

# Meadow Mice

## General Information

Meadow mice (*Microtus* spp.)--also referred to as meadow voles, or field mice--are another serious rodent pest. Meadow mice are 4 to 6 inches long when mature. They have heavy bodies, short legs and tails, and small, rounded ears. Their soft dense fur is blackish brown to grayish brown.

Meadow mice are active all year long. They feed on all parts of the plant, foraging on stems and leaves in summer and fall and roots and crowns in winter and early spring. They dig short, shallow burrows and make underground nests of grass, stems, and leaves. Their presence is indicated by well-worn trails, approximately 2 inches wide, leading to entrance holes without mounds. Their trails are especially evident in late winter.

Spring is the peak breeding period; a second, shorter breeding period occurs in fall. Female meadow mice can produce between two and five litters per year. An average litter contains four or five young. Meadow mouse populations fluctuate dramatically from year to year, depending on habitat and weather conditions. The populations increase rapidly under favorable conditions and the damage they cause can be dramatic. Heavily infested fields can support a population of 1,000 to 3,000 meadow mice per acre.

## Control Methods

An important component of meadow mouse control is making the field and surrounding areas a less favorable habitat. Controlling weeds and cultivation along fence rows, roadsides, and ditchbanks can help reduce meadow mouse populations by reducing the number of invading mice. Dense vegetative cover in the field encourages meadow mice by providing food and protection from predators and environmental stress. Hence, the amount of crop cover remaining on a field as winter begins affects meadow mouse populations and damage. In areas where meadow mice are known to be a problem, graze or mow the field in late October to early December. This is particularly important in years with snow cover, because snow protects meadow mice from predators. Fences can be constructed to exclude meadow mice, but they are not cost-effective for protecting fields.

## Trapping

Trapping is not a cost-effective control measure in fields, but it is useful to monitor populations. When mouse damage is visible along the edge of a field, set two trap lines of 50 traps each. The number of mice caught in one night per 100 traps is used to assess the population level. Infestations that yield fewer than 5 meadow mice per 100 traps are considered light; 10 per 100 traps, moderate; and 20 or more per 100 traps, heavy. Begin treatment when population is moderate.

## Baits

Toxic baits are necessary where mouse problems are serious. Zinc phosphide (a restricted-use pesticide) is registered for use in alfalfa only during the dormant period, although it can be used in areas around alfalfa fields at any time of year. Treat heavily infested fields with zinc phosphide (a single-feeding bait) in the late fall to early spring, before mice begin breeding. Use a mechanical broadcaster to apply bait.

Monitor areas around the field and treat them as needed, at any time of year. Zinc phosphide requires only one feeding to be lethal. Bait shyness, a condition that results when meadow mice consume only enough to make them sick and then discontinue feeding, is a potential problem with zinc phosphide. Follow label instructions to limit the potential for bait shyness, and do not treat more often than every 6 months.

Anticoagulant baits may not be used in some crops at any time of year, but they can be used at any time along fence rows and in the surrounding noncrop areas. To be effective, meadow mice must consume an anticoagulant over a period of at least 5 days. Therefore, the bait must be available to the mice until the population is controlled. The usual procedure is to hand-bait the runways near burrow openings every other day for 5 days. Read label instructions to ensure the proper rate of application.



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