



BOBBY CORRIGAN

Handling rodent droppings

When house mice (*Mus musculus*) invade or are delivered into our urban buildings, the primary response around the world is for people to eliminate the mice in some form or fashion. Once this is done, most people usually consider the “mouse problem” fixed. But what becomes of the residual feces (excrement) left behind by the mice? Other than an aesthetic concern in those areas where “droppings” are obvious, does the unseen and perhaps inaccessible excrement pose any potential health concerns?

Thus far, there are no firm answers to this question. But however you look at it, animal feces alone represent biological contamination and even potentially biological hazards within an occupied building. Yet, because rodent excrement — especially mouse excrement — is often deposited into structural voids (walls, ceilings, equipment, furniture, etc.), the excrement is either ignored or remains unknown (out of sight, out of mind) to the human occupants. Additionally, because rodent excrement is small and non-malodorous (except in large concentrated amounts), there is little to remind or alarm occupants of the presence of the excrement.

The exception to this of course is the excrement associated with deer mice as a result of the 1993 hantavirus pulmonary syndrome (HPS) outbreak. Hantavirus pulmonary syndrome can harbor within rodent the fecal pellets (as well as saliva, blood and urine) of some rodents (but not house mice or domestic rats). Consequently, deer mouse infestations often involve at least some degree of bio-remediation of accessible excrement and carcasses within affected buildings.

But in the majority of common house mouse, Norway rat and roof rat infestations, feces deposited in the out of sight and/or in inaccessible areas typically remain in the building. The best that can be said is that some pest management companies and/or bio-remediation specialists will remove those feces within those areas that can be accessed by personnel. These procedures

range from the simple (as discussed below) to the complex. The more complex programs are more likely to be performed by bio-remediation specialists in sensitive environments such as sterile areas of health care facilities or within structures where hyper-allergenic children or adults may live or visit. They may also involve large amounts of excremental residues that are widespread. One might ask, “Whose responsibility are the feces associated with rodent infestations?”

Is it the pest management professional performing a rodent elimination program or the building owner? For the majority of cases, filth (of whatever type) inside buildings is the

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responsibility of the building owner. Some pest control companies will remove those feces that are accessible during routine service as part of their rodent control services. But what of those feces within hard-to-reach and inaccessible locations? I believe it is accurate to state that most building owners are either oblivious to them, don't care about them or perhaps don't want to even acknowledge the existence of such bio-wastes (a biological “don't ask, don't tell” conundrum).

Yet often the public asks both health and pest professionals the proper way to remove rodent excrement and/or handle rodent carcasses safely in their homes, apartments, schools, day-care centers, grocery stores and so forth. The recommendations below are essentially those provided by the Centers for Disease Control and Prevention and the U.S. Park Service. Additional information or greater details can be obtained from www.cdc.gov as well as from various state and local health departments.

DEAD RODENTS. Following are the procedures for handling dead rodents:

1. Wear rubber or plastic gloves (disposable nitrile gloves are usually purchased in boxes of 100 by pest professionals and building custodians).
2. Spray the dead mouse and any trap with a disinfectant until lightly wet using any inexpensive household disinfectant. A weak (5 to 10 percent) solution of bleach and water will also work.

3. Turn a sealable plastic bag (e.g., Ziplock™) inside out.

4. With a hand inside the bag, pick up the rodent and the trap.

5. Invert the bag over your hand and seal the bag.

6. Wrap the bag in a newspaper and dispose in a Dumpster or garbage can.

7. Spray the area where the trap or the dead mouse was lying with a light spray of disinfectant and let dry.

8. Dispose of the gloves in the trash or for re-usable gloves, spray the outside of the gloves with disinfectant, then remove the gloves and wash hands with soap and water.

RODENT EXCREMENT. Following are procedures for cleaning small amounts of rodent excrement.

1. Wearing protective gloves as described previously, spray the fecal pellets

and affected area with a mild disinfectant or bleach solution until wet.

2. Use damp paper towels to pick up the disinfected feces. Feces should not be swept up or vacuumed because this can cause the excrement residues to become airborne and be inhaled (unless HEPA filter vacuums and the proper personal protection equipment are used as discussed below).

3. Place the feces and paper towel into a plastic bag and seal.

4. Dispose the bag as trash.

5. Dispose of the gloves and wash hands as recommended in #8 above.

ADDITIONAL PRECAUTIONS. Following is some additional information about large amounts of rodent excrement and other situations.

Some situations require taking extra steps to maximize personal safety. For example, removing deer mice (*Peromyscus maniculatus*) carcasses or excrement. When removing rodent feces in enclosed spaces and where large amounts of rodent feces are present, the recommendations provided above should be followed. But coveralls and a HEPA filter respirator (NP 100 to NP 400) must also be worn for these situations.

Vacuums can be utilized to remove large quantities of excrement, but the vacuum must be equipped with HEPA [continued on page 122]

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filter. Attention must be given to ensuring the vacuum is performing properly and that the HEPA filter is replaced when necessary. Various suction tips can be employed for vacuuming fecal pellets in large scale as well as for accessing fecal pellets within cracks and crevices. Personal protection equipment should also be worn by personnel assigned vacuuming tasks.

SUMMARY. This topic is applicable for many reasons. But let's consider only one application as prompted by the refreshing change to the upcoming summer. Summer camp season is nearly upon us and thousands of camps around the globe are getting ready for a deluge of happy, summer camp-eager boys and girls, all destined for their beds and cots in cozy cabins tucked away in the woods and along lakeshores. I'm sure it comes as no surprise that it is common for various field rodents and small mammals living around camps to share the same cozy cabins during the off-seasons when humans are not around.

The salient question is whether or not residual feces of these mammals such as the ubiquitous house mouse inside our buildings, cabins and so forth, poses any significant health threat. Thus far, comprehensive research addressing this question has not been done. Fortunately that is about to change. The National Pest Management Association and the Professional Pest Management Alliance have agreed to jointly fund a study to profile some of the microbial organisms found in house mouse feces in everyday "real-world" accounts. The study is underway as you read this. The results of this study should be interesting to not only pest professionals, health officials and indoor hygienists but to the general public on a global basis. 🌿

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