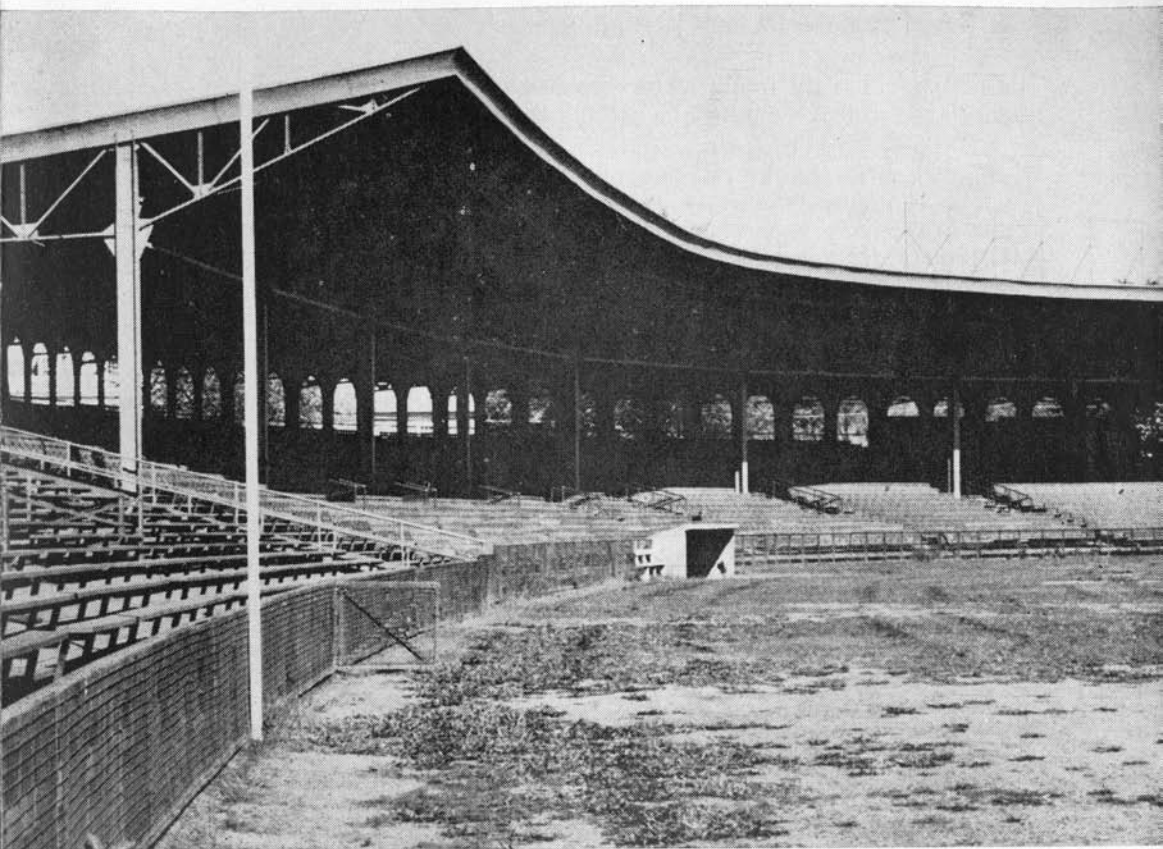


The Chinch Bug and Its Control

John C. Schread



Chinch bug injury to turf, New Haven, 1957

Circular 223

June 1963

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

NEW HAVEN

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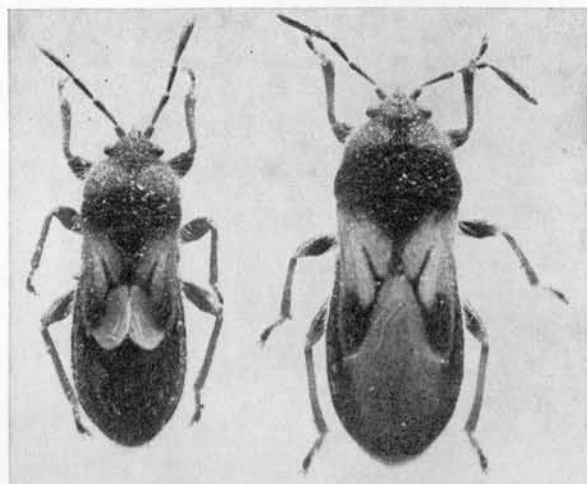
Lawns and turf frequently are disfigured by areas of brown grass. In hot, dry weather these may be caused by lack of moisture, occasionally by fungal diseases, or by insect injury.

Infestations of the hairy chinch bug have been increasing, and this insect is frequently found to be responsible for the damage. The hairy chinch bug causes the injury by sucking the sap from the stems of grasses.

The presence of the insect may be detected by examining the turf at or near the surface of the ground. The fast-moving adults and young will be seen scurrying through the grass, sometimes by the hundreds. They are always more noticeable at the periphery of the injured spots where the insects enlarge the damaged areas as their populations increase. Always there are fewer chinch bugs towards the centers of the dead grass areas. Sun-drenched turf in quiet and protected places may be more seriously injured than shaded grass.

If the beginning of a chinch bug infestation is suspected, the affected areas may be flooded with warm water and covered with pieces of white cloth. If the insects are present, they will crawl up the blades of grass to the underside of the cloth.

The adult chinch bug is from 1/6 to 1/5 of an inch long. It is black with white wings and reddish legs. The wings cross over the back. On the outer margin of each wing is a small triangular black spot. The young are orange to brick-red in color with a transverse white band just behind the wing pads. The brighter colors are ultimately replaced by gray, then black. When crushed, the insect emits a disagreeable odor.



Short-winged and long-winged forms of the chinch bug. They are from one-sixth to one-fifth of an inch long.

Life History and Habits

A temperature of 70° F. or above favors the activity of the overwintering adults. A continuation of balmy weather in spring encourages mating and egg laying. Egg laying usually continues for several weeks before the adults die. Females may deposit several hundred eggs which hatch in about 2 weeks. The young reach maturity in 4 to 6 weeks. There are two generations a year. The adults of the second generation hibernate in protected places such as hedge rows, accumulated litter in open places, clods of heavy sod, and dense thatch which develops in lawns over a period of years. Increased winter mortality occurs when an excessive accumulation of water freezes where the chinch bugs are hibernating.

The Effect of Summer Weather on the Insect

Warm, dry weather during the summer favors the survival of the insect. If the summer is cold and wet many of the young are drowned by heavy rains or smothered in mud. A white fungus known as the "chinch bug fungus" also destroys them during cool, cloudy, wet weather, but not during hot, dry summers.

Insecticidal Control

Because of the lack of natural control of the chinch bug during seasons favoring its outbreak, insecticides have been used to prevent injury to turf.

Nicotine in various forms, sabadilla, and rotenone were used extensively years ago to control chinch bugs. After 1945, DDT, chlordane, and dieldrin took their place. Where these insecticides have been used repeatedly for some time, the insect has sometimes become resistant to them. If the insecticides have not been used to control chinch bugs in the past, or if they have been used only occasionally, it is reasonable to expect that they will give a good kill of the pest. Our experiments show that several newer insecticides also give effective control of the insect.

Experiments in Control of Chinch Bug, 1962

The first test in control of the chinch bug was undertaken August 2 on a home lawn. To obtain a pre-treatment count of chinch bugs, a steel frame was driven into the turf and filled with water. As the chinch bugs floated to the surface they were counted and removed. When the water level dropped, the frame was refilled and the counting continued. The water was stirred at the bottom to disengage the insects from the grass so that they would rise to the surface. This was done for 5 to 10 minutes in each area. On the average, 121 chinch bugs were found in 36 square inches of turf: the number varied from 4 to 540 in individual areas.

The lawn was then treated with two 10 per cent granular formulations of Sevin insecticide applied with a fertilizer distributor at the rate of 8 pounds of technical Sevin per acre. No watering was done. One formulation was acetone impregnated, and the other water-repellent coated.

Control data taken on August 16 (using the water-filled steel frame technique) indicated no live chinch bugs in the treated areas. In an untreated part of the lawn there was an average of 284, with a range of 208 to 360, chinch bugs per square foot.

A second experiment was undertaken, on a different lawn, August 24. At this time 10 per cent ethion granular and 3 per cent Diazinon dust were used at the rate of 14 pounds of ethion per acre and about 5 pounds of Diazinon per acre.

Control data taken September 11 indicated 2 live adult chinch bugs in the ethion-treated area, none in the Diazinon-treated area, and 337 per square foot in an untreated area.

Other formulations may be substituted when granules are not available.

Conclusions

The experiments in 1962 resulted in good control of chinch bug using Sevin, Diazinon, or ethion. All three materials are registered and labeled for chinch bug control.

Precautions

Precautions on the labels are essentially as follows:

Sevin "For best results, apply after rain or watering and do not water for at least 2 days after application. Repeat 2 to 3 weeks later if necessary."

Diazinon "... thoroughly wet down the grass and apply . . . Application should be repeated in 7 to 10 days if necessary."

Ethion "Keep children and animals off treated areas until material has been thoroughly watered into soil and the grass has completely dried."