

C O N T R O L   O F   I N S E C T S   I N   S T O R E D   G R A I N

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CORN

Most Kentucky corn is stored as ear corn in slat cribs; this being the case, fumigation of cribs is impossible without much added work in order to make the cribs airtight. As a result, fumigation is not a common practice.

Within the past two years a material that is non-toxic to warm blooded animals has been available which the manufacturer claims, when dusted on corn (snapped, ear, or grain) or on small grains, protection is obtained against Angoumois grain moth (the chief pest of stored grains in Kentucky), rice weevil, and other insect pests of stored grain. In order to test this material ("Pyrenone Grain Protectant") a simple test was begun on November 12, 1951 in the Experiment Station Farm; three ten-bushel cages were made from wire fencing and the ear corn of one cage was treated, according to directions, using 1 pound of grain protectant per 10 bushels of corn. One cage was treated with half of this dosage while the other cage was not treated. These cages were placed on one end of a crib about 8 x 12 x 25 feet and surrounded with several hundred bushels of the current year crop of ear corn.

On July 25, 1952 an examination of ears in the cages revealed that a big infestation had developed in all of the corn that remained in the untreated portion of crib and in the cage containing the untreated corn while the corn in the cage treated with the one pound level of Pyrenone grain protectant remained relatively free of Angoumois grain moth. On October 28, almost a year after treatment, a thorough check was made of the condition of the corn and it was found that both the treated and untreated corn were badly infested with Angoumois grain moth; 70 percent of the kernels showed exit holes.

We must conclude that Pyrenone grain protectant does not protect ear corn under such severe conditions as were present in this test. These were severe conditions in that there was a huge volume of untreated corn in contact with a small quantity of treated corn which already had a light infestation of Angoumois grain moth obtained in the field. Too, the crib was not sprayed

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with DDT, as the Kentucky Station recommends, before the ear corn was brought into the crib for storage. It is recognized that the materials aided in holding the infestation in check through July, a period of about seven and one-half months.

Recommendations on the use of this material cannot be made at this time. It is hoped, however, that our tests now in progress in the testing of this grain protectant will provide, when the tests are completed, the data needed for a general statement on the subject.

#### SMALL GRAIN

Since small grains are also infested with the insect common to corn, several bushels of wheat and oats were treated with Pyrenone wheat protectant on July 18, 1952. An examination of treated and untreated bags of these grains was made on October 28, 1952, it was found that the infestation of Angoumois grain moth had not proceeded beyond the original infestation level of 1 percent while the untreated bags had 19 percent of the wheat kernels infested. There was a trace of Angoumois grain moth infestation developing in the untreated oats but no trace in the treated oats.