

INEXPENSIVE BAIT STATIONS FOR MOUSE CONTROL IN TREE PLANTINGS

JAMES W. CASLICK and W. ROBERT EADIE
Department of Conservation Cornell University, Ithaca, N.Y.

Protecting Northeastern conifer plantings from meadow mouse (*Microtus pennsylvanicus*) damage presents special difficulties when plots are surrounded by good mouse habitat. Although many plantings have not been severely injured by mice, others have been destroyed without warning. Usually the damaged trees were less than 10 years old.

Since fluctuations in the number of meadow mice may be rapid and localized, an annual fall baiting program provides minimum insurance against winter mouse injury. Some provision should also be made to control those mice that move into the planting during winter months.

Recognizing the necessity of keeping the per-acre cost low, we tested the possible value of paraffined or plasticized cardboard milk cartons as poisoned bait stations, (fig. 1). One-half pint cartons were used; these were the lift-lid type having a $1\frac{1}{8}$ -inch hole near one corner of the top. They cost $1\frac{1}{2}$ ¢ each at a local dairy. The cartons were half filled with poisoned grain bait and set out in conifer plantings at about 50-foot intervals. The tab covering the hole was removed and the carton placed on its side so that the entrance hole was in an upper corner (fig. 1). This gave some protection from water and helped to prevent spilling of the bait by mice. Bait stations were placed adjacent to mouse runways where possible. These baited cartons were tested in three 10-acre plots in central and western New York. Plots with high numbers of mice were selected.

Populations were checked by running standardized trap lines before and after baiting. Two commercially available meadow mouse baits were used, cracked corn and steam crushed oats containing about 2 percent zinc phosphide. In all plots, about 20 cartons per acre were set out. This required $2\frac{1}{2}$ pounds of corn bait or 2 pounds of oat bait per acre. Total cost of materials (cartons plus bait) were 640 per acre where corn bait was used and 970 per acre where oat bait was used. One man baited an average of $\frac{12}{3}$ acres per hour.

Mice entered the cartons readily. One check showed that they had visited more than half the stations within a day after starting the test. Mouse numbers were reduced about 70 percent in 1 month's time, in one poisoned plot. Winter conditions prevented checks of the other two plots.

A few mice were trapped in the test areas in the spring, although the cartons were generally in good condition and the bait was dry in about half the cartons. A good supply of bait remained in each station. Some of this bait was offered to well-fed caged mice. They ate a few grains and died overnight. Since there was little damage to unpoisoned plots adjacent to the best blocks, it was difficult to assess the degree of protection by the bait stations in these trials.

In a later trial, a $1\frac{1}{2}$ acre plantation of Scottish pine was protected by 34 stations of the type described. Inspection after 1 month showed that 88 percent of the stations had been visited by mice and bait eaten or removed. No damage was found in this plot the following spring, although the plot was surrounded by extensive untreated grassy areas.

Because of the high rate of usage of the stations by the mice and the low costs, the bait stations appear to be a useful technique for protecting young tree plantations against excessive damage by mice.



Figure 1.—Milk carton bait station for protecting against winter mouse damage to conifers.