

In Cattle Operations:

Sanitation, Baiting Key to Ongoing Rodent Control

Although most cattlemen don't figure the cost of rats and mice into their annual budgets, two leading researchers suggest rodents may be stealing hundreds of dollars worth of grain and feed from a cattle operation's profits.

"Quite simply, rodents are a fixed cost in any livestock facility, and the more you have the greater your loss," notes Dr. Jack Shugart, rodent control researcher for Ralston Purina Company, who estimates that for every rat seen in daylight, there are likely many more in hiding.

According to Shugart, a single rat may consume 10 to 15 pounds of grain or cattle feed per year. "Combined with the grain that's contaminated or made unpalatable by rat feces and urine, just one rat may cost a producer an estimated \$25 in damage," he contends.

In addition to feed damage, rodents also cause costly structural problems. "Particularly serious is the damage caused by rodents gnawing the coverings on electrical wiring, and leading to electrical fires," says Dr. Glenn Duddedar, wildlife extension specialist at Michigan State University. "And the destruction of wall and ceiling insulation can result in increased fuel consumption, more condensation on walls and ceilings which shortens material life, and cooler wall and ceiling temperatures which may stress cattle," he continues.

Highly Prolific

The rat's reproductive capability adds to the danger of even a small rodent infestation, Shugart points out. "A single female rat can give birth to seven or more litters of five to eight baby rats per year," he notes, making even a minor infestation a major cause of concern.

Experts agree, however, that sanitation is the first basic step to controlling rats and mice in livestock facilities. Primary control measures, they say, should focus on reducing both food and shelter for the rodents.

"Easy access to grain and livestock feed, whether in the feed bunk or grain bin, as well as dark, warm places in which to burrow, are an open invitation to rodents," Duddedar notes. "Rodent infestations are most prevalent where humans make abundant food and shelter readily available. Eliminating that food and shelter, as well as the initial infestation, will help eradicate the problem," he suggests.

Thorough sanitation starts with cleaning up piles of junk and spilled grain or feed, researchers say. "Whatever can't be re-

moved should be stored off the ground in tightly covered containers," advises Shugart. "Trimming grass and weeds growing around buildings and cleaning yards of excess building material leaves rats with no place to hide," he reasons.

Sealing Off Entry

Shugart adds that a rodent's ability to enter facilities through openings no bigger than the circumference of their heads makes rodent proofing, or sealing off of possible rodent entrances, an important sanitation step. "Entry into facilities, like places where pipes come through walls or where rodents have already gnawed their own openings, should be sealed with concrete or metal sheeting," he recommends.

Shugart is quick to point out, however, that simply cleaning up junk piles and sealing off rodent entrances will not eliminate a rodent infestation. "The rodent's ability to burrow under buildings—or even right through building materials—makes rodent infestation a constant danger. Cold, hungry rodents may find their way into even the cleanest of facilities," he notes.

Because of this, Shugart recommends baiting rodents year-round with an effective rodenticide to make certain any rats gaining entrance are not allowed to reproduce. To ensure proper baiting, the researcher first suggests paying careful attention to bait placement. "The most effective bait sites are those areas showing fresh signs of rodent activity, such as burrows, droppings, gnawings or slashed feed bags," he points out.

Choice of bait is also important, the researcher notes. "Since rat bait must compete with food the rat has been eating, the rodenticide must taste better than any other grain or feed available, otherwise rats will ignore it," he explains.

In addition to a "taste test," Shugart advises cattle producers and feeders to consider the safety of the rodenticide. "Warfarin based products are toxic to rats and mice, yet acceptable to use around livestock and domestic pets. Because of the low warfarin concentration, it requires multiple feedings before a rat can consume enough of the pellets to be effective. On the other hand, the low concentration makes it acceptable to use around farm animals who might accidentally consume some of the pellets," he reasons.

"Disposable gloves also should be worn when handling the bait," he continues, "since rodents will naturally shy from human scent." Pellets should be placed in containers, or bait stations, along walls or near a rat's burrows. Multiple bait stations should be placed in a zig-zag pattern in feed storage buildings, and wherever rat gnawing is spotted, he advises. Each bait station should be checked frequently and replenished when empty. Stations which do not show rat activity should be moved to new locations until all stations are being used, he suggests.

But it's not enough to just kill off the rodents in and around facilities, the researcher maintains. To keep rodents away year-round, we suggest producers follow a maintenance program, and keep bait in areas most likely to be reinfested, especially around grain buildings and feed storage areas. "These bait stations should be checked and replenished whenever necessary," he advises, "and facilities should be observed regularly for any new signs of infestation."

A keen eye toward keeping facilities as neat and clean as possible—safe-guarded regularly with a fresh supply of rodenticide—should keep facilities rodent free year-round," Sugart concludes. **AJ**

Cattlemen's Rodent Control Checklist

- Identify primary areas of infestation by checking for rodent signs: gnawing marks, greasy smears along walls and rafters, rat droppings, burrows, etc.
- Measure extent of infestation by placing "control bait" (regular feed the rats have been eating in facilities) throughout building, and check frequently for rat consumption. The speed at which control-bait is consumed should show extent of infestation.
- Remove rubbish, brush and weeds from around facilities.
- Seal off areas where trash and feed bags are stored, or store feed in tightly-covered containers.
- Close up access routes into buildings. Cement should be used to seal gaps around drains, pipes and foundations.
- Place small amounts of bait (in bait stations) in most likely rodent dwellings. Pellets should be placed 6-10 feet apart along runways where rats travel, near burrows, and at entry points to buildings.
- Place water dishes near bait stations.
- Check bait stations frequently, and refill immediately when empty.
- After 3 to 5 days of baiting, dead rats will start to appear. These should be discarded immediately.
- Once rodent problem seems under control, continue to refill bait stations and keep water available for year-round control.