Dear Rochelle

Dear Rochelle,
I raise organic chickens and have a rodent problem, what can I do?
Ron in Burnaby

Dear Ron, All farms can have rodent problems, especially because many are inclined to having 'rodent friendly environments', often supplying places to nest, food to eat, and water to drink. Obviously, poultry operations can easily create the perfect situation for these opportunists. In fact, you don't have to be slovenly to have a problem, just slightly careless once or twice and before you know it - presto, you may need a 'pied piper' to solve the problem. However, it is possible, if you are persistent in gaining control, that you will get the upper hand and hopefully never lose the edge again. It is truly critical to have the best control possible, as not only can rodents transmit diseases, but they may gnaw electrical wires, nest in walls, and destroy insulation and its effectiveness. Overall, rodents just make life miserable.

Mainstream producers carefully rodent-proof their poultry buildings during the construction phase (using deep footing and long aprons, providing flush wall materials, and closing all cracks around openings such as vents, hookups, and holes for feed augers) and maintain that level of vigilance. Rodent-proof construction of organic poultry facilities (coops, houses, barns) cannot in itself alleviate the problem, as organic poultry require outdoor access, yet it surely would reduce the number of avenues and opportunities. If a building has not been sealed effectively, corrective action should be taken to block off all access points with a combination of coarse steel wool, hardware cloth, or sheet metal.

Around the immediate vicinity of poultry facilities it would be prudent to keep at least a four to five foot wide vegetation-free zone (including no over-hanging branches) and where possible, a 50-foot wide debris-free-zone. Such precautions will make it more difficult for both rats and mice to gain access, and will also eliminate hiding places and nesting sites that may be close by. Many people don't realize that both rats and mice can scamper along wires, conduit, and any rough, building surface. Similarly, it would be helpful to make the four-foot wide area a water-free-zone, as rats need water daily, while mice need it at least every fourth day. Eliminating such opportunities will reduce rodent possibilities.

Building a water-filled moat around your operation will not be that effective if the culprits are Norway rats. Not only can they jump 3 feet vertically, they can jump 4 feet horizontally, as well as tread water for up to 3 days, and swim up to half of a mile in open water, and survive completely under water for about half of a minute.

To deal with an existing population you are going to have to resort to some kind of trapping program, such as live traps, water-filled buckets to trap mice and voles, lethal traps (i.e. snap-back, Vitamin D3* baited, electric shock, or glue boards). Glue boards are considered the least humane, but in some situations may be necessary to use.

As it has been explained to me, the water bucket system has two variations. The simplest would be something like a milk bottle buried in the ground nearly up to its neck. Peanut butter is smeared inside the bottle a few inches down from the neck and then mice and voles try to reach down for the food and fat, and fall into the bucket or jar.

A more elaborate system that works in houses (and maybe poultry barns) is to rig up a balance beam so that there is a ramp up to the peanut butter over the bucket. A mouse (or maybe a rat) goes up the ramp to eat the bait and the beam tips it into the bucket. The beam then falls back into the ramp position where it is ready to lure another rodent. Make sure there is more than enough water inside the bucket, so the rodent eventually drowns. The container also has to be deep enough so that the rodent can't jump out.

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When it comes to lethal traps there is a lot of skill needed to be successful with any of these, especially if you are intending on catching Norway Rats. These rats will avoid any trap when they are initially set up because they can take up to a week to adapt to new objects. Mice and rats are also attracted to different baits (see the chart below for details), and you need to have the right size trap to deal with the offending specie. Be cognisant on where you locate and how you orientate your traps. The best scenario is to place them in dark corners, or next to areas where you have seen droppings or gnawing, and in most cases place traps perpendicular to walls with the opening of live traps against the wall and the trigger on snap trap, snapping towards the wall. The more traps that are put out, the more effective you will be (e.g. every 5-10 feet). It is critical to check and reset traps every morning. If trapping just can't seem to get the population under control, a last resort could involve using sulphur bombs in the burrows, but do realize these cannot be used inside buildings.

Once you do get the population under control (supposedly for every rodent seen there is another 25 in the vicinity), best to maintain your sanitation, and vigilance levels, and maybe buy some Jack Russell terriers. (People that have them swear by their rodent-catching ability.)

Lastly, I have heard about a few products that help repel rodents including "Plantskydd Deer Repellent" and something completely new called "Fresh CB". I have also read that a combination of pennyroyal/asafoetida, mixed in with split peas, will work as a rodent birth control mix, but I cannot find any data to substantiate the effectiveness of any of these.

Oh, I have one last bit of trivia to share. Supposedly one rat per day produces 20ml urine and 30 droppings. If you have 100 rats on a farm then they would produce over 700 litres of urine and 1,095,000 droppings per year.

For further information read:
1. BCMAL Poultry Factsheet No.632.02 – Control of Rats and Mice on Poultry Farms
2. OMAFRA Factsheet AGDEX 400/680 – Rodent Control in Livestock and Poultry Facilities
3. NYS DEC and Cornell Cooperative Extension - Best Practices for Nuisance Wildlife Control Operators: A Training Manual

*Bell Laboratories the manufacturer of all Vitamin D3 rodenticide products in Canada has made a business decision to allow the registration in Canada for these products to expire December 31, 2008. Last sales will be September 30, 2008 and as of December 31, 2008 it will be illegal to use any that has been stockpiled.

Characteristic	**Norway Rat**	**Mouse**
Size (including tail)	42 cm (16.5 in.)	16 cm (6 in.)
Average weight (adult)	500 gm (18 oz)	20 gm (0.7 oz)
When active	nocturnal	nocturnal
Sight	poor (1.5m) (4.9 ft)	poor (1 m) (3 ft)
Smell, touch, taste	excellent	excellent
Hearing	highly accurate	highly accurate
Range from nest	45 m (148 ft)	9 m (30 ft)
Fear of new objects	3-7 days	.05-5 hours
Water requirements	daily	2-4 days without
Food per day	28 gm (1 oz)	3 gm (0.1oz)
Water	57 gm (2 oz)	3 gm (0.1 oz)
Favourite foods	rolled oats, meat, fish, vegetable oil	grains, rolled oats, sugar, raisins
Droppings	bean size	rice size
Minimum width for entrance (hole diameter)	12 mm (0.5 in)	6 mm (0.2 in)
Can chew through (given edge to gnaw on)	rubber, aluminum, cinder blocks, plastic, wool	same as rats

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