

Owls and Kestrels: Controlling rodents on organic farms

Oregon Sustainable Agriculture Land Trust fact sheet

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Rodent problems on organic farms

- Rodents can pose serious problems for organic and natural farmers – at times causing significant or even total loss of certain crops.
- At Natural Harvest Farm (near Canby, Oregon), we have experienced a number of years with high rodent damage. With a mild and dry winter, 2005 was particularly challenging. Vole (*Microtus* sp.) populations went to very high levels that year, causing significant damage to beets, cabbage, carrots, lettuce, artichokes and other vegetables at the farm.

Ecologically-based rodent management

- Rodents on organic and natural farms can be best controlled through a holistic ecologically-based rodent management (EBRM) program.
- Key EBRM elements include:
 - **Prevention:** Habitat reduction is important around key farm areas. For example, old material stacked near a barn can be favorable burrowing and nesting areas for rats.
 - **Monitoring:** Early warning of the potential seriousness of a rodent population can help guide seasonal control plans.
 - **Control:** A wide variety of rodent control options are available to organic farmers, including cats and various types of traps. One particularly low cost and effective method is the use of owls and kestrels.



American Kestrel

Using owls and kestrels to control rodents

- Barn owls (*Tyto alba*) and American kestrels (*Falco sparverius*) can significantly reduce rodent populations, especially when present on a farm together. Owls hunt mostly at night (nocturnal) and kestrels hunt during the day (diurnal). This full night and day predator pressure creates a stressful environment for rodents, causing them to forage (and likely reproduce) less.
- Barn owls have a preference for rodents, and a nesting pair may eat 1000 small mammals during one breeding season (Jan-June). A pair of kestrels can eat up to 500 voles during their three month breeding season (April-June in Oregon). When hovering over vole territory, kestrels can see the UV reflectance of vole urine and feces, making them very deadly predators.
- Nesting boxes and perches are key to attracting owls and kestrels to a farm. Nest boxes can be purchased, or built from downloadable plans. Nests should be at least 5 meters (15 feet) above the ground, in an open area, or on or in a barn. November through January (prior to the breeding season) is the best time to add (or clean) nesting boxes.
- In open areas where trees are not present, perches help to attract kestrels. Raptors use perches for hunting, feeding and resting. T-shaped perches should be 4-5 meters (12-15 feet) high.
- Raptors are more successful hunting in areas with shorter grass and vegetation. Keeping farm areas occasionally mowed will help attract owls and kestrels, and keep rodent populations in check.

Our experience at Natural Harvest Farm

- We have one owl and two kestrel nesting boxes. One kestrel box (on the east side of our barn) was used this year, with a pair of kestrels successfully raising chicks. A pair of owls began nesting inside our barn in late June, with chicks born in July.
- We also have a 6 meter (20 foot) perch above our greenhouse, but this is rarely used by the kestrels. The kestrels prefer to perch at two sets of mature trees that, together with the nest, form a triangle over vegetable fields (and prime hunting grounds)
- Together with our other prevention and control methods (mowing, cats and traps), the kestrels have been good (and entertaining) help to minimize rodent crop damage.

The bottom line

- Farmers should consider owl and kestrel nest boxes and perches as a simple and natural way to reduce rodent populations. To be most effective, attracting owls and kestrels should be part of a broader EBRM program.

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