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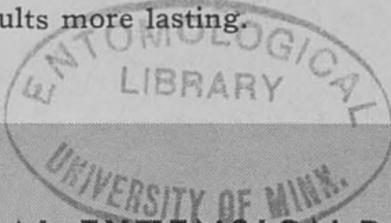
Controlling POCKET GOPHERS

by
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Because of its feeding habits and its ability to get along under a wide range of conditions, the pocket gopher has become a serious enemy of agriculture throughout most of Minnesota, and especially in the hay-growing areas. Despite the fact that pocket gophers are easily controlled, they are allowed to cause untold damage annually to hay meadows, orchards, and agricultural crops in general. Pocket gophers can be blamed for no small part of the present soil-erosion problem. Their burrows in roadsides, ditch banks, side hills, and sloping light sandy soils often are the beginnings of large gullies.

Although there are close to one hundred species of pocket gophers 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. The Dakota gopher is found only in the extreme northwestern corner of the state.

Whenever pocket gophers become numerous enough in a locality to cause serious damage, community cooperation is necessary for the best 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.



AGRICULTURAL EXTENSION DIVISION
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Habits

Unlike the rat and many other field rodents, the pocket gopher does not multiply rapidly. There is but one litter a year in Minnesota, with an average of four young. The young pocket gophers are probably old enough at six or seven weeks to shift for themselves, burrowing near their mother's feeding grounds.

The pocket gopher does not hibernate but is active at all times of the year, even burrowing under the snow from one feeding area to another. When conditions are unfavorable for burrowing, it lives on food it has stored.

The gopher's burrow consists of a main runway, which may be fairly straight or extremely crooked, and numerous short branches or side runs leading into the mounds. The pocket gopher brings to the surface only freshly dug earth from around the roots upon which it has been feeding. One pocket gopher can make a dozen mounds in a few days.

Control Measures

Pocket gophers are controlled by shooting, trapping, fumigation, and stomach poisons. Stomach poisons have proved to be the most effective and can be applied with the least labor and expense. The gophers on the average Minnesota farm can be controlled by one or two applications of a poison bait, the making of which is explained in this folder.



Fig. 1. The dotted lines show the main runway and the lateral or branch leading into mound. Finger points to plug.

Poisoning Gophers

To be effective, the poisoned bait must be placed in the main runways of the gopher burrows. To find the runways easily requires the use of a probing rod or heavy wire 18 inches long and slightly enlarged at the tip. Such a probe is pictured in figure 5, made from the handle and rod of an auto tire pump. No. 4 or No. 5 wire ($\frac{1}{4}$ inch in diameter) may also be used. The enlarged tip does away with side friction as the probe is pushed into the ground so that when a runway is struck the probe will drop suddenly and the operator will know that the runway has been found. Enlargement of the probe tip can be done by a blacksmith, or by heating the end of the wire to a white heat and "upsetting" it. It should then be sharpened.

Finding Main Runway

The general location of the main runway can easily be told by the shape of the mound and the location of the plug. The mounds are of two general shapes, with one side either heart-shaped or straight and the op-



Fig. 2. To punch hole into main runway, hold stick as shown and move in a circle.

posite side curved. The main runway will be found on the side of the mound that is straight or with the heart-shaped indentation. This is also the side nearest the plug. All of this is clearly shown in figure 1.

Now begin probing with the rod or wire 6 to 12 inches from the plug, where you think the main runway should be. It may be anywhere from 3 to 12 inches below the surface. When the runway is struck,

you will feel the probe give way. Be sure you find the main runway, the direction of which will be at right angles or square across the side run leading into the mound. (See fig. 1.) By probing again along the line where the main run should be, you can make certain that you have found it.

Placing the Bait

When the main runway is located, the hole made by the probing wire must be made large enough to drop the bait through. This is best done with a pointed stick or broom handle fitted with a wire stirrup so pressure can be applied with your foot while the top of the stick is pried around in a circle. Figure 2 shows how the stick is made and how it is used. This banks the dirt around the sides of the hole so that it will not drop into the runway when the stick is removed. Immediately upon striking the main run, withdraw the stick and cover the hole with the hand so as to guard against any chance of light getting into the runway. Otherwise the pocket gopher will immediately begin to push dirt to cover the light, and in doing this he will also cover the bait. (See fig. 3.) Drop two or three pieces of poison bait into the hole and close it immediately with dirt, but first plug the hole with a small rock, a bunch of grass, or a ball of mud to prevent the dirt from falling on the bait. Have this plug on hand so no time is wasted in getting the hole covered the instant your hand is removed.

Treat only two or three mounds on the new end of each run and then scrape all the mounds level. A



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



Fig. 4. Be sure to apply only a light sprinkling of poison to the bait.

day or two later look to see if new mounds have appeared. The gophers sometimes have worked beyond the last mound treated and do not return to the old burrow. Therefore two poisonings are usually needed.

Making Bait

The following poison formula for use in making bait can be purchased ready-mixed at drugstores.

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| <p>$\frac{1}{8}$ ounce sodium bicarbonate $\frac{1}{8}$ ounce powdered strychnia alkaloid $\frac{1}{80}$ ounce saccharin</p> |
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This mixture is a fluffy powder and should be placed in a salt shaker or a can with a sifter top. For bait use pieces of potatoes or carrots, about $\frac{1}{2}$ inch square. The pieces should be placed in a pan and stirred while the poison is being sifted over them. The poison will stick to the moist surface of the bait. (See fig. 4.)

Caution: Do not use too much poison as this will cause the gophers to vomit or throw up the poison so it will not kill them. All that is necessary is to have a few crystals of poison on each piece. A heavy sprinkling of poison may mean failure.

Caution: Always remember that the poison mixture is dangerous. The container should be clearly labeled "poison" and kept out of reach of children. Likewise, any unused bait should be burned or destroyed.

Remember These Points

Use only a little poison on the bait.

Be sure to get the bait into the main runways.

Keep light out of the runways.

Watch for new mounds; repeat poisoning if needed.

Urge your neighbors to cooperate and get results.

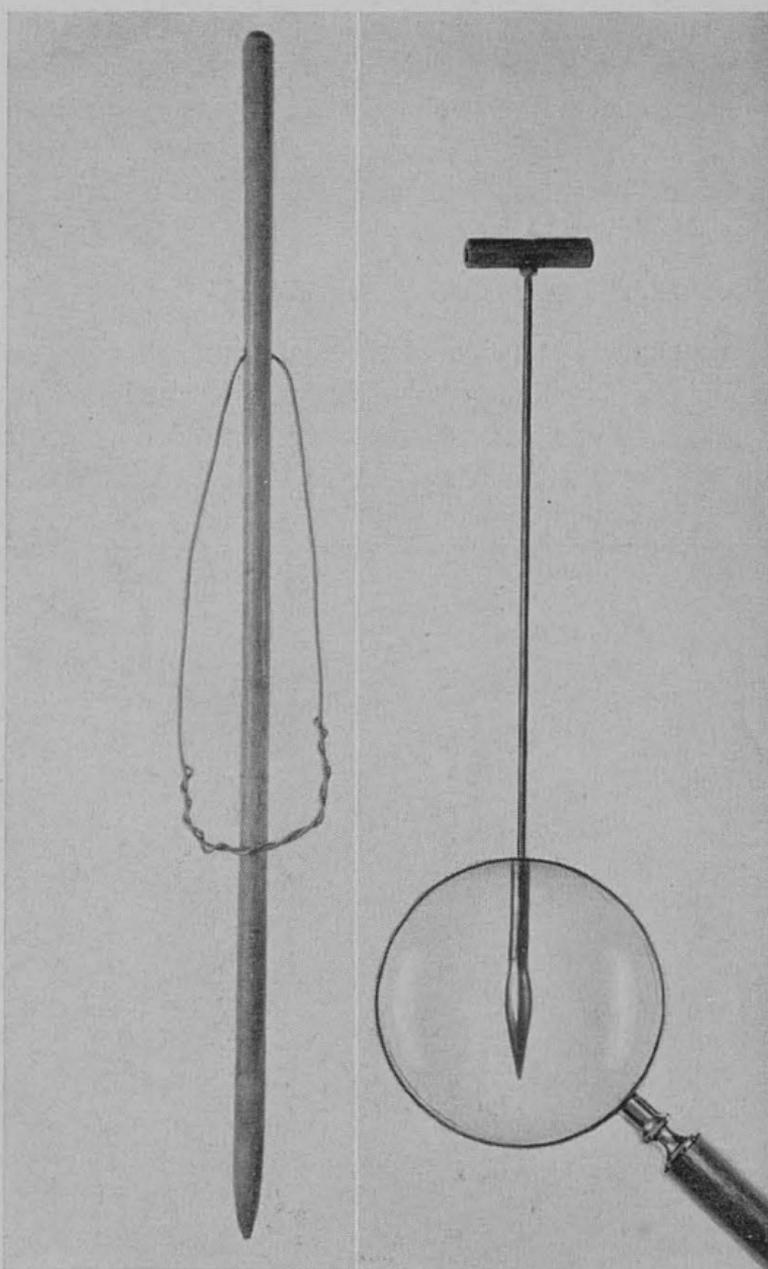


Fig. 5. Necessary appliances: Left, sharpened broom-handle with wire loop; right, probing wire with point enlarged.

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