

# "No Blow" Gas Eliminates Burrowing Rodents

Al Dentone has found a way to eliminate burrowing rodents that's safe, quiet and won't anger his customers' neighbors. Instead of liquid propane and oxygen systems that create underground explosions, he came up with his patent pending Eliminator that uses CO<sub>2</sub>, an inert gas that is heavier than air. "It settles into the tunnel, displacing oxygen. The rodent is eradicated by lack of oxygen," explains Dentone.

Dentone says the biggest challenge was designing the metal probe. He used a double wall that ensures the low-pressure gas outlet doesn't plug with soil when inserted into the rodent tunnel.

"With gophers, simply insert the probe in a tunnel and turn the handle to release the gas," says Dentone. "A 30-sec. release of gas at 15 psi is usually enough. With ground squirrels, you need to cover the holes the night before. Pick the hole that is most used the following day, insert the probe, crank up the pressure for about 90 sec., remove the probe and cover the hole."

Dentone predicts 95 to 98 percent eradication initially with subsequent treatments reaching 100 percent. While the inert gas kills rodents in the tunnel, if it spills out of the tunnel it simply dissipates harmlessly into the air.

"CO<sub>2</sub> is on the OMRI certified organic product list," says Dentone. "We are waiting for certification of our equipment. When we get it, it will be the first product approved for rodent control in organic production. Until now the only option they had was trapping or shooting with non-lead bullets."

Worker safety is another nice thing about the Eliminator. "There's no problem with workers compensation, though in California, you still have to have an applicator's license," he says.

Dentone uses the Eliminator in his own rodent eradication business. He is also selling the equipment, including the probe, regulator and 25-ft. hose, for \$1,700. While some larger property owners may want to buy their own, he suggests it could also be the basis for a



The Eliminator uses CO<sub>2</sub> gas to kill rodents in their tunnels, without creating a noisy underground explosion.

good business.

"You can treat 30 gopher tunnels an hour," says Dentone. "A 20-lb. tank of CO<sub>2</sub> used for gophers at that rate should last about 3 1/2 to 4 hrs. or do up to 160 burrows per tank."

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Planter-mounted tillage system eliminates soil compaction in wheel tracks caused by the planter and tractor during planting.

## Planter-Mounted Tillage Unit Reduces Compaction, Improves Yields

Iowan Colin Hurd invented a new wheel track tillage system for big row crop planters called TrackTill, which uses the weight of the planter to fix compaction issues and improve yields.

"TrackTill is a patent-pending attachment for the planter frame that mounts behind the main frame wheels. Typically there are 4 sets of wheel tracks that these address," Hurd says. "It's the only product designed to do this specifically – eliminate soil compaction caused by the weight of the planter and tractor during planting."

The weight can be considerable – as much as 25,000 lbs. on a centerfold planter if liquid fertilizer is being applied at the same time.

Hurd has been testing his vertical tillage tine attachment for a couple of years on different soil types in different states. The 9-in. tines (3 tines per hub) on a shaft enter the ground and force the soil underground to shatter. It replaces compacted tire marks on the surface with tine slits in a checkered pattern.

"It creates spaces in the ground that are porous and allow water to soak in. On hilly ground the pattern slows runoff," Hurd explains.

Those same spaces aerate and allow corn roots to go deeper on the rows next to wheel tracks. Based on preliminary studies with Iowa State University, yield on those rows increased up to 8 bushels when TrackTill was used.

Final test results will be available by early November on the Agricultural Concepts website, Hurd says. He should also know what the cost for the units will be, though he wants to work with a few "progressive" farmers in 2014 for further field research



Three 9-in. tines per hub shatter the soil to allow water to soak in.

before rolling out TrackTill in 2015 through Deere dealerships.

"My mission is to provide highly valuable products for growers," Hurd says. He hopes to keep the prices low enough for farmers to see a 50 percent return in just the first season.

"I am looking for diversity, working with farmers who do no-till, strip-till, and conventional on all types of soil," he says. He encourages people to contact him if they are interested in trying TrackTill next spring.

Right now testing is focused on corn and soybeans with Deere planters, but he plans to work with other models and possibly seed drills in the future.

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"Big Stinky" attracts flies with bait, then confuses them about how to get out of the cone inside the trap.

## "Big Stinky" Traps Flies Chemical-Free

The name "Big Stinky" may not sound like a great fly removal solution, but it beats using pesticides, says Scott Bice, farm manager at Redwood Hill Farm & Creamery.

With 300 goats on 8 acres and lots of regular visitors, the Sebastopol, Calif., orchard operation feels it's important to keep flies under control by organic means. The 15 to 20 3-ft. tall fly traps positioned around the farm have been doing a good job since an employee – nicknamed Mother Nature – came up with the design 25 years ago.

The basic concept is to attract flies with bait and confuse them about how to get out of the cone inside the trap.

The fermented bait is key, says Bice. Whisk 1 1/4 cups dry baking yeast into a half-gallon of warm water. Add 1 heaping tablespoon of ammonium carbonate (used in baking and available through online stores). Pour into a gallon plastic bottle and cap with a vapor lock to allow gases to escape. Place in a warm location out of the sun, and let it age for a couple of days.

The bait is poured into a 9-in. disposable foil cake pan and slipped into the bottom of the trap, which is made of a piece of 24 by 36-in. long, 1 by 2-in. welded wire with a cone inside made of 30 by 42-in. aluminum mesh window screen.

A blog posting (Mother Nature's Fly Trap) on the Redwood Hill Farm website explains how to build the trap so it's tight enough that flies can't escape, yet leaves room for flies to enter at the bottom, lured by the bait.

"The top of the trap is a 5-gal. bucket lid with a 2-in. hole in the center covered with acrylic plastic," Bice explains. "It lets light in so the flies are attracted to the warmth and light. They can't figure out to go back down to get out."



To prepare bait, it's poured into 1-gal. plastic bottles and capped with vapor locks that allow gases to escape.

It's important to keep the acrylic piece clean so light can get through. You also have to keep the bait moist. Workers at the farm routinely remove the dead flies and feed them to the chickens.

The trap doesn't attract good insects, Bice says. But it does attract yellow jackets in the fall.

"My guess is that they are carnivorous, so they are going after the flies," he says.

Employees have made miniature versions to hang in olive trees to capture fruit flies, using similar bait.

"This trap would work in backyards, where people are composting, where there is wet waste - any place where there are flies," he says. "It doesn't get them all, but it knocks down the numbers of them, especially if you set the traps out in the early spring."

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