Capital Press
The West's Ag Website

Vole control: Know your enemy, expert says

Carol Ryan Dumas
Capital Press, January 28, 2016, US

Carol Ryan Dumas/Capital Press Carlo Moreno, right, University of Idaho Extension educator, talks with bean dealer Ken Carr of Archer Daniels Midland at the University of Idaho Bean School in Twin Falls on Jan. 27.

Voles are prolific procreators, and controlling them on cropland and pasture requires a combination of methods.

TWIN FALLS, Idaho — Voles have wreaked havoc on southern Idaho cropland and pastures over the past two years, and controlling the population of the tiny pests has proved difficult.

But a combination of control measures could help producers mitigate the damage they cause.

High populations of the mouse-like rodent can easily cause 30 percent yield loss, and some producers in southern Idaho have reported up to 50 percent yield losses, University of Idaho Extension Educator Carlo Moreno told the UI Bean School on Jan. 27.

The first step in getting a handle on vole populations is to “know your enemy,” Moreno said.

“They’re native to these lands, so in some ways you’re looking to co-exist,” he said.

There are four species of voles in southern Idaho, with the meadow vole most common. They live 12 to 18 months and are “extremely prolific.” Females reach sexual maturity in a month and have one to five litters a year with three to six young per litter, he said.

Doing the math, the population could spiral by 2.8 quadrillion a year, he said.

Fortunately, voles typically do not live long. Up to 88 percent of young voles die of disease, parasites, unfavorable climate and competition for resources within the first month, he said.

Outbreaks are cyclical and used to occur about every 10 years but the frequency is shrinking to as little as every six years. The primary factors for this include milder winter weather that results in less direct mortality, longer growing seasons and more rain and vegetation. Fewer natural predators and managed landscapes are also factors, he said.

Netted wire and hardware cloth can be used to keep voles from damaging trees and saplings, but controlling them on cropland and pasture requires other methods, he said.

Cultural practices include eliminating grassy ditch banks and fence lines, grazing or mowing alfalfa in the fall, creating weed-free buffer zones around fields, light tillage around borders to break up voles' pathways, and fallowing ground, he said.

Two types of toxic substances can be used, but should only be used when populations are out of control, he said. Zinc phosphide, best applied in late fall and early spring, can be broadcast, applied in runways or placed in bait stations. When ingested, its active ingredient converts to phosphine gas, killing the vole within 12 hours, he said.

But producers need to be careful with the product as any moisture such as rain will trigger the release of gas, he said.

Anticoagulants, which cannot have any contact with crops and can require a pesticide license, can also be used. When ingested, they cause tiny lacerations to blood vessels and voles will bleed out in one to two weeks. They are slow-acting and require multiple feedings, he said.

They can be applied in field perimeters, runways and bait stations or broadcast during crop dormancy. The bait left in bait stations, which are easy to make from PVC pipe, should always be fresh. Product should be rotated, as voles can become bait-shy as cohorts die off, and the station should be placed in areas of heavy vole activity, he said.

Traps can also be used for small infestations. They can be baited with peanut butter and should be placed perpendicular to runways, he said.

Natural predators, such as raptors, owls and snakes, are also an important source of vole mortality. Creating habitat for predators can be part of an integrated management plan, he said.

What doesn't work in vole control is exhaust injection, flame treatments and fumigants because vole nest and tunnel systems are elaborate, he said.

Prevention is the key in preventing yield losses to voles, and a combination of control methods is most effective, he said.