



Pocket Gophers

Ruining the Landscape

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Pocket gophers (*Tomomys* spp.), so named for their fur lined cheek pouches located outside their mouths, are burrowing rodents.

They are serious and difficult to control pests for both the agricultural and landscape industries, as well as for the homeowner. Pocket gophers destroy vegetation, wiring, lower the aesthetic value of the landscape and create safety hazards due to foot, ankle and leg injuries.

Their burrowing activity on slopes causes erosion and can be a major factor in slope weakening and instability that may ultimately lead to slope failure in a number of recent litigation cases in California.

Many factors influence the success of a baiting program; proper bait placement within the gopher system, environmental factors such as soil type, soil moisture and

availability of green forage. All can enhance or hinder bait acceptance and control results.

For instance, dry sandy soils will often collapse when probed, preventing any bait application. While overly wet soils can cause the bait to become soggy, muddy and quickly mold, thus making it unacceptable to the gopher.

Gophers may become "bait shy" if they ingest sublethal amounts of bait and become sick. Because the animal associates the sickness with the taste of the bait, it will no longer feed on it. Once this occurs, another type of bait or alternative control method should be used.



Large Scale Problems



Controlling gopher infestations on a large scale basis requires the development of a site specific plan that will allow for both reducing the existing infestation to a maintainable level and the implementation of continuous service programs to prevent future reinfestation problems.

Control strategy is different for every site and involves researching and evaluating many variables that must be considered before implementing any program. These variables include the plant or landscape material involved, irrigation schedule, climate, soil type, time of year, migration potential, history of prior control efforts, and the type and degree of infestation for each pest involved. Experience is essential to considering these factors and formulating a control program that will be the most effective for the situation.

Control

Selection and timing of the proper control method are the most important factors in controlling gopher populations. Most often, long term benefits will not be realized unless a program is developed that takes into consideration several important factors: biology and behavior, history of previous control efforts, knowledge of all available control techniques and the utilization of habitat manipulation where feasible.

Although many different techniques have been used in gopher control, the most successful programs usually utilize one or more of the following methods: trapping, gas tablets and poison baits.

Trapping is effective in small areas, such as a homeowner situations, or as a follow up to fumigation or baiting. However, this method is time



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consuming and thus, not very cost effective in a large scale program. The most commonly used traps are the Macabee and the box. When using traps, they should always be placed in the main burrow.

Gas tablets are very effective when used under ideal conditions. Soil should be moist to accommodate gas formation and to provide a good soil seal. Poison baits offer the quickest and most effective method of controlling a large gopher infestation. There are State and Federal legal requirements for use of this product.

The most commonly used toxicants are chloraphacinone, strychnine, and zinc phosphide pelleted bait. These products can be very hazardous and must be applied by licensed certified applicators according to label directions, as with all pesticides, and some require restricted material permits.

Biology

A thorough understanding of gopher biology and habits is helpful and necessary to a successful control program. They are medium sized rodents, with their head and body ranging in size from 6 -8 inches (15-20 cm) long, have a powerfully built upper body, a short neck, short legs, long clawed forefeet and two pairs of large incisors protruding beyond the mouth. These fossorial features are tremendous adaptations for their underground existence.

Their short and sparsely tail and whiskers serve as sensory organs to help guide the gophers through their burrow systems, and give them a keen sense of touch. Their fur color is highly variable, ranging from dark brown to very light tan.

Pocket gophers do not hibernate and are thought to be active year round even with snow on the ground; however, in very hot weather, they noticeably decrease surface feeding and mounding.

Females produce 1-3 litters per year with an average surviving brood of 5-6. In unirrigated natural areas, breeding season starts after the rains begin - which may mean only one litter per year. In irrigated, landscaped areas, the continual source of green foliage allows the female to raise 3 litters per year.

Gophers are territorial and anti-social, living alone except during breeding periods and when their young are being raised.

They live almost exclusively underground, venturing above only to push excavated dirt from the burrow system, graze on vegetation near burrow openings, or for the purpose of migrating into new territory. Adult gophers migrate up to 1/2 mile as well as the young which are expelled by their mothers when they are about half grown. Migration usually occurs as a result of unfavorable environmental conditions, habitat destruction (e.g. construction projects), or in search of food.

Burrow systems consist of a main tunnel, lateral runs, pop holes and various other functional tunnels, plus enlargements, which are used for nesting, food storage, resting and eating.

The main burrow is usually 2-4 inches in diameter and is 2-18 inches below and parallel to the ground surface. Burrows of young may be small, covering only one or two hundred square feet while those of older pocket gophers may cover an area as large as three thousand square feet.

Lateral runs branch off the main run and are used as an access for feeding on nearby vegetation. All runs leading to the surface end in a soil mound or plug enclosed, therefore, no light is allowed to enter which stabilizes burrow temperature and humidity as much as possible.

If a gopher dies, irrigation or rain washes the loose soil plugs from lateral runs and pop holes leaving open tunnels that lower the aesthetic value of the landscape. Open holes signify the system is not active and the gopher is no longer alive.

Drainage tunnels are used for water runoff, thus making it difficult to drown a gopher in a well established system.

The rate of mound building varies with the season, temperature and soil condition but averages 1-3 mounds per day during active periods.

The depth of active burrows is usually deeper under hot conditions, especially in non-irrigated or infrequently irrigated areas. Mounding often sharply decreases in the heat of summer followed by intensive mounding in the fall. This renewed fall activity has often been blamed on reinfestation of areas thought to have been controlled in the early summer. 🐾

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