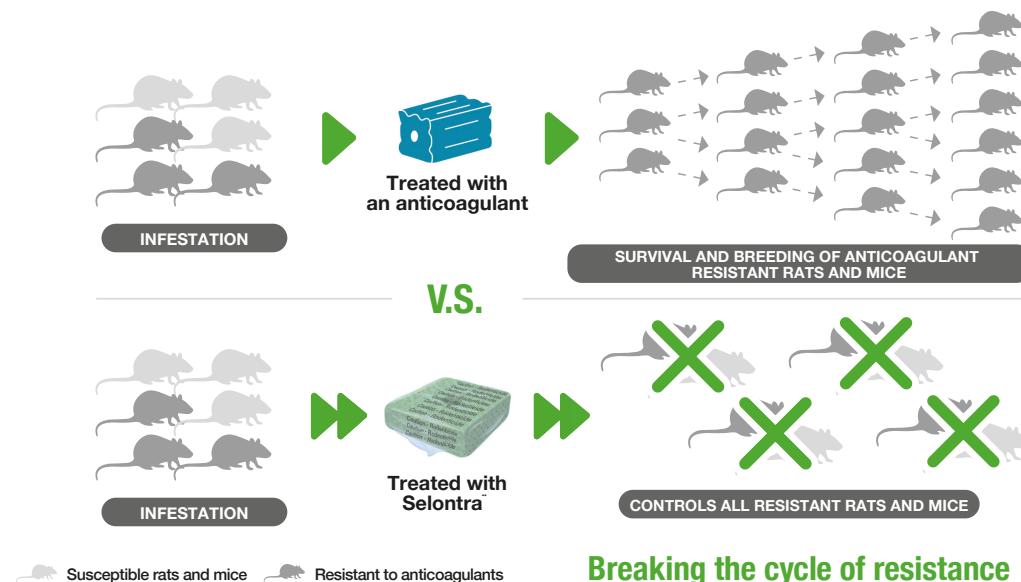
The less time a rodenticide is in place, the lower the risk associated with its use; the less quantity used can also help minimise accidental exposure and the quicker the rodents are controlled, the less risk there is for every part of the process.

Considering a dominance feeding hierarchy, it is important to maximise the bait availability to all of the infestation, allowing bait to be consumed faster, and death occurring sooner.

Speed baiting stops those rodents which eat first, from consuming multiple lethal doses (eating more than necessary), which provides more baiting opportunities (using less bait) for the rest of the rodents present.



Resistance is an increasingly common issue, where traditional anticoagulants are no longer effective against rat and mouse infestations. The true scale of the UK problem is unknown, however tests are increasingly finding wider pockets of resistance around the country.

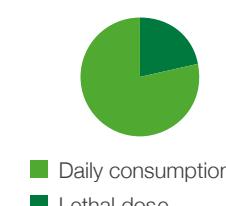


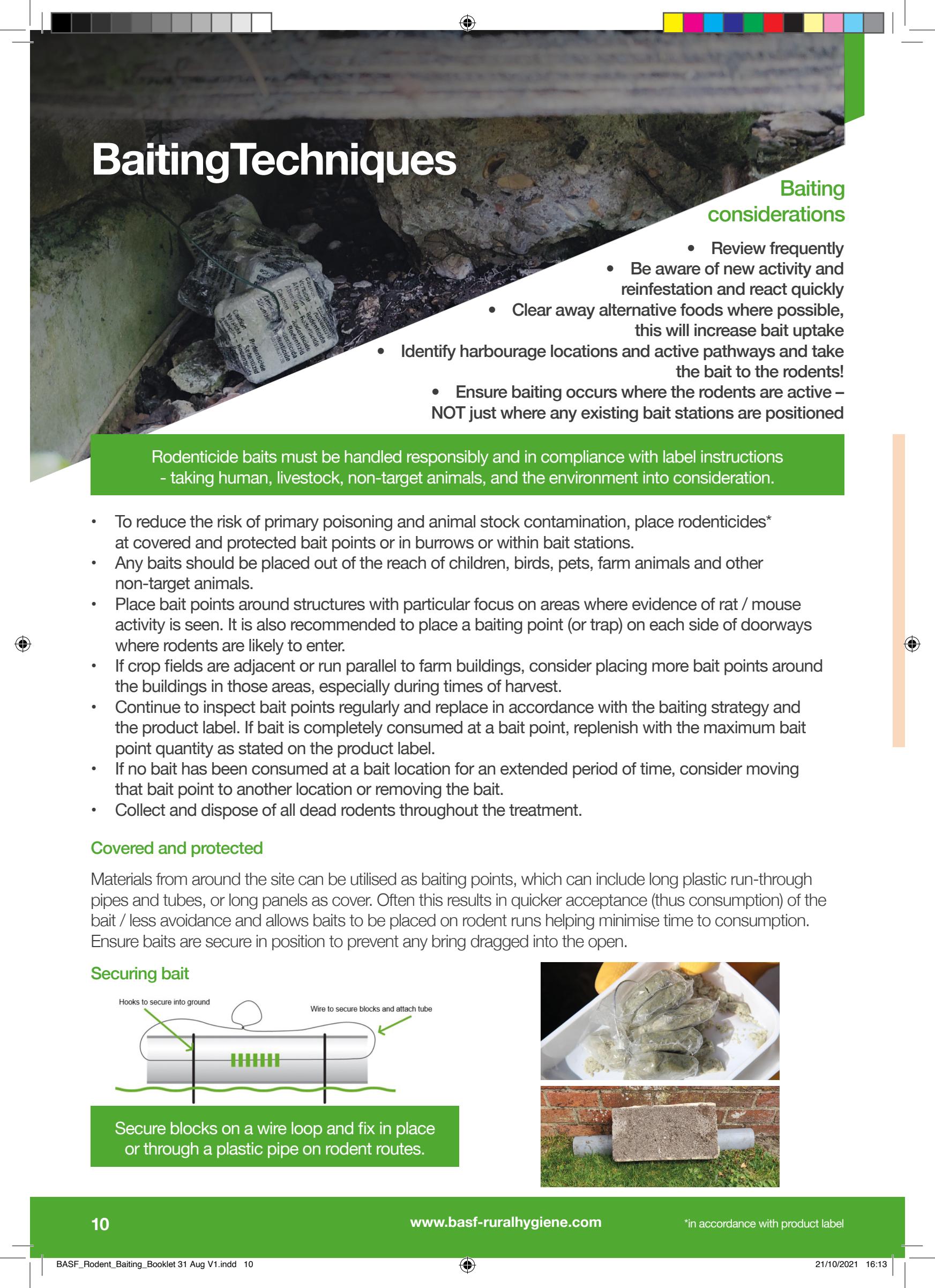
Selontra® controls rats and mice which traditional rodenticides cannot, which means less bait is used in resistant locations and rodents are controlled sooner.

Speed baiting reduces the risks associated with rodent infestations by minimising activity quickly and reduces the amount of bait placed in the environment.

Dead rodents – Search for and remove dead rodents during treatment at frequent intervals, in line with the label recommendations and the relevant code of best practice.

Disposal – At the end of the treatment, dispose uneaten bait and the packaging in accordance with local requirements.





Baiting Techniques

Baiting considerations

- Review frequently
- Be aware of new activity and reinfestation and react quickly
- Clear away alternative foods where possible, this will increase bait uptake
- Identify harbourage locations and active pathways and take the bait to the rodents!
- Ensure baiting occurs where the rodents are active – NOT just where any existing bait stations are positioned

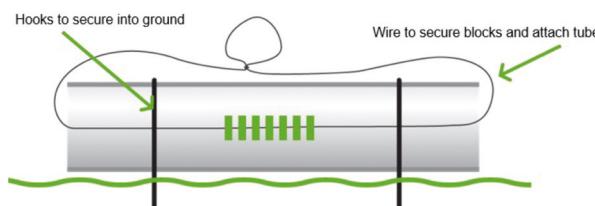
Rodenticide baits must be handled responsibly and in compliance with label instructions
- taking human, livestock, non-target animals, and the environment into consideration.

- To reduce the risk of primary poisoning and animal stock contamination, place rodenticides* at covered and protected bait points or in burrows or within bait stations.
- Any baits should be placed out of the reach of children, birds, pets, farm animals and other non-target animals.
- Place bait points around structures with particular focus on areas where evidence of rat / mouse activity is seen. It is also recommended to place a baiting point (or trap) on each side of doorways where rodents are likely to enter.
- If crop fields are adjacent or run parallel to farm buildings, consider placing more bait points around the buildings in those areas, especially during times of harvest.
- Continue to inspect bait points regularly and replace in accordance with the baiting strategy and the product label. If bait is completely consumed at a bait point, replenish with the maximum bait point quantity as stated on the product label.
- If no bait has been consumed at a bait location for an extended period of time, consider moving that bait point to another location or removing the bait.
- Collect and dispose of all dead rodents throughout the treatment.

Covered and protected

Materials from around the site can be utilised as baiting points, which can include long plastic run-through pipes and tubes, or long panels as cover. Often this results in quicker acceptance (thus consumption) of the bait / less avoidance and allows baits to be placed on rodent runs helping minimise time to consumption. Ensure baits are secure in position to prevent any being dragged into the open.

Securing bait



Secure blocks on a wire loop and fix in place or through a plastic pipe on rodent routes.





Storm® Ultra Secure lopped onto a wire ready to place inside a burrow.



Storm® Ultra Secure- in position in a rat burrow with the wire wrapped around a stone.

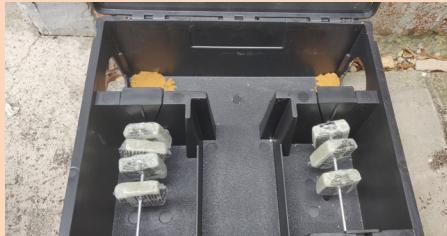
Burrow baiting is simply placing bait directly into the burrow (nest) entrance and securing to prevent access by non-target species. On farm this is possibly one of the most effective baiting techniques for rat control, often resulting in quicker acceptance of the bait, and less bait will be used compared to placing in bait boxes. Direct application also lowers risk of rodents dying on the surface (minimising secondary poisoning) and lowers primary poisoning risks, as it is buried in the ground.

Secure blocks on a wire loop and place inside the burrow, ensuring that the bait blocks are pushed far enough into the burrow so as not to restrict the entrance / exit for the rats. Tether the other end of the wire to a stone etc., to help prevent the rat from dragging the wire inside the burrow. This also allows the blocks to be retrieved, which enables:

- monitoring of bait eaten
- retrieval of uneaten bait at the end of the treatment

Tamper Resistant Boxes (TRB) are plastic containers designed to keep rodenticides in and minimise access to humans and larger non-target species.

When bait boxes are first introduced onto a site, they may need to be acclimatised until the rats have overcome their avoidance of these new objects. This acclimatisation may take days or weeks, however, this should be a once only step.



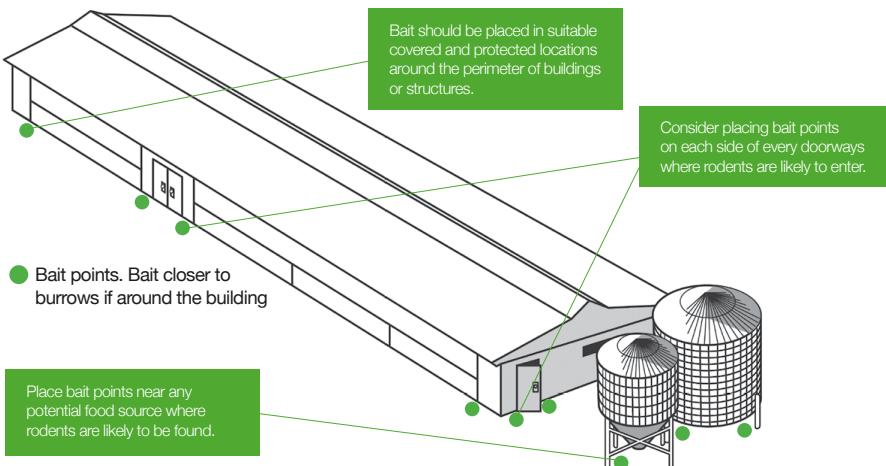
Generally these boxes remain in place when the treatment has been completed and the bait has been removed, in this way they are ready for any future bait treatment; provided the new rats adopt previous runs etc.

Placing tracking sand inside the bait boxes and checking after 7 -10 days, etc. will indicate if the rats are entering the boxes and if they are feeling comfortable enough to eat from the boxes. Once they are comfortable entering the bait boxes, baiting can now commence.

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.

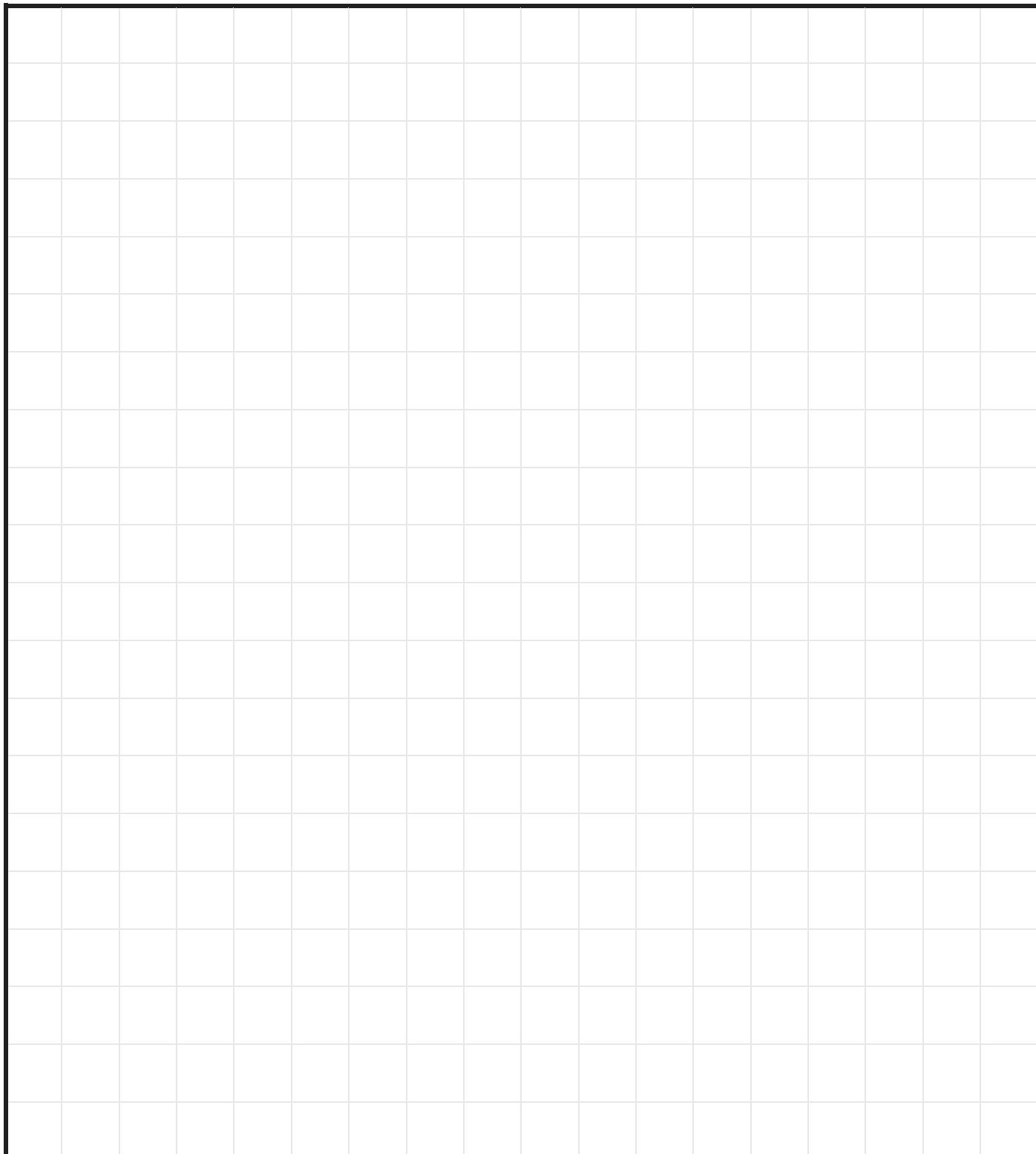
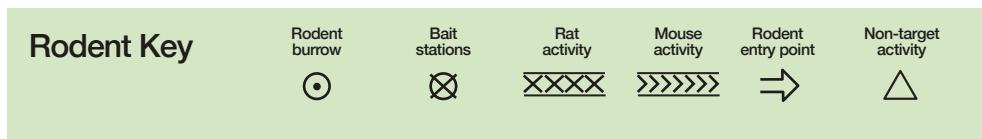
IT IS IMPORTANT TO REVISIT THE BAIT POINTS IN ACCORDANCE WITH THE PRODUCT LABEL AND BEST PRACTISE IN ORDER TO REPLENISH ANY EATEN BAIT.



Long-term rodent management is achieved only with a continued, well-managed IPM program. It is therefore imperative that a complete rodent control program with adequate site inspections, site hygiene, harbourage reduction, rodent-proofing and trapping/baiting measures are maintained as necessary based on risk of, or actual rodent activity.



Example ‘Site Map’ template





Farm Name:

Sheet No:

Monitoring and Inspection Log



Date and record every inspection and/or survey when looking around the site for signs of rodent activity or environmental management requirements. Where possible remove food sources, places for rodents to live and nesting material.

Farm Name:

Sheet No:

Eradication Campaign Records



Complete this log when any control options have been used following signs of rodent infestation – especially where rodenticides have been applied.

Always read the product label. (Selontra® = speed baiting) (Storm® = pulse baiting) Search for rodent bodies during the eradication campaign



Selontra®



Product Overview

Selontra®'s unique combination of mode of action and extremely palatable formulation can enable the complete control of large rodent infestations within as few as 7 days, providing greater flexibility to fit effective rodent control into your farm operations process, optimising your biosecurity programme.



SELONTRA®

offers extremely high palatability and faster control

- Saves treatment times and improves productivity
 - Minimises waste and saves money
- Balancing performance and environmental impact
 - Breaks the cycle of resistance: innovative high performance rodenticide
- Ready-to-use and securable
 - 20 g green soft block bait
 - Highly palatable
- Attractive to both rats and house mice
- Effective on farms even when highly attractive food sources are available

This unique product has a stop-feeding effect that prevents rodents from over-consuming and wasting bait. This speeds up control as sub-dominant rodents feed on the bait sooner, resulting in less bait used for faster control, which is all designed to save time and cost of purchase.

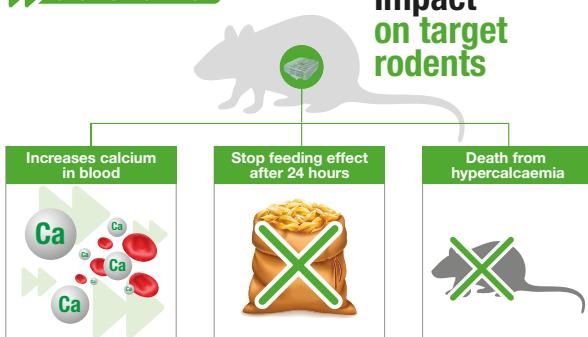


BASF rat control cost calculator allows you to cost the real value of different active ingredients, based not just on cost – but importantly this needs to include the number of visits made during the eradication campaign, as time is an important element in the cost of rodents on site. The calculator doesn't include the risk of how long rodents are on site, considering gnawing damage, fire potential, contamination on animal feed and spreading diseases, etc.

More information available at: www.bASF-rurAlhygiene.com/ratcalc



► CHOLECALCIFEROL





Product Overview

Storm® Ultra



Storm® Ultra provides the palatability of a soft block and the durability of a hard block.

At least twice as palatable as leading anticoagulant block baits.

Storm® Ultra is stable and durable enough to withstand extreme temperatures and features a patented formulation offering a free block with superior performance.

Storm® Ultra is a highly effective single-feed bait against rats and house mice – also against anticoagulant-resistant strains

Storm® Secure



Storm® Secure is the most potent single feed common rat bait, bringing the power of flocoumafen to rodent control.

- Up-to five times more powerful than the most popular Second Generation Anticoagulant Rodenticides (SGARs)
- Storm® Secure effectively combines grain-based palatability, with durability and securability.
- Maximum value, least cost pulse baiting.
- Good palatability and durability.
- Storm® Secure is approved for the use in and around buildings (including burrows) and sewers.
- Storm® Secure is a highly effective single-feed bait against rats and house mice – also against anticoagulant-resistant strains

Neosorexa®



Neosorexa® is a ready-to-use rodenticide for the control of house mice and brown rats.

Available as either a multi-purpose, cut wheat bait or bait blocks.

Sorexa® D

Sorexa® D is made from canary seed and is extremely palatable to house mice, ensuring good bait take within buildings.



Sorgene® Xtra

Sorgene® Xtra is a very powerful broad spectrum environmental disinfectant for the control of disease-causing microorganisms such as viruses, bacteria, fungi and fungal spores of commercial importance.

Its advanced formulation; Sorgene® Xtra is non-staining and non-tainting.

DEFRA approved (Foot-and-mouth disease, Swine vesicular disease, Poultry diseases including avian influenza, influenza of avian origin in mammals, Newcastle disease, paramyxovirus, General orders).

For cost effective first class cluster, lambing, building, equipment and vehicle hygiene.



We create chemistry

Further information, guidance, downloadable documents and training go to bASF-ruralhygiene.com

Including:

- Livestock rodent control
- Selontra® User Guide
- Disinfectant for livestock and general farm use
- Best Practice Dairy Calving Hygiene Smart Guide
- Rodenticide Decider to help you choose the right rodenticide for your specific situation

<http://bASF-ruralhygiene.com/bait-records>

Downloadable documents – CoSHH; Environmental Assessment; Monitor and treatment record templates

Further information and support

<http://bASF-ruralhygiene.com/rodent-control>

- Instructional and guidance videos – to help save treatment time through the best control practice in a range of 'real life' situations
- CRRU approved exam for the purchase and ongoing use of rodenticides, including continuing professional development (CPD) events and points

www.bASF-ruralhygiene.com/ratcalc

BASF rat control cost calculator allows you to cost the real value of different active ingredients, based on cost and the number of visits made to the eradication campaign.

Online technical support:

<http://bASF-ruralhygiene.com/selontra>

In accordance with BASF supporting the rodenticide stewardship campaign, those who wish to use Selontra® will need to complete an online product support course. This free to access course is available at www.learning.selontra.com

Further Pest Control Information and Support Visit

www.pestcontrol.bASF.co.uk