Extension Folder 75
Revised June 1957

Controlling POCKET GOPHERS

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THEIR FEEDING HABITS and ability to get along under a wide range of conditions have made pocket gophers a serious enemy of agriculture throughout most of Minnesota. This is especially true in the hay-growing areas.

And despite the fact that they are easily controlled, every year they are allowed to cause great damage to hay meadows, orchards, and crops in general. They can also be blamed for no small part of soil-erosion problems. Their burrows in roadsides, ditch banks, side hills, and sloping light sandy soils often are the beginnings of large gullies.

Of the nearly 100 species in the United States, only two species have been found in Minnesota. The common Minnesota pocket gopher is found everywhere except in the northeastern corner of the state. The Dakota gopher is found only in the extreme northwestern corner.

Whenever pocket gophers become numerous enough in a locality to cause serious damage, community cooperation is necessary for good control. Any farmer can and should get rid of gophers on his own farm, but if his neighbors will cooperate in a clean-up of the whole community the task will be made easier and the results more lasting.

Habits

Pocket gophers dig extensive tunnels or runways, which may extend as much as 800 feet and cover an acre of ground. The runways serve as homes, storehouses, and routes to underground hunting of food. The forage tunnel may be from 3 to 12 inches below the surface; food caches and nests are frequently several feet deep.

In making their runways, the gophers push the dirt to surface, forming the characteristic circular mounds. The mounds are at the ends of short lateral tunnels branching off the main runway. The surface opening and lateral tunnels are finally plugged by the gophers, leaving a small horseshoe or heart-shaped depression on one side of the mound.

Except at breeding time or when the young are being cared for, one gopher to a runway is the rule. One gopher can make several mounds along the runway in only a few days.

For food, the pocket gophers live mostly on the

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roots of various plants such as dandelions, alfalfa, grasses, and trees. They regularly eat most tubers and such green tops and available seeds that can be pulled down into their tunnels through the root holes.

Control Measures

Pocket gophers are controlled by shooting, trapping, fumigation, and stomach poisons. The stomach poisons have proved to be the most effective. They can also be applied with the least labor and expense. One or two applications of a poison bait usually will do the job. The best time for poisoning is in the spring or fall when the fresh mounds are being made.

The material for the poison baits may vary with localities and the species of gophers. The baits most commonly used are carrots and sweet potatoes. Grain baits of wheat, oats, and maize are readily taken in many localities. Pocket gophers vary in their tastes; all of them in the same area may not accept the same bait. It may be necessary, therefore, to re-treat an area with a different bait or to trap the survivors.

Thoroughly clean the vegetables used for baits and then cut them into pieces about ½ inch square and 1½ to 3 inches long. This makes it easier to insert the bait into the runways.

Grain baits are easily handled and keep well in storage. They are cheaper than vegetable baits and often give better results in the fall. The gophers may

Fig. 1. The dotted lines show the main runway (located with the probe) and the lateral or branch leading into the mound. Finger points to the "plug" in the mound.

be caching food at that time—and since the grain bait will not spoil they will eat it from the food caches during the winter, and be poisoned.

Fig. 2. To punch a hole into the main runway, hold the stick as shown and move it in a circle. Note the wire "stirrup" so that pressure can be applied with the foot.

Poisoning Gophers

To be effective, the poisoned bait must be placed in the main runways of the gopher burrows. To find the runways easily, use a probing rod or heavy wire 18 inches long, slightly enlarged at the tip. Figure 6 shows a probe made from the handle and rod of an automobile tire pump. No. 4 or No. 5 wire (¼-inch in diameter) can also be used.

The purpose of the enlarged tip is to do away with side friction as you push the probe into the ground. Then when you strike the runway, the probe will drop suddenly, so that you can tell that you've hit the right location. A blacksmith can enlarge the probe tip for you, or you can heat the end of the wire to a white heat and then "upset" it, sharpening it afterward.

Locating the Main Runway

You can easily tell the general location of the main runway by the shape of the mound and the location of the dirt plug. The mounds are of two general shapes. One side is always curved and the opposite side is either heart-shaped or straight. The main runway will be found on the side of the mound that

is straight or has the heart-shaped indentation. This will also be the side nearest the dirt plug (figure 1).

Now begin probing with the rod or wire 12 to 18 inches away from the dirt plug, about where you think the main runway should be. It may be any place from 3 to 12 inches below the surface. When the runway is struck, you'll feel the probe give way.

Make sure that you find the main runway; its direction will be at right angles or square across the lateral run leading into the mound (figure 1). By probing again along the line where the main runway should be, you can make certain you've found it.

Placing the Bait

When you've located the main runway, make the hole left by the probe large enough to drop the bait through it. The best way to do this is to use a pointed stick or broom handle fitted with a wire stirrup, so you can apply pressure with your foot while you pry the top of the stick around in a circle (figure 2). This banks the dirt around the sides of the hole so that it won't drop into the runway when you remove the stick.

Immediately upon striking the main run, withdraw the stick and cover the opening with your hand. *This is to guard against any chance of light getting into the runway.* Otherwise the pocket gopher will at once begin to push dirt to cover the light, and in so doing will also cover up the bait. (See figure 3.)

Fig. 3. When placing poison bait in the runway, cover the hole with your hand to exclude light.

Drop two or three pieces of poison bait (or a teaspoon of the grain) into the hole. Close the hole immediately with dirt—but first plug it with a small rock, a bunch of grass, or a ball of mud to prevent the dirt from falling on the bait. Have such a plug ready so that no time is wasted in covering the hole the instant you remove your hand.

Determine the overall extent of the runway by additional probing. Then place a bait near each end of it and one or more in the central part of the system. Level the mounds and check later to see if there has been further activity by the gophers.

Bait Formulas

Follow these formulas for vegetable (root) or grain poison baits:

Root Baits—Use 2 quarts of sweet potatoes or carrots, cut into pieces 1½ to 3 inches long and ½ inch square. While stirring, dust over these from a sifter (pepper box), ⅛ ounce of strychnine alkaloid (powdered). Never prepare more than can be used the same day.

Grain Baits—Add ½ ounce of laundry starch to ¾ pint of water, mixing well. Bring this paste to a boil while stirring constantly; cook until it is free of lumps.

Stir ¼ pint of corn syrup and ½ ounce of glycerin into the paste.

In a 1-gallon container, mix 1 ounce of strychnine alkaloid (powdered) and 1 ounce of baking soda. Pour the hot paste over this mixture and stir well.

Pour the whole mixture over 16 quarts of wheat, steamed rolled oats, or maize. Stir the bait thoroughly and spread it out to dry.

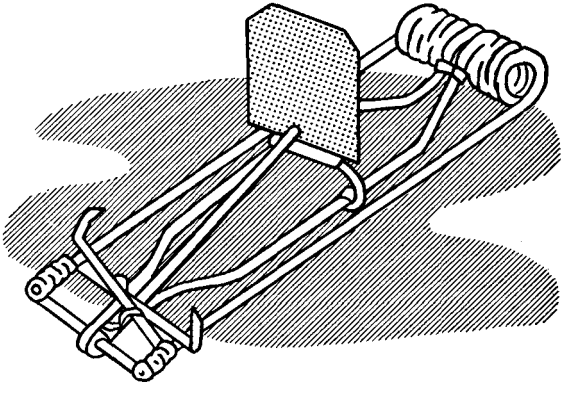

Fig. 4. Spring trap designed especially for trapping gophers. This is the type to use for pocket gophers.

(CAUTION: *Always remember these poison mixtures are dangerous. Clearly label the containers as "Poison" and keep them out of the reach of children. Also, burn, bury, or destroy any unused bait or any dead gophers found above ground after the poisoning operations.*)

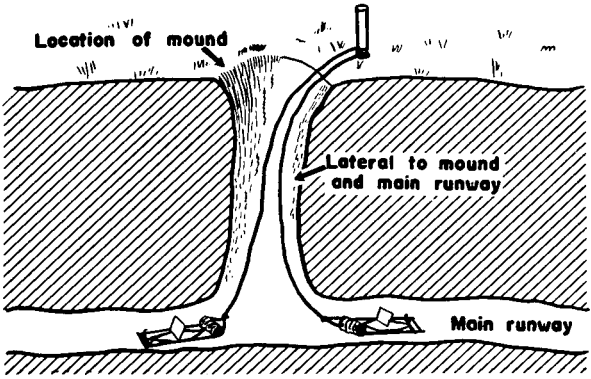

Fig. 5. How spring traps should be placed in the main runways. Note that traps are secured to a stake above ground by small flexible wire.

Trapping

For clean-up work—or on small areas such as lawns or gardens—where few animals are involved, trapping is more practical than poisoning.

Use traps that are especially made for trapping gophers (figure 4).

To locate the runways, use a garden trowel or a shovel. Scrape the dirt away from the fresh mound until the "plug" in the lateral runway is found. Open the lateral runway into the main runway, and insert your traps. Secure the traps with a piece of small flexible wire attached to a stake (figure 5).

Remember These Points

- Use poison only as prescribed. Too much may cause failure.
- Be sure to get the bait into the main runways. The lateral runway to the mound is not used after the mound has been made by the gopher.
- Keep light out of the runways.
- Watch for new mounds. Repeat poisoning if needed.
- Change baits, if necessary, when acceptance is poor.

- Urge your neighbors to cooperate in a community control program to get best results.

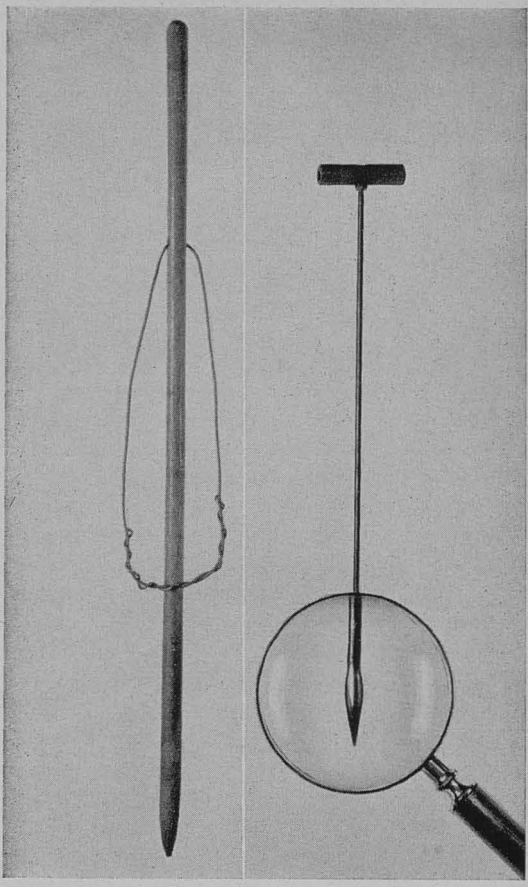

Fig. 6. Necessary tools. (Left) Sharpened broom handle with wire "stirrup." (Right) Probing wire with enlarged point.

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Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Service and United States Department of Agriculture Cooperating, Skuli Rutford, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914

10M—4-57