

Field Mice

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Field Mice Control

Field mice are also called meadow voles, pine voles and prairie voles. They damage fruit trees, Christmas trees, and grassy areas throughout the state. Field mice are found state wide and make shallow tunnels in the ground and surface runways in the grass. They also girdle tree trunks in the fall and winter. Pine voles occur in scattered populations on the west half of the state and dig deep funnels but make few surface runways. They girdle tree roots. Prairie voles are found in southwestern Michigan and the evidence of their presence resembles both meadow and pine voles.

Biological Control

A variety of wild animals feed on field mice-hawks, owls, crows, ravens, weasels, foxes, coyotes, bobcats, raccoons, skunks, shrews, domestic cats and some species of snakes. Of these, the hawks and owls (raptors) and snakes can be encouraged to feed in grassy areas. Note that predation will not prevent large periodic increases in field mice populations, but may eliminate enough individuals in normal years to prevent some damage.

Raptors prefer to sit on a perch that overlooks their hunting grounds and gives them a wide, clear view of mice habitat. To encourage red-tailed hawks, broad-winged hawks, rough legged hawks, kestrels, great horned owls and barred owls to hunt mice in grassy areas, erect perches at least 10-15 feet above the ground in or around grassy areas. Attach a 1"-2" diameter wooden dowel, a 2"x2" board with rounded corners, or a 1"-2" diameter tree branch to a 10-15 foot wooden post (2"-3" diameter, 1" x 2", 2"x 2") or pipe (2"-4" diameter) and place in or along grassy areas. One perch per 5-10 acres is ample.

Kestrels (formerly called sparrow hawks) are falcons that can be encouraged to nest as well as hunt in and near grassy areas. Keep in mind that kestrels can be injured by pesticides and during the warm months feed heavily on large insects (grasshoppers, beetles, moths). Nest boxes should be placed where they will not be directly sprayed and perhaps even outside of grassy areas where the kestrels can feed on insects in the warm months, but close enough to the areas (within 300') so that they will hunt mice in these areas in the cold months.

Cultural

Field mice live in tall grass, brush-grass mixtures and in grass under artificial cover-hay bales, boards, cartons and crates, brush piles, etc. Reduce this habitat by mowing, using herbicides, and removing cover.

Mechanical

Trees and shrubs can be encircled with a protective barrier to prevent field mice from gnawing the bark. Barriers can be made with ¼" mesh hardware cloth or sheet metal, or can be purchased commercially (mouse guards, tree guards). All barriers should encircle the stem or stems to a height of at least 6". The bottom edge should also encircle any surface roots and extend at least 2" below ground level or be banked with at least 2" of soil, sand or gravel.

Repellents

Both mice and rabbits can be repelled from trees and shrubs for up to 90 days by applying a solution of 10-20% thiram and sticker (an adhesive) to all bark surfaces vulnerable to gnawing.

Population Reduction

Mouse populations can be reduced in orchards, tree plantations and grassy areas by evenly applying or broadcasting toxic baits containing zinc phosphide (6-8 lbs/acre), diphacinone (10 lbs/acre), or chlorophacinone (10 lbs/acre) to grassy areas from September to December. **DO NOT PLACE BAIT IN PILES OR ON BARE SOIL.** Research has shown that bait in piles and or on bare soil is least effective in killing mice and most hazardous to non-target wildlife and pets.

When field mice may invade orchards, tree plantations, and grassy areas from surrounding areas by traveling under the snow, or when ground vegetation is sparse, bait dispensing stations should be used. Because meadow mice range over 0.15 acres to 1.0 acres, bait stations should be used at a rate of 2-7 per acre. It is not necessary to treat the entire area, but only those edges adjacent to meadow mice habitat (wild hay, unmowed meadows, bushy areas, etc.).

PVS pipes – 1 to 1 ¾ inch PVC pipe constructed in an L-shape or up-side down T-shape, makes an excellent bait station. The horizontal pipe should be at least 12 inches long so that bait does not spill out the end. The vertical pipe should be at least 12 inches long so that bait does not spill out the end. The vertical pipe can be of any convenient height and can be attached to tree or stake. Place bait in pipe in October or November and again in December, January or February *IF NECESSARY*. Remember, zinc-phosphide baits should not be reapplied within 90 days of a previous application because mice become bait-shy due to it's fast action. Do not fill vertical pipe with bait and **DO NOT USE ZINC-PHOSPHIDE BETWEEN APRIL 1 AND OCTOBER 1**. Remove un-eaten bait from stations after the snow cover is gone. Dispose of bait properly.

Tubes – should be 1 to 1 3/4 inches in diameter and at least 12 inches long. They should be made of PVC pipe, plastic, rolled tar paper or similar durable materials. Fill the tube no more than ¼ full with bait if the tube is closed at one end. If the tube is open at both ends, coat the bait to the side of the tube with an adhesive such as syrup. Place the tubes prior to the first permanent snow-cover. Collect after snow cover is gone.

DO NOT USE THIS MATERIAL: Styrofoam or paper cups – wild turkeys have been observed pecking open cups. Others have reported mice gnawed cups spilling bait in piles.

Miscellaneous – anything that protects bait from weather and non-targeted animals can be an acceptable bait station. Some examples are old apple or milk crates covered with plastic, a 1" x 6" x 8" board, or an old shingle. All such stations should be weighted or secured so that wind or animals cannot knock them over, thus exposing the bait. Place no more bait than necessary to prevent bait from spilling or being scattered out from under the station. Remove and dispose of uneaten bait from station after snow is gone.

Information updated by Gary L. Heilig, Ingham Co. MSUE Horticulture Educator

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