

REDUCING RODENTICIDE HAZARDS: URBAN/SUBURBAN SETTINGS

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Abstract: Depending on the part of the United States, the pest service professional could be fighting several different species of rats and mice. In many situations the service professional may find not just one, but multiple species cohabitating. In the urban/suburban setting there are three primary hazards that must be taken into account prior to placing any rodenticide out for controlling rodents: primary non-target exposure; secondary non-target exposure; and secondary pest infestations from rodenticide placements. Reduction of hazard is based on proper identification of the target so that the correct treatment can be implemented to achieve the fastest results while reducing the potential liability exposure. Proper liability exposure reduction includes the understanding of rodent biology and habits, understanding of local regulations, understanding of corporate policies, and the ability of the service professional to communicate these issues to the home or business owner. Hazard reduction is also dependent upon cooperation between the two parties involved. If these issues are completely understood, agreed on and carried out, the possibility of having an issue that results in unnecessary hazard or liability exposure can be greatly reduced.

Key words: commensal rodent, cotton rat, deer mouse, hazard reduction, house mouse, Norway rat, rodenticide, rodenticide hazard, roof rat

Proceedings of the 12th Wildlife Damage Management Conference (D.L. Nolte, W.M. Arjo, D.H. Stalman, Eds). 2007

Depending on the part of the United States, the pest service professional could be fighting several different species of rats and mice such as, Norway rat, (*Rattus norvegicus*), roof rat, (*R. rattus*), Cotton rat, (*Sigmodon spp.*), house mouse, (*Mus musculus*), deer mouse, (*Peromyscus maniculatus*), white-footed deer mouse, (*P. leucopus*). In many situations the service professional may find not just one, but multiple species cohabitating.

In the urban/suburban setting there are three types of hazards that must be taken into account prior to using any rodenticides: primary non-target exposure; secondary non-target exposure; secondary pest infestations from rodenticide placements.

Primary non-target exposure occurs when a rodenticide is placed so that animals not intended to be exposed are exposed. This might include a dog or cat or, even worse, a child being able to get inside a bait station and make contact with the rodenticide. The non-target makes direct contact with or consumes the material and is exposed to the active ingredients.

Secondary non-target exposure occurs when a non-target animal consumes a target organism after it has been exposed to the rodenticide. An example would be when a rodent in a moribund state wanders into the open and is picked up by a raptor or feline. Depending on the rodenticide in question, a lethal or sub-lethal dose could be

transferred to the second animal via consumption.

Secondary pest infestations from rodenticides can occur when a placement is made in inaccessible areas or is placed and forgotten about. Various insect species will potentially be drawn to the product in search of a food source. Many cases of secondary pest introduction have occurred in this fashion. In some cases, the devices used to place the rodenticides can be the attractant instead of the bait. Some examples of other animals that can be found in association with a bait placement, either feeding on the material directly or living in the application devices, are stored product insects, ants, crickets, grasshoppers, spiders, snakes, etc.

Hazard equals liability in many cases. The pest management professional (PMP) is often held responsible for incidents involving rodenticide placements and rightly so if they have provided an improper placement or use of product. The PMP can be, and is occasionally, accused of fault at times when a consumer places rodenticide out improperly. This occurs when the consumer purchases over the counter rodenticide products and decides to "help" the situation by augmenting the PMP treatments. If the paperwork of the PMP shows a placement of a rodenticide, and the consumer places additional material out, it may be difficult to establish which product caused an unfortunate situation.

Reduction of hazard is based on proper identification of the target species so that the correct treatment can be implemented to achieve the fastest results while reducing the potential liability exposure. Proper liability exposure reduction includes the understanding of rodent biology and habits, understanding of local regulations, understanding of corporate policies and the ability of the pest service professional to communicate these issues to the home or business owner. Hazard

reduction is also dependent upon cooperation between the two parties involved. If these issues are completely understood, agreed on, and carried out, the possibility of having an incident that results in unnecessary hazard or liability exposure can be greatly reduced.

Reduction of hazards is not achieved by reducing the available tools that the PMP has at their disposal. It is accomplished by proper education of the consumer and the PMP. The consumer should understand how and when a rodenticide is used properly. Not every situation calls for the application of a toxicant. Many times, the best solution is to simply exclude the animal from making an entry into the structure. In other cases, the best approach may be to utilize a trapping program to reduce the number of pest animals. Both are recognized and appropriate measures in controlling rodents. The PMP must understand these points as well and not grow to depend on the routine placement of rodenticide products. They must also have a firm understanding of the concept of tamper resistance when a rodenticide application is called for.

Both parties must come to a complete understanding and agreement on approaches in order to significantly reduce potential hazard exposure when trying to put a rodent control program in place. It must also be understood by both parties that strategies of pest control will constantly need to be evaluated and modified as the dynamics of the population change. In most cases, the best control program will rely on a cooperative effort by both the consumer and the PMP.