



Small metal box with flap-lid, hangs on nest box for holding ducklings while they are being tagged. With box it is not necessary to climb back down ladder to tag ducklings.

THE USE OF SWEETGUM AND STORAX AS POSSIBLE ATTRACTANTS FOR BEAVERS¹

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INTRODUCTION

An expanding beaver population, coupled with the animal's habit of flooding large areas of land through the building of dams, has created serious problems in many of the southeastern states. In 1967 the Georgia Forestry Commission made a survey of beaver damage in that state. This survey reported that in the period between 1960 and 1967 the loss of commercial wood to beaver damage exceeded 822,000 cords (Moore 1967). The Alabama Forest Products Association made a beaver survey in 1967 and found that an estimated 75,000 to 100,000 forest acres were flooded in Alabama (McMillan 1967). Various studies in Louisiana and Mississippi have shown similar timber losses to beavers in those states. From September 1967 to April 1970, a study was conducted at the Alabama Cooperative Wildlife Research Unit to investigate possible control methods for nuisance beavers. The research was supported by a grant from the Alco Land and Timber Company of Mobile, Alabama. The purpose of this paper is to report one promising bait and/or lure developed during this study.

¹A contribution of The Alabama Cooperative Wildlife Research Unit: Auburn University Agricultural Experiment Station, Game and Fish Division of the Alabama Department of Conservation and Natural Resources, Bureau of Sport Fisheries and Wildlife and the Wildlife Management Institute cooperating. Presented at the 26th Annual Conf. of Southeastern Game and Fish Comm. Knoxville, Tenn. Oct. 22-25, 1972.

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PROCEDURES AND RESULTS

All tests in this study were initiated on captive beavers. When a method showed promise it was then tried in the field on wild beaver colonies.

In testing for a suitable bait, the following fruits and vegetables were offered to captive beavers: lettuce, cabbage, celery, sweet potatoes, corn, carrots, cantaloupes, honeydew melons, turnips, bell peppers, cucumbers, tomatoes, pears, apples, and bananas. While many of these were well accepted by captive beavers, none were accepted by wild beavers.

Primary natural foods tested were tubers of greenbrier (*Smilax spp.*), spatterdock (*Nuphar advena*), and limbs of sweetgum (*Liquidambar styraciflua*). Of these, sweetgum seemed to be highly preferred by captive beavers. During field tests, fresh sweetgum limbs were taken readily when placed in the water near known beaver feeding areas. To substantiate that beavers were actually eating this sweetgum, a test was conducted using sodium fluoroacetate. This poison was used only for a quick evaluation of a bait substance and no long term or extensive use as a beaver control agent was ever anticipated. Storax, a resinous balsam extracted from the sweetgum tree, was used to incorporate the sodium fluoroacetate. The poison was mixed into storax that had been heated and then thinned with ethyl alcohol. This mixture was brushed, as thinly as possible, onto the bark of fresh sweetgum limbs and placed at the same feeding locations. Three dead beavers were recovered on the sixth day following the test.

Similar field tests were conducted using strychnine sulfate. Beavers however, apparently detected this poison and always rejected the sweetgum bait.

Silitrane, a new experimental rodenticide was then tested with the sweetgum-storax bait. This poison was selected because it was quick acting, it had no residual characteristics, and it would begin to chemically break down within forty-eight hours of being incorporated into a bait. Testing procedures were the same as those described previously. Three separate beaver colonies were used as test sites. The results of these tests are shown in Table I.

Field tests were conducted in five beaver ponds to determine the effectiveness of sweetgum and storax used together as a lure in conjunction with conibear beaver traps. All five ponds had active beaver colonies with no recent history of trapping. Baited traps, plus an equal number of non-baited traps, were set near feeding areas and adjacent to beaver runs. The traps were numbered and set in a line along the stream or pond bank. Odd numbered traps were unbaited. Traps were placed in such a manner that it would be highly unlikely for a beaver to enter the trap unless it was responding to the bait. The bait consisted of a fresh sweetgum branch driven into the ground approximately a foot behind the set conibear. The top of this branch was then partially covered with storax. The results of these tests appear in Table II.

DISCUSSION

In the field tests involving Silitrane, it is most probable that several additional beavers were killed but not found. This is substantiated by the fact that two test sites (A & B in Table I) remained devoid of beaver activity several months after the test. Beavers at the remaining site (C in Table I) exhibited a reluctance to take the sweetgum-storax bait. This was believed to be due to beavers feeding primarily on early spring plants around and in the pond.

Results, using sweetgum-storax bait incorporated with a quick acting non-detectable poison, indicate that this method can be effective in reducing beaver populations. However, additional research is necessary to discover a suitable toxicant for operational use since silitrane is not presently registered nor commercially available. The method is limited in that sweetgum is an effective bait only during the winter months.

In comparing the total number of beavers caught in sweetgum baited traps to non-baited traps (5:0), the difference is significant. However, we would like to emphasize that additional field tests should be conducted before a final evaluation is made on the effectiveness of this method. From a practicality standpoint, trappers would want enough increase in their trapping success using this method, to justify the extra effort of preparing the lure and including it in each trap set.

LITERATURE CITED

- McMillan, E. P. 1967. Beaver depredation. Alabama Forest Products, 10:11):-7-8.
 Moore, Leland. 1967. Beaver damage survey. Georgia Forestry Commission. 24 pp.

Table I. Beaver consumption of sweetgum branches, painted with sweetgum storax containing silitrane, at three east Alabama pond sites during late winter and early spring of 1970.

Test Site	Branches Offered	Branches Taken	Dead Beavers Found
A	6	2(1)*	0
B	12	5(1), 3(2), 2(4)	2(1), 1(7)
C	6	2(1), 1(3)	1(6)

*Numbers in parenthesis represents the time in days between initial bait offering and the disappearance of branches or discovery of dead beavers.

Table II. Trapping success during tests in east Alabama employing conibear traps (baited with sweetgum lures or unbaited) (January-March, 1970).

Pond	No. of traps set with bait	No. of traps set without bait	No. of nights that traps were set	No. of beaver caught in traps with bait	No. of beaver caught in traps without bait
1	5	5	11	0(55)*	0(55)
2	6	6	12	2(72)	0(72)
3	6	6	12	2(72)	0(72)
4	6	6	12	0(72)	0(72)
5	6	6	12	1(72)	0(72)

*Numbers in parenthesis are total trap nights.