


## Gophers, Gophers, and More Gophers

Spring brings warmer weather, longer days, new calves, and new crops. But it also brings the problematic Richardson Ground Squirrels (aka Gophers). With Health Canada removing strychnine as an option for gopher control, farmers need new control options.



### LIFE CYCLE

Knowing the gopher's life cycle helps you make better control decisions. The most effective time to control is before the adult females start having their pups. The chart shows typical timing of gopher spring emergence. Note that males emerge about two weeks before females. During this time, they don't eat much and are busy fighting for territory. When females emerge, they breed immediately (which is why the males fight so hard to stake out territory). It generally takes about two weeks after emergence before the females start feeding much. So, the best time to put out poison for gopher control is mid-March to the end of April because the adults are looking for high energy foods, new litters have not been born yet and ideally plant green-up has not yet occurred. This makes bait a more appealing food source, and provides the most effective control, before the gopher do much crop damage. The best way to determine this window of opportunity is to actively monitor gopher emergence. Once the first gophers have been spotted, plan to start baiting 4 to 6 weeks later.

	<b>Richardson Ground Squirrels Emerge Above Ground</b>	<b>Richardson Ground Squirrels Enter Hibernation</b>
<b>Adult Males</b>	Mid-February to Early March	Mid-June to Early July
<b>Adult Females</b>	Early to Mid-March	Early to Late July
<b>Juvenile Females</b>	Early to Mid-May	Early to Mid-August
<b>Juvenile Males</b>	Early to Mid-May	Mid-September to October

*Timelines are based on Southern Alberta. Gopher emergence is dependent on weather (ambient temperature regularly above freezing), so active monitoring is needed.*

## INTEGRATED PEST MANAGEMENT

Proactive best practices like encouraging predation (such as birds of prey nesting boxes), tall vegetation cover/buffers to shelter small carnivores, crop rotations, etc. should be considered in context with the land suitability and characteristics. Users of pest control products should always follow label directions and best practices while considering human and environmental safety concerns.

Several different strategies for controlling ground squirrels such as supporting predation, shooting, asphyxiation, or poisoning/ baiting should be used together. Multiple strategies may be ultimately more effective than a singular plan with timing of methods key to long term gopher control.



### Hawk Post

Hawks and other birds of prey can provide a valuable service to producers and landowners in the form of pest control. One pair of nesting hawks can consume up to 500 ground squirrels in a single nesting season! Installing a hawk post can encourage hawks to nest and hunt on your land.

## BAITING OPTIONS

Products described below are not meant to be a complete available list of options. These are not recommendations but are being presented as information to integrate with best practices and effective control for your specific needs and conditions. **Always follow label directions for the product you are using.**

**Burrow Oat Bait** (Zinc phosphide) and other similar bait products with zinc phosphide as the active ingredient (ZP Rodent Oat Bait AG) works comparably to strychnine. This is an acute, single dose, fast acting poison. It has no antidote. It has a very low secondary poisoning risk for scavengers. This product is intended for Certified Applicators and Farmers. Pre-baiting 7 days before using the product is recommended for the best results. The active ingredient is a powder on the bait and when it is exposed to moisture/acid, it starts to release highly toxic phosphine gas. When the gas forms and contacts the rodents stomach acid, even more gas is rapidly generated causing asphyxiation. Use by hand baiting directly into burrow entrances or in approved bait stations. UFA and Co-op Agricultural supply stores carry it in some parts of Alberta.

**Rozol RTU** (Chlorophacinone) is a premixed, anticoagulant bait that is ready to be used in crop and rangeland areas. Vitamin K is the antidote for Rozol. The bait has a consistent blend, is moisture resistant and can be used without pre baiting. Rozol requires

multiple feedings and is slow acting (4-8 days). It is used by hand baiting directly into burrows, and rebaiting in 48 hours. It may require a third application. It can also be used in bait stations – provide an uninterrupted supply for at least 3 weeks. Rozol has a low risk of secondary poisoning, but dying ground squirrels may be a target for predators when they are sick and slow. Since vitamin K1 is the antidote, this product may not work well on fields with a lot of alfalfa or sweet clover. Available in local agricultural supply stores.

**Ramik Green** (Diphacinone) is another anticoagulant bait which requires multiple feedings. It is often less appealing to Ground squirrels due to the flavor. Ramik Green is used by hand baiting directly into burrows and rebaiting in 48 hours. A third rebaiting may be needed. Bait stations may be used; provide an uninterrupted supply for at least 3 weeks. Bait stations must be secured and labeled. Ramik Green has a low risk of secondary poisoning, but dying ground squirrels may be a target for predators when they are sick and slow. Available in local agricultural supply stores.

**The Giant Destroyer** eliminates burrowing rodents by suffocating via sulphur gas. The burrow exits need to be closed off to prevent escape and the device lit at the fuse and placed in the last opened entrance, then filled in quickly. This creates an asphyxiating smoke if escape is prevented. Purchase is available in 4 packs. Available in local hardware and agricultural supply stores.

**Rocon is** a registered mustard-based pesticide that is a non-toxic mixture of a biodegradable foaming agent used to asphyxiate ground squirrels in their burrow system. Using a specialized electric pump system, the mixture is injected into the burrow system while escape and other exits are closed off using plastic perforated cones. The cones allow the operator to inject the mixture to enter and spread completely throughout the underground burrow system. Since Rocon is nontoxic there are few concerns about predators and scavengers consuming carcasses and exposure to people. Purchase is available by 4x4L solution and a pump/wand combo kit.

**Health Canada ended the sales of 2% Liquid Strychnine for gopher control in March 2022. Strychnine possession and use is prohibited as of March 2023. The County of Vermilion River stopped supplying strychnine in March 2022.**