



e-Raticate

Rodent Repellant System™

Coverage Area Worksheet

DEVELOPMENT OF A COMMERCIAL RODENTICIDE

Developing a rodent repellent for DIY applications or professional pest control is a lengthy process; it can take several years from discovery to introduction of a commercial product. The process usually starts in the laboratory with the screening of potential molecules. Once human toxicity and environmental contamination tests are complete, then the chemical progresses through small-scale evaluations.

Field testing is used to determine the effective concentrations and application rates, and the most cost-effective application method. After field testing, the data is submitted to the U.S. Environmental Protection Agency for approval. The EPA reviews the toxicity data and the potential environmental impact of the chemical before granting the manufacturer a label and permission to sell the product.

Such was the case for the development of the e-Raticate Rodent Repellant System. Beginning in early 2012, and after extensive laboratory work to arrive at the most effective formulation, field tests and reviews by the EPA, e-Raticate was granted a 25b exemption, its label was approved and permission was granted to sell the product.

The application rates and delivery methods for e-Raticate can be calculated based on a set of variables and depending on the chosen applicator. E-Raticate is a non-toxic, natural formulation and is generally applied with either a hand sprayer for moderate area coverage, a pressure pump sprayer for larger applications and a direct-pour nozzle applicator for smaller spot applications.

Most rodenticide products consist of an active ingredient and one or more inert ingredients. This mixture is considered the formulation, and it may be in the form of a solid, liquid, or gas. Some formulations are ready-to-use, while others must be diluted with a solvent, water, or air before application. The formulation influences how the product is applied, its persistence, and how it is transferred from treated surface to the target rodent.



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E-Raticate is a ready-to-use Emulsified liquid formulation, which is not to be diluted.

Emulsified formulas contain small amounts of emulsifying agents, which permit the suspension of minute (1-10 microns diameter) droplets of oil in water. The suspension of fine droplets in the water is apparent by a white or opaque appearance of the concentrate. Once applied to the surface the oil and water gradually disappear by absorption and evaporation to leave the active ingredient exposed to the target pest.

In the case of e-Raticate, the presence of a strong mint odor remains around the perimeter of the rodent's food source, which has a disturbing effect on the rodent and drives him from the area.

The "cone nozzle" sprayer is recommended for applying e-Raticate in moderate to large areas. There are two kinds of cone nozzles:

- **The Fixed capacity cone nozzle** – Most commonly used when a small droplet size and low application rate is required. The benefit of this type of nozzle is that the spray pattern and delivery rate are fixed and can not be changed by the operator.

- **The Adjustable cone nozzle** – This is most commonly found on hand held sprayers. These nozzles can be adjusted from a cone spray to pin stream. E-Raticate is shipped with a hand held adjustable cone sprayer, which can be adjusted to suit the desired spray pattern; however, the result of small adjustments can mean a large variable in delivery rate and spray pattern.

Precaution. The adjustable cone nozzle may seem to have benefits because it can be changed to fit different applications. However, when a user or service technician changes the pattern, the delivery rate will change. It usually increases, and this can increase costs and result in over-application.

Important Note. E-Raticate is not intended to be applied like an insecticide, with full coverage over a wide area. Instead, it is specifically intended to be applied as a narrow barrier perimeter in a continuous line forming a boundary, close to and around the identified food source or entry to the food source of the rodents.

The average coverage for perimeter application of e-Raticate is 1 gal. / 1,000 linear feet.

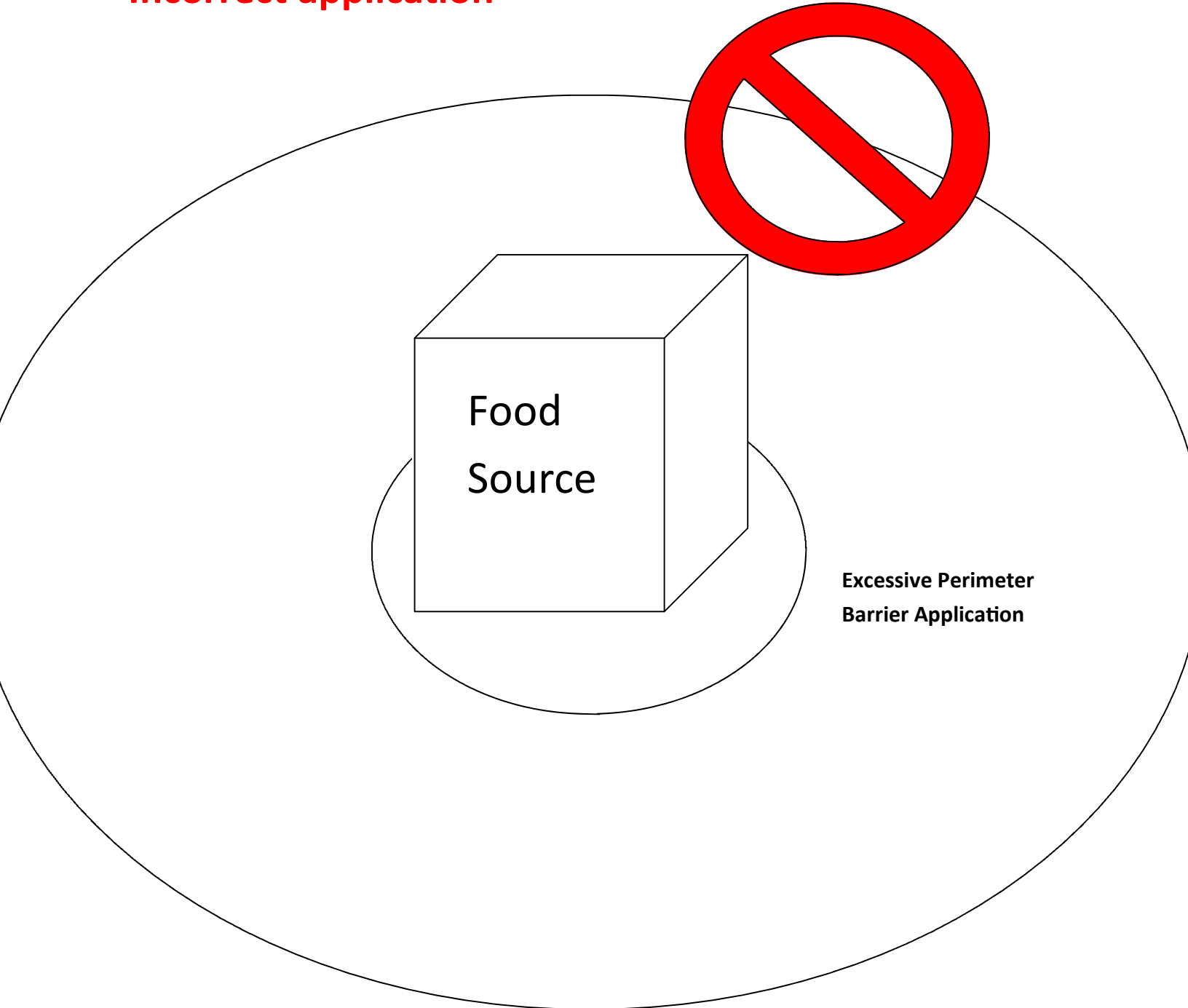
Application of e-Raticate by users or professional pest control services must be efficient; cost effective for the operator and adequate control for the customer. Excess application may seem to be more effective in controlling the pest, but it may also be wasteful, and will increase costs beyond the economic margin.

E-Raticate has been formulated as a cost effective and profitable addition to your current rodent abatement program. Quite simply, "more is not always better." e-Raticate advises DIY users and professional pest control operators to use timely, scheduled perimeter applications which will be much more effective than increased over spraying.



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Incorrect application



**Excessive Perimeter
Barrier Application**

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Coverage Area Worksheet

Correct application

