

General Timeline of Barn Owl Lifecycle and Best Management Practices



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Barn Owl Nesting Boxes

Best Management Practices



Photo credit: Mark Browning

Across California, using barn owls to control small rodents in vineyards has become a common practice. Barn owls are native to California. Pocket gophers and California voles are among their primary prey. Barn owls have the potential to minimize the financial costs associated with conventional rodent control and to maximize the environmental benefits associated with agroecology.

This leaflet provides winegrape growers with a summary of barn owl nesting boxes best management practices covering **site selection, installation, and maintenance**. The information presented was compiled from various scientifically vetted publications.

Barn Owls for Vineyard Rodent Control

A nesting barn owl pair and their young may kill and eat 1200 or more rodents per year.

Growers have reported observing decreases in pocket gopher numbers after the installation of boxes to the extent that the numbers of remaining gophers were tolerable.

Barn owls are known to eat primarily rodents including the following:

- Pocket gophers (*Thomomys bottae*)
- California voles (*Microtus californicus*)
- Deer mice (*Peromyscus maniculatus*)
- House mice (*Mus musculus*)
- Brown rats (*Rattus norvegicus*)
- Roof rats (*Rattus rattus*)

The average hunting range of an owl is 0.5 miles from the nest, when food is abundant.

Barn owls are an important tool for growers implementing IPM programs in their vineyards.



Sustainability Certification

Sustainable viticulture certification programs, including the Lodi Rules for Sustainable Winegrowing and Sustainability in Practice, promote the use of barn owls for rodent control.



Nesting Box Site Location

Locate boxes in areas with low levels of human activity. Avoid parking lots. Boxes are best located in vineyards.

To maintain vineyard accessibility, especially by mechanical harvesters, locate boxes on field edges or access roads.

To reduce predation by great horned owls, avoid locating nest boxes near dense groves of trees or riparian areas.

If possible, install box within 100 yards of a large tree to provide refuge for the young after leaving the nest. Face the box entrance toward the tree.

Space boxes no less than 50 feet apart. To achieve effective rodent control, 1 box per 10-20 acres is recommended.

Maintenance

Avoid disturbing boxes during the egg-laying season, which usually extends from February to September.

Replace bedding and remove debris from the box between October and December.

Remove unwanted inhabitants, such as wasp nests, that may be living the box between October and December.

Owl pellets may contain the remains of mice. Take precautions to prevent exposure to Hantavirus when cleaning the box. Wear rubber gloves and dust mask.

Installation

Ideally, boxes should be installed by December, as the owls begin to select nest sites in January. However, boxes can be installed any time.

Boxes can be mounted 8-12 feet above ground on wood posts or metal poles, buried about 2-4 feet deep. Boxes mounted at the lower end of this range are easier and safer to install, inspect, and maintain.

Barn owls will nest in boxes facing any direction, but avoid facing the entrance into prevailing winds.

Do not install nesting boxes on utility poles. Owls are occasionally electrocuted by power lines.

Apply a bedding (large bark chips or wood mulch) at a depth of approximately 1-3 inches to help prevent eggs from chilling, rolling, or being crushed during incubation. Pine, fir, or hardwood substrates are recommended. Avoid using cedar, as it can cause irritation to the owl. Avoid sawdust, straw and ground corncob as they retain moisture.



Photo credit: Markus Niggli