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The Control of the Pocket Gopher

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The pocket gopher of Western Oregon is the largest member of the species, measuring from 9 to 13 inches from tip to tip. He is a true inhabitant of the underworld, rarely coming to the surface for more than a few minutes at a time. He spends his life in burrowing, constructing extensive underground tunnels that branch and wind intricately to the extent sometimes of five hundred feet. The activity of

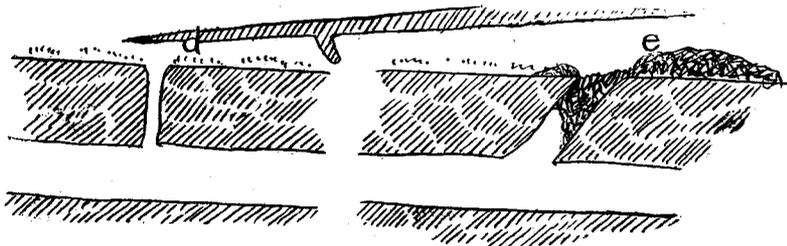


Fig. 1. Method of dropping poison into runways.

the animal is continuous from day to day. The signs of activity are the mounds of earth, which the gopher carries up through a lateral branch of the subterranean tunnel and dumps on the surface outside. Usually the gopher throws up these mounds at night, in the early morning, and in the late afternoon, but he may be found busily working in mid-day. The earth mounds of the pocket gopher, moreover, may be readily distinguished from those of the mole chiefly by the fact that the gopher dumps his load of dirt to one side of the outlet, which he usually plugs with earth when he is through (Fig. 1.); while the mole simply heaves up the plugs of earth which crumble and spread out uniformly, covering over the outlet of the crater-like tube.

Methods of Control.

The methods of control as outlined herein constitute a threefold process; namely, poisoning, trapping, and fumigating. The time to begin is NOW; that is, the logical time. The most practical time in planning a campaign is to begin in the winter or early spring before the new vegetation begins to appear, and before the new crop of young gophers, which are produced at the rate of four and five to a litter, arrives.

Poisoning.

Strychnine-poisoned vegetables constitute the essential ingredients for successful gopher poisoning. The particular kind of vegetable to be selected for bait from the long list of food articles that make up the gopher's diet is the one which he will take readily and which the farmer can provide at a minimum expense. The food of the pocket gopher consists of roots and stems of plants, both wild and cultivated, including alfalfa, clover, potatoes, carrots, beets, parsnips, and other garden truck; the roots of fruit trees; the green stems of peas, beans, etc. Of all these food articles, it has been found that the gopher will take pieces of sweet potato first of all, parsnips second, and carrots next. Thus where sweet potatoes are available, they may be used, otherwise parsnips or carrots should be used for bait.

Formula:

Powdered strychnine (alkaloid)	1 ounce
Sodium bicarbonate	1 tablespoonful
Saccharine	one-tenth ounce
Freshly cut sweet potatoes, parsnips, or carrots, 24 quarts	

Preparation. Cut the bait into pieces about one-half inch square; mix the strychnine, soda, and saccharine together and place in a salt shaker; dust the poison mixture over the bait, stirring all thoroughly.

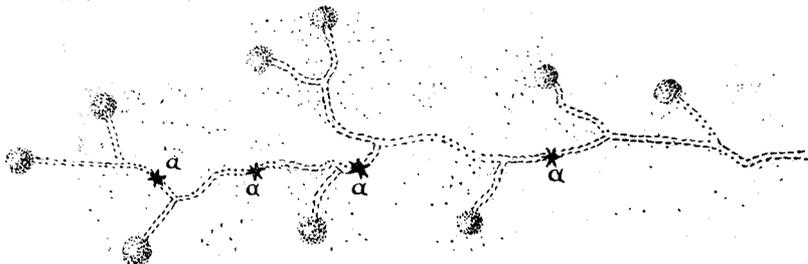


Fig. 2. Showing method of locating gopher runways.

If the bait has become dried so that the poison does not adhere readily, sprinkle with water.

Application. When the bait is thus prepared, it may be introduced into the gopher runways through a perforation made by the aid of a prod, as shown in Fig. 1. One or two pieces of bait are sufficient for a single opening. The perforation need not be closed. The field, however, should be thoroughly "seeded" with the poison. The subterranean runway can readily be located by prodding between the alternating mounds of earth as shown in Fig. 2.

A very convenient practice, when plowing, however, is to carry along on the plow handle a small sack of poisoned baits, one of which may be quickly thrown into the opening whenever a runway is cut across by the plow.

Caution. Keep all poison and poisoned bait out of the reach of children and domestic animals. Label plainly "Poison." Wash up all utensils immediately after using, and pour the waste water on the ground in an out of the way place. In case of poisoning send for a doctor immediately and administer an antidote at once. Antidotes for strychnine poisoning are (1) mustard, 2 teaspoonfuls in $\frac{1}{2}$ glass of hot water; (2) animal charcoal and (3) artificial respiration.

TRAPPING.

After poison has done its work, or in case it should not procure immediate results, trapping should be resorted to.

Traps. Many kinds of gopher traps may be found on the market, but so far as our experience is concerned, only those of the gripping-jaw type give satisfactory results. Fig. 3, 4, and 5.

Setting the Trap. Most successful gopher traps are designed to be set in the lateral, Fig. 3 and 5. Even those which may be set in the runway are so built that they catch the gopher coming from one way only. Thus, in setting in the runway it is advisable to put two traps in place, facing in opposite directions, Fig. 4.

The efficiency of this type of trap in trapping the large pocket gopher of Western Oregon depends largely on three considerations, namely, first the open jaws of the trap have a spread of at least three inches; second, the trigger pan should be fully four inches back of the jaws; and third, the points of the jaws should be kept sharp.

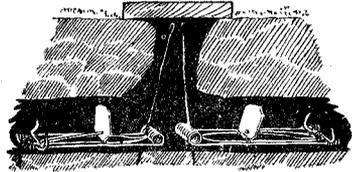
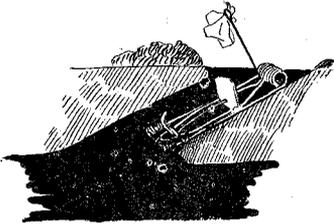


Fig. 3. Showing gripping-jaw trap, type "B," set in lateral.

Fig. 4. Traps set facing in opposite directions in gopher runway.

In setting a trap of the "A" type, find a fresh open hole or dig one open with a stick or small trowel, place a piece of vegetable or a small block on the hook end of the trigger spindle and, holding the trap partly open, work it down the hole as far as possible and set it. This will bring the jaws in close contact with the sides of the lateral. Do not set the jaws in a forked runway.

In setting a trap of the "B" type in the lateral, set the trap and with the thumb pressed firmly against the back of the trigger pan, work the trap down firmly into the earth at the bottom of the hole, place a peg at the back of the trap to which it may be attached by a wire or strong twine.

For anchoring the trap, any small stick may be used, but a piece of stiff wire twelve inches long of the size of telegraph wire with a loop in one end is most convenient. The location of the trap may be "flagged" by a piece of white cloth tied to the top of the anchor peg.

Success in trapping gophers depends largely on the fact that the entrance of light or air into the runway is irritating to the animal, causing him to go immediately on an investigating tour to discover the source of the annoyance. Thus the hole wherein the trap is set should never be quite closed up; although it is well to close it partly. Be sure the trap has room to spring; use your own judgment where directions do not apply.

FUMIGATING.

The destruction of extensively burrowing animals with heavier-than-air gases, a method peculiarly attractive to the popular mind, has not met with the general approval of the investigators. The chief objection seems to be the enormous danger attendant upon the explosiveness of the gas. Moreover, for the pocket gopher, whose labyrinth of runways is so extensive, such gases as carbon bisulphide have not given uniform satisfaction.

During the wet weather, however, with thorough treatment of the gopher runways, reasonably good success with gas may be expected. The following gases have been tried out with varying degree of success at the Oregon Agricultural College:

Carbon bi-sulphide, Gasoline, Kilmol.

If the gases are to be used extensively, it would be well to reserve their application as a follow-up of the poisoning and trapping

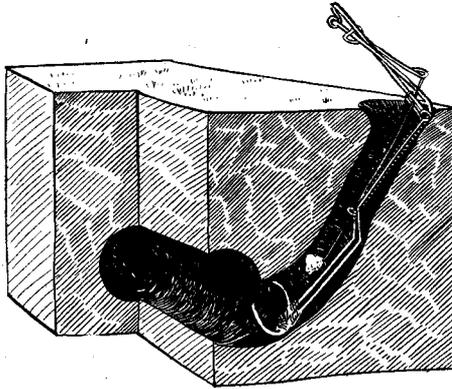


Fig. 5. Showing gripping-jaw trap, type "A," set in lateral.

Application. From an ordinary gallon can pour out a quarter of a tumbler of the gas; drop a wad of cotton waste the size of a hen's egg into the tumbler; then toss the contents of the tumbler into the entrance hole and cover up. Three or four applications to the same system of runways should be sufficient to stop operations. A few days or a week after the first treatment the field should be gone over again to get the survivors, a small proportion of which may defy a third or even a fourth application.

As a substitute for cotton waste, the following materials may be used: cotton rags, burlap, dried turf, etc. The gasoline, being a weaker gas, requires the use of greater quantities; it is therefore nearly as expensive as the other gases. It may, nevertheless, be used effectively to dilute carbon bi-sulphide.

Caution. 1. Never smoke in the presence of these gases.

2. Never light a match in an atmosphere where these gases have been standing exposed.

3. Never bring a lighted lamp, lantern or candle near. The gas, although heavier than air, will diffuse and the atmosphere thus impregnated will become explosive.

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