

GOPHER CONTROL



The pocket gopher (*Thomomys* spp.) is a notorious pest of many crops in California. Control is a frustration to many and the difficulty in monitoring an underground pest has led to some interesting remedies. Some have reported that the use of chewing gum or chocolate laxatives will kill gophers, but Rex Marsh, vertebrate pest control specialist at UC Davis, fed these treats to gophers in captivity and found that most simply developed a sweet

tooth. These remedies come from people treating gophers with “something” and later not seeing any digging activity. I found in my research work that in almost half of the gopher tunnel systems there is no observable surface activity and about 15% will just naturally become inactive over time.

I found that it is impossible to monitor gopher activity without opening holes into their burrow systems and checking them every day. Just because gophers are not digging and pushing up soil does not mean that they are not feeding on your trees and causing damage.

Gophers spend their entire lives under ground only come to the surface occasionally to cross barriers, seek new territory, or push up soil from their tunnel systems. Under good digging conditions their burrows will be very extensive and can be 3 to 4 feet deep. Most of their activity and feeding, however, takes place between 8 inches to 16 inches in depth in tunnels that are parallel to the ground surface. Gophers never become completely inactive, but produce most of their offspring in the spring and fall months.

Spring is a very important time to control gophers because as the soil warms they become more active and do more digging, so their presence can be determined. Another factor is that their population should be reduced before they have a chance to reproduce. They also become more active in the fall months after some rain has softened the soil.

Only two control measures consistently work for controlling gophers; poison baits and traps.

Poison Baits

There are two main types of baits that will consistently achieve a reduction in the gopher population.

The first is strychnine, which is a natural occurring botanical poison that is mixed with grain. It has traditionally been very effective and fast working. It decomposes very rapidly in moist soil (within a few days), which increases its safety, but it therefore offers little control of re-invaders moving into the same tunnel system. It needs to be placed very carefully into



the underground burrows so that poisonous grain kernels are not available for non-target feeding. For home use, the restrictions on the concentration of strychnine in grain baits is currently limited to 0.5%. This may be a sub-lethal dose to some large gophers, but was done for safety concerns. There is a 1.7% baits available as a restricted use material in the mechanical bait applicator burrow builder machine.



Strychnine can be applied by hand by opening a hole with a shovel, broomstick, or poking a rod into the main or feeding tunnel their crescent shaped soil mounds. Some farmers treat their fields every day early in the morning. When they observe gopher holes that are still open from night feeding or digging they apply the bait.



The mechanical bait applicator mounts on a three-point hitch and drags a shank with a wide base through the soil to create an artificial burrow. The machine deposits small quantities of strychnine bait about every three feet down the burrow tunnel. Since gophers are fiercely territorial they immediately investigate these new burrows and feed on the bait. Excellent control is achieved in heavily infested ground within 24 hours.



The second type of poison bait for gopher control is the same type of material used for controlling rats and other vertebrate pests. It is an anticoagulant bait usually diphacinone. It must be consumed over a period of 5 to 10 days to kill the gophers. These baits are usually imbedded in grain with wax to form a solid block.

They have the advantage of potentially killing more than one gopher since the next occupant will consume baits stored in the food cache. My research in Sonoma County indicated that three to nine months after treatment the anticoagulant bait blocks controlled 70% to 80% of the gophers while strychnine only achieved 50% control.



Trapping



There are several types of gopher traps that are very effective when set properly. The keys are to know what you are doing by knowing gopher behavior and being persistent. The wire Macabee, wooden box, tubular plastic traps or cinch traps all kill the animal after it is lured into a triggering device. The traps must be set with a “very fine trigger” and placed properly. One of the main reasons for trap failure is that they are set into the gopher’s surface feeding or clean out holes (usually golf ball diameter size holes). These traps usually just get filled with dirt.



To be more effective the traps should be set in two directions in the main tunnel. The main tunnel is usually a little deeper (9 to 18 inches) and much larger (about tennis ball diameter). Light should be excluded, so that the gopher is less inclined to fill the area with soil to block off and intrusion. I usually cover the area with a piece of plywood. The traps should be tied to a stake so that they are not dragged away. After trapping a gopher, a bait block or two can be placed in the tunnel before filling the hole back in to kill the next gopher entering the vacant tunnel system. Good luck!



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