



# Oregon State Extension Service University

## Extension field day highlights use of canines to detect voles

MONMOUTH, Ore. – Ruby ran through the high pasture grass, nose to the ground, looking for the scent of an active vole tunnel.

The dog sat down suddenly, alerting her handler to the scent. A group of more than 40 who attended Voles, Dogs and Raptors Field Day, hosted by the Oregon State University Extension Service, shouted words of encouragement for Ruby.

“Go for the flag, Ruby, go for the flag!”

Nearby, Reacher, a blue heeler seasoned in tracking down vole scent, paced the pasture, looking for active vole holes.

Voles are members of the rodent family and are commonly found in Western Oregon grasslands. Along with pocket gophers, they can cause significant damage to crops, orchards, vineyards and pastures. Especially during a low-population year, selecting which burrows for trapping or treatment in efforts to control the vole population is difficult, time consuming and expensive for farmers.

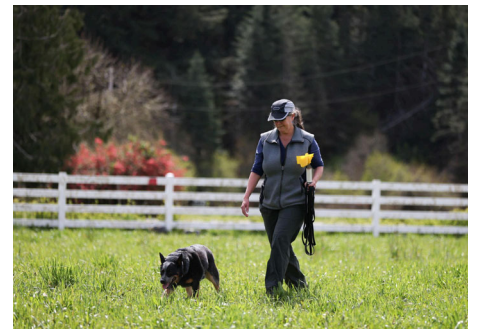
That’s why Ruby and Reacher have been trained to detect active vole tunnels, to make it more efficient to trap voles. Their abilities were featured at the field day, held in April at Double J Jerseys, a certified organic dairy farm in the Kings Valley.

The field day touched on vole ecology and the ebbs and flows of their populations – there was a vole irruption in the region from 2018-21 that decimated crops and prompted new Extension



Ruby detects a vole at Voles, Dogs and Raptors Field Day.

Credit: Amanda Loman



Susie Dunham walks through the pasture with Reacher to detect voles.

Credit: Amanda Loman



Reacher detects a vole.

Credit: Amanda Loman

research on vole control. The day also featured a new wrinkle in natural vole control: Encouraging raptor habitat on farms and pastures.

“Voles are a concern because they are a grass-eating animal that also burrow,” said Dana Sanchez, OSU Extension’s wildlife specialist and a professor in the Department of Fisheries, Wildlife, and Conservation Sciences. “They have quite an impact on multiple crops up and down the Willamette Valley.”

Dense vegetative cover and high density of burrow entrances makes it difficult to identify vole holes for traps. Even when the ground is visible, there are many holes but not all of them are active.

Over the last few years Sanchez has been working with Nick Andrews, Extension organic vegetable crop specialist, on canine-assisted vole detection.

“About four or five years ago we went through a major vole irruption in the Willamette Valley,” Andrews said. “All of the vegetable farmers I was working with were struggling. Some were even thinking about not growing root vegetables again because the damage was so severe.”

## ‘More effective’

In 2023, Andrews, Sanchez and Jenifer Cruickshank, Extension’s statewide dairy cattle specialist, received a grant from Western SARE (Sustainable Agriculture Research and Education) to evaluate the use of trained dogs as a mean for vole prevention.

The goal is to use dogs to be more efficient at vole trapping.

“I’m working with organic farmers. They can’t use zinc phosphide rodenticides to control rodents,” Andrews said. “The dogs are making the searching a lot more effective.”

At the field day, Reacher’s handler Susie Dunham showed the group how he can detect active vole holes. She held up a jar of freeze-dried voles. She opened it and lowered it to Reacher’s nose until she was confident that he had the scent.



Attendees at Voles, Dogs and Raptors Field Day learn about perches constructed to attract raptors to control voles.

Credit: Amanda Loman



Gray-tailed vole.

Photo: Lynn Ketchum



A motion-sensing camera captures an image of a red-tailed hawk alighting on a perch constructed at Double J Jerseys dairy farm.

Credit: Nick Andrews

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Dunham then walked out into the pasture with Reacher. He stopped and sat down at several holes, indicating live vole presence and where Dunham could place a trap.

That's when Cora Bobo-Shisler, an Extension faculty research assistant in the Department of Horticulture, demonstrated how to place burlap blocking nearby exit holes and how to set pairs of traps in the runways adjacent to the active holes detected by the dogs. She also demonstrated how to "tent" the set traps with waxed cardboard in order to prevent injury to or capture of non-target animals such as birds. This method is favored by organic farmers who are limited on using chemical rodenticides.

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## Natural vole predators

Prior to the pasture demonstrations, the group gathered in a barn on the property to listen to Sanchez and Cruickshank. Everyone in attendance, from viticulturists to vegetable farmers, said they had experienced vole problems at one point.

Damage is often localized, expensive and difficult to mitigate once started, Cruickshank said, adding that but the population will go up and down, making it difficult to plan for control.

Raptors are natural vole predators and can be used to control them, said David Wiens, a forest and rangeland ecosystem wildlife biologist with the U.S. Geological Survey in Corvallis. Wiens discussed several types of raptors in the region that could be encouraged into vole prevention via habitat enhancements such as perches or nest boxes.

Barn, barred and other owls, along with kestrels and hawks, feed on voles and could be an asset in the fields, Wiens said.

"Adding back in habitat for animals like raptors and owls can help take some of the voles out of the system," Sanchez said.

Jon Bansen, owner of Double J Jerseys, worked with Andrews to install raptor perches in early April along his fence line in a pasture impacted by voles. Both the 17-foot oak perch and the 10-foot T-post perches saw raptor traffic in the initial week of their installation. Andrews set up game cameras for a week

before the workshop and recorded 11 visits by red-tailed hawks, 21 by kestrels and two by great-horned owls. The taller perches appeared to get a bit more use.

Henry Sullivan, a mixed vegetable organic farmer in Hillsboro who attended the workshop, made the decision not to plant beets after a bad vole year. Sullivan said he's interested in promoting raptor predation in his fields. Six months ago, he used irrigation risers as perches and has noticed more kestrels in his field.

Continued research is focused on multiple potential tools and techniques to assist growers in managing voles and their impacts through the next inevitable population spike.

***Previously titled*** *Dogs sniff out destructive voles to help farmers with control*

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