



Few things frustrate vineyard operators more than producing healthy grapes only to have them eaten by pests. Small insects are a significant cause for concern, but larger animals often put delicate grapes at risk as well. This article will discuss the topic of wildlife control in the vineyard and the various ways that vineyards can effectively and humanely deter wildlife to protect their valuable grapes.

Wildlife That Impact Vineyards

Matt Doyle of Doyle Vineyard Management in Hammondsport, New York told *The Grapevine Magazine* that the most common pest problems that occur in the Finger Lakes region are deer, birds, and turkey. A premier Finger Lakes region grape grower, Doyle Vineyard Management also offers full-service vineyard management services and sustainable vineyard programming.

Meanwhile, in the Sebastopol, California area, Rick Williams of Harmony Farm Supply & Nursery said most of the wildlife issues that plague vineyards in this region are gophers.

"Most of the problems that they cause are with new plantings, whereby they will eat the tender roots of new plants," Williams said.

"Established vines have such an extensive root system that the gophers don't generally pose a serious threat. The holes that they dig cause issues within the vine rows, creating soft spots that tractors and other vehicles traveling down the vine rows can sink into."

Williams said that rats and mice climb vines to feed on the berries. "Most other problems are from coyotes that come into the vineyards and are digging after the gophers because they dig large holes," he said.

According to Williams, birds also cause a significant problem in vineyards when they eat the berries as they mature. Wayne Ackermann of the Wilsonville, Oregon-based **Bird Control Group** (<https://birdcontrolgroup.com/>) told *The Grapevine Magazine* that the type of birds that cause damage and financial loss to vineyards largely depends upon the location.

"On the west coast, we tend to see most damage caused by starlings and blackbirds," Ackermann said. "On the East Coast, cedar waxwings and robins tend to be the issue, but in all regions, there are many birds attracted to the sweetness of the ripening grapes."

Not only can wildlife pests eat the grapes and gnaw on the roots and trunks of grapevines, but they can also cause other significant types of damage as well. For example, wildlife pests can damage irrigation systems, cause erosion, and leave bacteria and fungus on grapes from their fecal matter. These behaviors cause contamination, bunch rot, and off-flavors in the final product.

Wildlife Control Solutions for Vineyards

Fortunately, there are many ways to prevent and control wildlife through vineyard management and safeguards. There is rarely a one-size-fits-all approach to wildlife control, so vineyard owners should consult with pest control experts in their local area for advice.

Deer in the Vineyard

Deer tend to enter vineyards early in the year to graze on young shoot growth, which can destroy a vineyard's training system. Deer can also be a significant nuisance when it comes time for harvest. It is best to use deterrents before the animals have discovered the potential food source.

Sunni Ashley, co-owner of Vineyard Industry Products, and said that deer, pigs, and bears are best controlled with fencing. The company has stores in Windsor, Paso Robles and Los Alamos, California carrying a variety of wildlife control products for vineyards. Their products include barbed wire, bird netting, mylar tape, traps, grow tubes and, of course, fencing. Fencing that extends six to eight feet high and made of woven wire can be installed to deer-proof a vineyard.

"Deer require at least six feet of fencing, but depending on the area, you may need to go higher," Ashley said. "You can add two strands of high tensile wire at the top to get to seven feet. For pigs, putting the barbed wire along the bottom and connecting it at each stake (and sometimes another stake in between the standard fence posts) helps."

Meanwhile, physical barriers, such as grow tubes and mesh vinyl screens, can be placed to protect young vines. In some regions, vineyard owners can obtain deer damage permits to hunt deer that cause substantial damage to crops and to reduce the population outside of the established hunting season. Odor repellents can be useful for deer control, acoustical repellants can scare away both birds and deer, and dogs can be trained to deter deer and protect vineyards too.

Doyle uses many of these options to keep deer from his vines. "The ways we control [deer] are utilizing fences for severe deer pressure, pig blood spray to deter deer from eating the vines, and having people fill out NYSDEC deer nuisance permits. We use Plantskydd deer repellent sprays on newer vineyards," he said.

Rodents in the Vineyard

Many pest control and vineyard management companies use traps and baiting to control wildlife, mainly gophers. It is recommended to set many traps, note the location of gopher mounds, and place bait in the pests' underground tunnels.

This process requires a substantial amount of patience and effort, which is why fumigation may be used simultaneously to control gophers and other rodents using aluminum phosphide in the late winter and early spring with moist soil. Other wildlife control solutions include bringing in barn owls to help control field mice, voles, and gophers. Nest boxes in the vineyard help owls set up habitats to accomplish this type of rodent control.

Williams of Harmony Farm Supply & Nursery said that they "carry a variety of traps to kill the gophers." He also said they do not have cost-effective organic rodent deterrents for large-scale application.

Birds in the Vineyard

Birds often pose late-season threats to vineyards, especially for those in a migratory pathway. Bird control is typically a point-of-contact effort, with netting and scare devices among the most common deterrents.

"For birds, we typically use BirdGard brand devices to deter birds, bird bangers, or occasionally net varieties that have heavy pressure. We have no real control measures for turkey, but they cause minimal damage compared to the deer and birds," said Doyle.

Netting is a popular choice among vineyard owners, although bird nets can be a hassle to put on and later remove. Over-the-row netting is often used in vineyards to cover large surface areas. These nets are made of nylon, plastic, cotton, polyethylene, or a lightweight acrylic material to drape over plants. Netting can be a costly investment for a vineyard, but a quality net lasts several years.

Scare devices such as motion-activated water sprinklers and electronic scarecrows are also typical.

Bird Control Group (<https://birdcontrolgroup.com/>) is the world leader for laser bird deterrents and bird repellent solutions that have proven to decrease bird nuisances by over 70 percent. The company offers a fully automated bird repellent system that effectively scares away birds by projecting a laser beam towards them. The birds perceive the laser as a danger and fly away. It's a one-time investment that does not harm the animal or the environment, and it has patented safety features to eliminate potential hazards.

Bird Control Group (<https://birdcontrolgroup.com/>) initially targeted commercial blueberry growers in 2017 because they do not have the option of netting and often depend on expensive falconers for bird control. After immediate success providing an effective, cheaper solution, the company ran two experiments with vineyards that same year in Petaluma, California and the Willamette Valley in Oregon. Both vineyards saw great success and saved on labor.

"In 2018, many vineyards incorporated our laser technology in California, Washington, Oregon, Texas, Nebraska, New York, Rhode Island, and New Jersey," Ackermann of Bird Control Group said. "We have also seen our sales aggressively grow with vineyards in Australia and Chile, as their season is just getting going. The lasers are a very good tool, and the trend is for customers to return for additional units and also send their friends to us. We always say that farmers vote with their wallet, and when they return to buy more lasers, we know it's doing something well for them."

Ackermann of **Bird Control Group (<https://birdcontrolgroup.com/>)** reminds vineyards there is no silver bullet and that vintners should incorporate methods that fit into their current pest management strategy. Noisemakers, netting, and Falcons all have their successes, but they can also create challenges with neighbors, become labor-intensive, and drain a vineyard's budget.

"Our lasers aren't a 100 percent cure, but they do work well and provide a large amount of control," Ackermann said. "The key advice, I would say, is to start early. Your best success is to keep birds out of the vineyard and not let them get a good taste of the fruit. Just like other measures of a good IPM Program, prevention is always easier than eradication when farming."

To comply with the Federal Migratory Bird Treaty Act, vineyard owners should check the local and state laws before controlling any bird species. This act protects all birds aside from pigeons, starlings, and sparrows; however, local ordinances may vary from place to place.

Organic and Natural Wildlife Control

For a more natural approach to wildlife control in the vineyard, adding plants is a simple, humane, and proactive way. Aromatic deterrents are ideal for rabbits and deer because both are sensitive to smells. Marigolds, for example, can be planted at the end of vineyard rows to deter rabbits. Vineyard operators can plant strong-smelling herbs such as tansy and artemisia near the vineyard. Culinary herbs, like mint, thyme, oregano, chives, sage, rosemary and dill have a similar effect.

These methods play into the strategy of biodiversity within a vineyard and may be more of a priority for organic winegrowers. Organic strategies typically revolve around creating habitats for beneficial animals and plants that are native to the region, as well as utilizing integrated canopy management and vine balance to keep the fruiting zone aerated, equipped with enough sunlight, and with the right amount of nutrients and water.

Pest Prevention and Monitoring in the Vineyard

Proper planning and preparation go a long way in keeping unwanted animals out of your vineyard and away from your grapes. In all seasons, it is critical to monitor the vineyard for large wildlife pests. Control strategies should be implemented at the very first signs of pest activity.

“The best way to monitor the vineyard for wildlife pests is to regularly walk the vineyard and inspect for evidence of these pests,” said Harmony Farm Supply’s Williams.

Ashley of Vineyard Industry Products and her team advise vineyards to keep gates closed, check around the perimeter daily for pests, and keep fencing in good repair. “Check for holes and damage in your bird netting prior to installation, install at the appropriate time, and secure it under the canopy properly,” she said.

Doyle of Doyle Vineyard Management emphasized that to have decent yields on grapes, you need to have some way of keeping the wildlife off the vines. “They can cause severe economic damage on some types of grapes,” he said. “In the Finger Lakes, it does seem that the pressure from these pests can vary greatly from one year to the next.”