

Study: Barn owls pass rodent test with flying colors

By Bob Johnson

The results are in from the largest study ever of the ability of barn owls to manage gophers, and the feathered predator showed in a Lodi vineyard it can catch and kill the pesky rodent at a fraction of the cost of strychnine or traps.

The barn owls were so effective in ridding the rodent-infested, 100-acre vineyard of gophers that by the end of the three-year study the birds were leaving in search of better hunting ground.

"By the third year, we went from 18 pairs of barn owls to three pairs, and we had almost no pocket gophers. The pocket gophers had been knocked down by so much that the barn owls didn't find it a good place to live. They come back when gophers and voles come back," said Mark Browning, animal trainer and field researcher who started the Barn Owl Box Co.

Browning set up the study in 2011 in cooperation with Vino Farms, the Lodi Winegrape Commission, local college students and staff from the U.S. Fish and Wildlife Service.

The winegrape commission financed a camera that let researchers see the prey the owls brought back to their nests.

"For the very first time, barn owls were recorded in video each time they delivered prey to the nest throughout the breeding season. This gave us a totally accurate picture of how much prey is brought in during the first week, the second and so on until the young owls fledge in the ninth week. The results gave us the ability to tell farmers exactly how many rodents to calculate each nest was responsible for taking," Browning said. "If you've got 10 families of barn owls, during the mating season they'll eat 600 gophers every 10 days without you doing anything."

The film, and analysis of owl pellets, showed that the birds ate nearly 10,000 rodents the first year of the study, and followed that by eating around 15,000 the second year.

"For the first time, we have been able to calculate the cost per rodent taken of a sophisticated nest box program designed to reduce rodent numbers. This figure over the first two years was 24 cents per rodent," Browning said.

Gopher traps work, but the labor needed to set, monitor and set them again can be prohibitively expensive.

Vino Farms assistant viticulturist David Langone estimated the cost of setting and monitoring traps at between \$8 and \$11 a dead gopher.

"We have two people working on the traps at around six hours per week. So 12 total hours of labor is going toward trapping exclusively. At the standard pay rate of \$9.35, this is \$112.20 per week. Since the guys are getting about 10 gophers per week, we can assume that each gopher is worth about \$11.22," Langone said.

Strychnine may be a little more economical than traps, but it can harm non-target birds and animals if they eat it, or even if they eat one of the rodents that have consumed the poison.

"Conservatively, you could say that this strychnine application throughout the vineyard was around \$1,000 for an unknown number of gophers. I'm not sure there is a better way to estimate the number of gophers that the strychnine took care of," Langone said.

Another issue with strychnine is that, unlike the owls, it is only effective for a fairly short time.

"The difference between barn owls and strychnine is that barn owls never stop exerting pressure on the rodent population. After you apply strychnine once, the rodents will repopulate until you do it again," Browning said.

Barn owls are unique among predators in their ability to live close to each other without conflict, he said.

"If barn owls didn't exist, I don't know what I would tell people to use because other predators are too territorial to establish a balance with the rodents. Barn owls can live as close as five feet apart. They just don't have the territoriality other predators do. You can mass your boxes; owls won't fight and they will find the rodents they hear. If you have an unused area away from equipment and workers, you can concentrate your owl boxes and the barn owls will leave each other alone," Browning said.

The birds are effective night hunters because of their ability to hear the rodents moving or gnawing in the vineyard.

"Barn owls can tell different species of rodents by listening to them. There have even been studies showing they find a disproportionate number of pregnant females, because they can hear the heavier rodents," Browning said.

It is almost but not quite as simple as putting up a few houses and letting the owls do the work, he said.

Browning recommended putting one

owl box mounted about eight feet above the ground for every 10 acres of vineyard, keeping in mind that the owls have a preference for eastern-facing boxes.

The boxes should be cleaned up after harvest, and restocked with mulch to serve as nesting material for the next season.

"The four months after August, you can clean up the boxes. Make sure you put three or four inches of mulch on the bottom, and use the largest chunks you can get for the mulch," Browning said.

Monitoring the boxes reveals the gopher population in a vineyard or orchard, because barn owls will come and go depending on the abundance of rodents. If most of the houses are vacant, that is a sign the gophers have been eaten, but if all or nearly all of the houses have owls, that may be a sign it is time to put up a few more houses.

"You've got to have enough barn owl families. You should monitor your owl boxes, because if you know how many owls you have, you'll know how many

rodents they'll eat. It is important to get ahead of the problem," Browning said.

Pacific Gas & Electric has gotten involved in promoting barn owl boxes as part of its program to protect birds by removing houses placed on utility poles. The power company has financed free barn owl boxes for members of both the Lodi Winegrape Commission and the Central Coast Vineyard Team.

(Bob Johnson is a reporter in Monterey. He may be contacted at bjohn11135@aol.com.)