

NORTH DAKOTA STATE UNIVERSITY PARGO, NORTH DAKOTA 58102 **CONTROLOGISTAND** PESTICIDE COORDINATOR

EXTENSION SERVICE

## CIRCULAR A-31

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# HOW TO CONTROL RODENTS

### 1. Clean-up the Farmstead

Remove trash piles, cut weeds, pile lumber off the ground and clean up spilled grain. Clean inside of buildings, remove trash, waste grain and other debris.

### 2. Rodent Proof Buildings

Build rodents out of buildings and you can control them more easily. Keep doors and windows closed tight. Seal small openings and cracks. Place buildings on permanent type foundations or raise buildings at least 18 inches or more off the ground.

### 3. Bait the Farm

Several good rodent poisons are on the market, but they won't do the job until <u>food</u> and <u>shelter</u> are eliminated. Proper placement of baits is very important.

### RODENT POISONS

Warfarin, Pival, Fumarin and Diaphacinone are known as ANTI-COAGULANT rodent poisons and are effective for both rats and mice. These poisons are slow killers, requiring several days of continuous feeding to kill. The anti-coagulant baits are the common types used on farms and in homes because they generally are available and safe to use. They kill the rat or mouse by thinning the blood and the rodent dies from internal bleeding.

Other rodent poisons are also sold on the market. However, many are extremely toxic and are not recommended for general use, except by experienced pest control operators.

The anti-coagulant type rodent poisons are available in cereal or liquid baits. The cereal baits can be purchased as ready-mixed or in concentrate form to be mixed with farm grain. Prepare baits according to the following formula:

Dry bait	Rats	Mice
Fresh ground yellow corn	12 lbs	12 lbs.
Rolled oats (oatmeal)	5 lbs.	5 lbs.
Sugar	1 lb.	1 lb.
Vegetable oil	1 lb.	1 lb.
Anti-coagulant concentrate*	1 lb.	2 lbs.
Liquid bait		-
Water	1 qt.	1 qt.
Water soluble anti-coagulant		
concentrate*	1 packet	2 pa-
		ckets

\*or according to manufacturer's direction.

### **BAITING FOR RATS**

Rats move about in search of food and water. This means they will be looking for clean food and fresh water. Three or four bait placements in large buildings and one or two in smaller buildings are enough. Each bait placement should contain at least 1 pound of anti-coagulant cereal bait. Check the stations daily and replenish bait as needed. Once rats begin to feed, a continuous supply of bait must be available, at least until feeding completely stops.

Place the cereal bait in runways, burrows, underneath buildings, along inside walls or wherever rat signs are seen. Always provide concealment and protection for the rodents by placing the bait inside boxes or behind boards placed along walls.

Sometimes rats will shy away from bait stations, or they may not accept the bait in preference to grain and other food that is available to them. Do not become discouraged, as the rats will soon become accustomed to the new sources of food such as the poisoned baits.



CASE

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A 8X no.31 Provide fresh water near the bait supply as this will help increase the feeding. Liquid anti-coagulant baits can be used in conjunction with cereal baits.

#### BAITING FOR MICE

Mice differ from rats in that they need very little water and can survive on a dry grain diet. They feed several times a day and, if food is available, will not travel more than 10 to 20 feet from their nest site.

To control mice, place small amounts of poisoned bait in several locations about 10 feet apart inside the building. The cereal anti-coagulant baits should be mixed double strength for better results. Add a little confectioners sugar to the dry bait to obtain even a little better acceptance. Water baits are especially effective when baiting farm grain storages.

## STRYCHNINE POISONS

Mice can be controlled with strychnine poisoned grain, however it must be used with extreme caution as it is very poisonous to other animals. Mix the strychnine according to formula with wheat, milo or canary seed and place 1 teaspoonful of the bait at each placement. Do not use this type of bait where there is danger of getting it mixed with food grains or feed. Strychnine baits will not control rats. For information on mixing strychnine-poisoned grain write to: U. S. Fish and Wildlife Service, Box 1814, Bismarck, North Dakota.

#### CONTROLLING MICE WITH DDT

Dusting or sprinkling 50 per cent DDT wettable powder into holes and along runways will also kill mice. It takes about 2 weeks to control mice with this method and it should not be used where there is danger of contaminating feed or food grains with the insecticide. To protect other animals, cover the treated areas along walls with 1 by 6 or 1 by 8 inch boards tacked to the walls.

#### TRAPPING MICE

Light infestations of mice can be removed by using several snap traps along all avenues of travel. The traps should be baited with peanut butter, partially cooked bacon, chocolate, gum drops or cheese. A sprinkling of oatmeal over the traps may also aid in catching mice. Place the traps so the trigger cuts across their regular travel routes along walls and between boxes.

#### BAIT BOXES

The easiest and safest way to poison rats and mice is with permanent bait stations, simply constructed boxes to hold the poison bait. The boxes should be large enough to hold the bait and still provide enough room for rats or mice to feed. (See below)



Bait stations should be made of solid material to stand up for a long time. A bait box 12 inches by 17 inches is suitable for rats. Cut holes about 4 inches in diameter in each end of the box to allow rats and mice to enter.

Simple bait stations for temporary bait placement may be made with a piece of 1 by 8 inch lumber 4 to 6 feet long, tacked along the wall. (See below)



Set the bait stations where disturbance by people and farm animals is least likely. Place them along rat runways, near harboring places and sources of food. These stations may be used inside or outside buildings.

### SELF-TREATERS

Many different kinds of bait feeders can be used. It is important to use some type of feeder, otherwise there will be considerable wastage of the bait. The bait must be kept dry, clean and fresh to get good acceptance by the rats and mice.

A flat pan, paper box or 1 pound coffee tin is the most common type of feeder. Do not expose bait to other animals. Self-contained bait feeders such as are used in chick feeding are much better.

A simple feeder made from a clean, dry, milk carton is very good. Make a horizontal cut about 1/2 inch from the bottom of the carton and extend

2

the cut to within 1-1/2 inches of each corner. Push in the side above the cut to form the feeder. (See diagram below)



A pint ice cream carton (see diagram below) also is a simple and effective bait container. Start cutting about 1/2 inch from the bottom and make a horizontal cut about 1/3 the diameter of the container and push in the side just above the cut.



Either of these feeders can be filled with poisoned bait and still not spill any of the bait.

#### WATER FEEDERS

Liquid baits are effective when rats or mice refuse to accept the dry cereal baits. This often happens when an abundance of grain and other food are available to them.

Liquid baits also work very well when baiting for mice. The water baits must also be kept fresh, therefore, "open" containers are the best to use. A small chick-watering fountain (see below) works much better. When using liquid baits, change the bait supply at least once a week. These baits are not too satisfactory during freezing temperatures.

## PAPER BAGS

Often it is impossible to set up permanent type bait stations under buildings or in other areas that cannot be reached. By placing a small amount of bait in a paper bag, the bait can be thrown into these areas where rats are living. The rats will gnaw through the paper bag and steal the bait. Be sure to twist the top of the bag to secure the bait (see below)





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