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W. Alan Wentz

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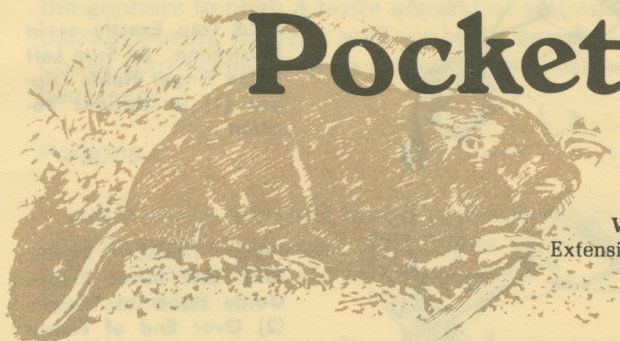
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Pocket Gophers



COOPERATIVE EXTENSION SERVICE
SOUTH DAKOTA STATE UNIVERSITY
U.S. DEPARTMENT OF AGRICULTURE

Pocket Gophers



W. Alan Wentz
Extension wildlife specialist

Pocket gophers are a nuisance, but they don't totally deserve the ill will we bear them.

They actually benefit soil and vegetation. These positive effects just aren't as visible as the mounds in your hayfield.

The burrowing activities of pocket gophers improve native grasslands, seeded pastures, meadows, and uncultivated lands.

Life history and ecology

The pocket gopher spends nearly its entire life underground and is so specialized for this type of life that it is seldom seen in the open. Pocket gophers have poor sight and hearing; and their limb structure, perfect for life underground, is of little use aboveground. They are nearly helpless if caught away from the safety of their burrow.

The average adult pocket gopher is 10-12 inches long and weighs about one pound. It has large, external, fur lined cheek pouches that are used for carrying food to storage chambers, but not for transporting soil.

The pocket gopher has four incisor teeth, two in each jaw. These teeth stick outside the mouth, and the lips close behind them. The teeth are used for digging and for cutting plants into sections small enough to fit into the cheek pouches.

The pocket gopher spends much of its time eating the roots and crowns of plants from below the surface and storing plant materials for the winter months.

To reach its food supply the pocket gopher digs runways about 10 inches belowground. Pocket gopher runways usually consist of a main tunnel which may be several hundred feet long with shorter runways branching from it.

The mounds of dirt on the surface indicate the presence of pocket gophers. The excavated dirt is deposited on the surface from lateral tunnels.

A series of deeper runways leads to nests and food storage areas, which are about 4 to 5 feet belowground. These tunnels are not connected directly to the surface but lead to shallower runways.

All of this digging for food and storage means that large amounts of soil are brought to the surface and deposited in mounds. The pocket gopher plugs mound openings with soil except when bringing additional soil to the surface.

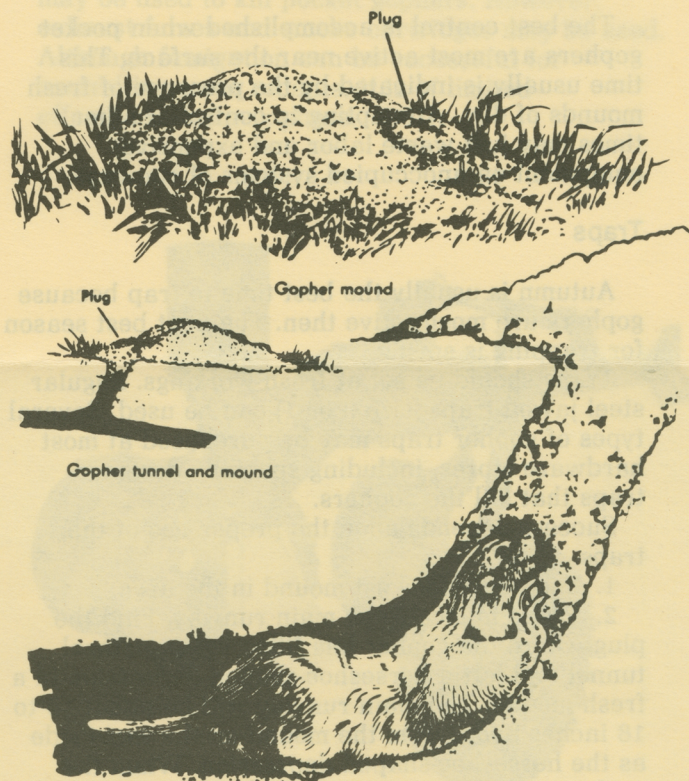
In excavating the various tunnels a pocket gopher will push soil several feet vertically and 40 to 60 feet horizontally.

It has been estimated that in one year the average gopher transports 2¼ tons of soil to the surface. At this rate, in 10 years seven gophers could cover an acre of ground with a layer of soil one inch deep.

Benefits of gopher activity

This earth moving benefits man in many ways. The benefits are especially noticeable on range and pasture lands:

1. The ground becomes more porous through the loosening of the soil. The fresh soil provides a



The enormous earth moving capabilities of pocket gophers are beneficial, even if a nuisance at times. The burrowing loosens, mixes and aerates the soil. Mounds are plugged with earth, tamped in by nose and front feet.

seedbed for desirable grasses and forbs. This helps to increase the diversity of plants on a site.

2. The weeds that replace grasses and other useful plants on overgrazed pastures are a favorite food of pocket gophers because of the weeds' large roots. By removing these plants, the pocket gopher hastens the return of desirable plants. As the gophers eliminate these weeds the area becomes less suitable for pocket gophers, and they may decrease in number.

3. Pocket gopher tunnels allow air and water to reach the roots of plants. This promotes more vigorous growth.

4. The mineral contents of the soil become more readily available to plants due to the mixing of the soil.

The major complaint against pocket gophers is the damage they cause in alfalfa fields. Pocket gophers eat the roots of the plants and bring soil to the surface which also kills some plants. The dirt mounds are a nuisance during mowing. When the gophers enter yards and gardens they can do extensive damage. They also occasionally damage underground cables.

Like most animals, the gopher is neither all good nor all bad. When pocket gophers become a nuisance to man, particularly in alfalfa fields, they can be controlled in a number of ways.

Control methods

The best control is accomplished when pocket gophers are most active near the surface. This time usually is indicated by the presence of fresh mounds of dirt. Attempting to control at other times may just waste labor and expensive equipment on unoccupied systems of runways.

Traps

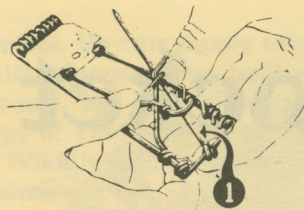
Autumn is usually the best time to trap because gophers are most active then. The next best season for trapping is spring.

Traps should be set at fresh workings. Regular steel jawed traps (size 0 or 1) can be used. Several types of gopher traps may be purchased at most hardware stores, including specially designed traps that kill the gophers.

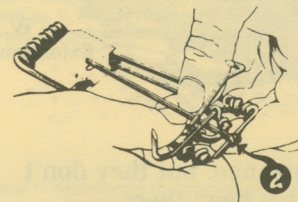
Success depends upon the proper use of the traps:

1. Locate the newest mound in the area.
2. Probe to locate the main runway. Find the plug where the gopher has filled up the lateral tunnel and left a horseshoe-shaped depression in a fresh mound. The main runway will be about 15 to 18 inches away from the mound on the same side as the horseshoe-shaped depression. When the probe enters the runway there will be a rapid drop.

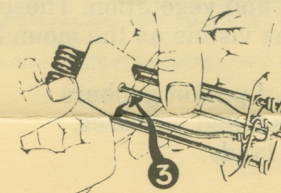
To build a probe use a piece of ½-inch pipe about 35 inches long with a solid, pointed end. A



Hold Trap Exactly as in Illustration. Be Sure Left Index Finger Holds Trigger (1) in Upright Position.



Press Thumbs Down; With Left Index Finger Guide Hook on Trigger (2) Over End of Frame of the Trap.



Still holding Frame Down, Place the Other End of the Trigger (3) in the Small Hole in the Plate.

When you place a trap in a tunnel, set the trigger side away from your excavation. The gopher will try to replug the opening. If you leave the opening too big, he may push too much soil ahead of him, which will spring the trap.

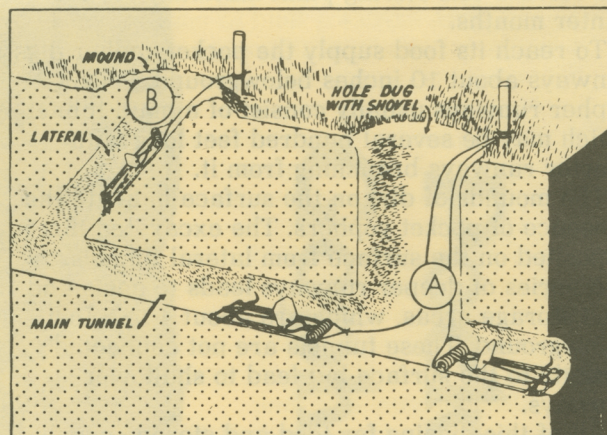
foot pedal attached to the probe will make it easier to use.

3. Dig down until you locate the runway and then remove soil from the burrow so that traps can be placed far back into the tunnels.

4. Attach a piece of wire to the trap and fasten the other end to a metal stake to serve as an anchor so the gopher cannot pull the trap away.

5. Set and place two traps, one in each direction. The trigger (flat metal plate) is placed away from the excavation.

6. The open burrows attract the gophers, and they will be caught while trying to plug the holes.



Gophers are most active in the autumn, so fresh workings will be easy to find. The plug (the horseshoe shaped depression) will give an indication of where the runway is.

Do not leave large openings since this will cause the gophers to push a large amount of soil and thereby spring the trap without being caught. Check your traps often so they may be reset when necessary.

Poisons

Landowners who feel that it is justifiable to use poison, and find no legal restrictions to such use, will be interested in the following recommendations.

Caution: Poison baits that will kill pocket gophers will also kill most other mammals. Many restrictions apply to the use of these materials. Check with your Extension county agent for further information.

In large and heavily infested alfalfa fields, poison grain can be used. The poison recommended for use is strychnine.

Properly used poisoned milo or barley results in good control. One pound of bait per acre is enough to kill all the gophers on any field. Poison placed underground is not likely to be picked up by other kinds of wildlife.

Do not leave bait lying around.

If bait is spilled, pick it up.

Most of the pocket gophers will be killed during the first week after poisoning. Gophers that survive the poison treatment may be eliminated by trapping.

The burrow builder

The burrow builder is a machine that consists of a corn planter type feed mechanism. It makes an artificial burrow for the pocket gopher and at the same time places poison bait in this burrow.

The machine is attached to a tractor and pulled back and forth across a field to make a series of parallel burrows about 25 feet apart.

The artificial burrow cuts across many of the natural pocket gopher burrows. The gophers begin to explore these burrows shortly after they are made. They pick up the poison bait and carry it back to their own burrow system where it is stored and eaten. They usually die underground.

Don't use the burrow builder before checking soil condition, principally soil moisture. Generally, if the soil is damp enough so that a handful can be compressed and hold its shape, it is suitable for using the machine. Otherwise, you're wasting considerable money and time.

In general, a burrow depth of 10 inches is desirable. The effectiveness of the burrow builder depends upon the gophers finding the artificially constructed runway and using it long enough to

find the poisoned bait. To make this possible, the artificial burrows should be constructed at a depth and spaced so as to cut through the greatest number of natural gopher tunnels.

The burrow builder will give good control if it is used properly. Used improperly, it will be a waste of money. Extermination of the gophers is unlikely, but this method will substantially reduce damage in alfalfa fields. Gophers will, in time, repopulate the field.

Your county agent has plans for building a burrow builder. In some cases county crop improvement associations have burrow builders that may be borrowed or rented. Commercially produced burrow builders are sold by several companies.

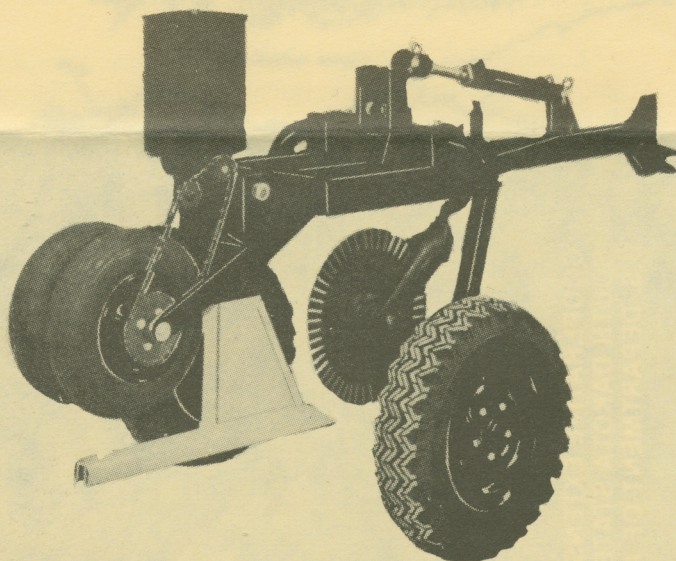
Bait probes

A bait probe is simply a hollow tube designed to put bait into a pocket gopher burrow. Several commercial bait probes are available.

Bait probes are useful for treating limited acreages or for completing a control program after the initial use of a burrow builder. Use of a bait probe would be very time consuming if a large area were to be treated.

Fumigation

At the current time there are no toxic gases that may be used to kill pocket gophers. However, exhaust fumes and smoke cartridges may be used. Although fumigation can be successful for controlling some rodents, it is of limited effectiveness for gophers.



The burrow builder makes artificial runways and drops poison bait in them. Where one of these runways crosses a gopher tunnel, the animal will explore and pick up the bait. Soil conditions must be right at time of use.

Gopher burrow systems are extensive, and portions of them are blocked off by earth plugs. It is difficult to maintain lethal concentrations of gas unless the gas is applied under pressure and the soil is moist and tight.

The common method of using a flexible hose to pipe automobile or tractor exhaust fumes into the burrow is perhaps the most effective because it forces gas through all open burrows almost instantly.

Gassing can be an expensive method of control and is not recommended.

Further information

Visit with your Extension county agent for further information on pocket gophers and their

control. He can supply information on sources of baits, places to purchase equipment, and methods for use. The Extension county office also has a copy of *The Handbook on Prevention and Control of Wildlife Damage* which you may wish to examine.

Parts of this fact sheet are based on "Controlling problem pocket gophers" (L-346) by F. Robert Henderson, Leader of the Extension Wildlife Program for the Kansas Cooperative Extension Service.

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