

Connecticut Agricultural Experiment Station

New Haven, Connecticut

The European Corn Borer

A Menace to Corn, Vegetable and Garden Plants

W. E. BRITTON

INJURY TO CROPS

The European corn borer, *Pyrausta nubilalis* Hubn., has a dirty white larva an inch or less in length marked with scattered black dots. It



FIG. 6. A sweet-corn patch in eastern Massachusetts heavily infested with borers. The stalks are so weakened by the feeding of the borers that they soon break over. (After Mass. Dept. of Agriculture.)

tunnels all through the stalks and ears. It first injures corn, especially sweet corn, and may cause such economic damage that the crop cannot be grown with profit. When heavily infested, the stalks soon break down as shown in Fig. 6. After the corn has become thoroughly infested, the borers may enter celery, rhubarb, bean, beet, dahlia, gladiolus, chrysanthemum, aster, zinnia, and other cultivated herbaceous plants and many of the larger weeds. In New England there is danger that the borers of the two-brooded area may be transported in the stalks of vegetables and certain kinds of cut flowers, and therefore these materials are included in the quarantine regulations.

PRESENT CONDITIONS IN CONNECTICUT

During the season of 1928, Federal scouts found the European corn borer present in 34 towns in Connecticut—all in the eastern and south-eastern portion except Suffield which is in the northern central portion of the State. Quarantined areas are shown in Fig. 7.

Though the percentage of infested stalks was not large in any corn field in 1928, the intensity of the infestation is greatest in Stonington and will increase throughout the State. If not held in check by the destruction of corn stalks and stubble, it will soon cause serious losses. Over one-half of Rhode Island in 1928, the corn borer caused a commercial loss in the corn crop and the same will soon be true in Eastern Connecticut unless the pest can be held in check.

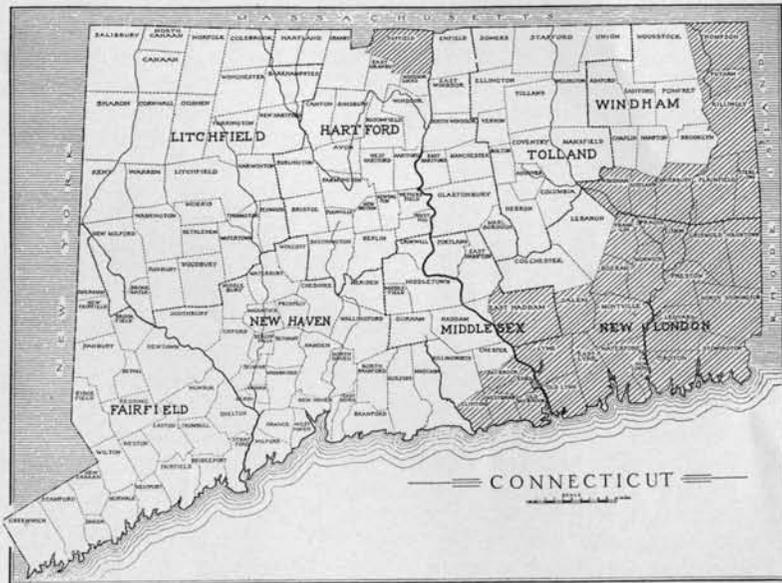


FIG. 7. Map of Connecticut showing areas now under State and Federal quarantine on account of the European corn borer.

DISCOVERY AND SPREAD IN THE UNITED STATES

The European corn borer was first discovered in the United States in Eastern Massachusetts, near Boston, in 1917, and this infestation has now spread into Maine, New Hampshire, Rhode Island and Connecticut. Two broods or generations occur each year in this area.

In 1919, there was discovered an infestation just west of Albany, N. Y., one south of Buffalo, N. Y., and a third at Girard, Pa., near Lake Erie.

In 1920, two infestations were found in Ontario, Can., one just across the Niagara River from Western New York, and the other farther westward along the shore of Lake Erie with its center near St. Thomas. These infestations in New York and westward have only one generation each year.

In 1921, the insect was found in Ohio along the south shore of Lake Erie. In 1923, small infestations were found in Connecticut and Brooklyn, N. Y.

By 1928, the one-generation area included nearly all of Ohio, the entire state of Michigan, a portion of Indiana, northern and western Pennsylvania, New York, a portion of Vermont, western Massachusetts, a few towns in New Jersey, Staten Island, the western end of Long Island, and the town of Suffield, Conn., which is an apparent spread of this infestation eastward through western Massachusetts. In Eastern Connecticut there are two generations annually.

METHODS OF CLEAN-UP AND CONTROL

For the past five years, the stalks, stubble and weeds have been burned in and around each separate infestation in Connecticut at the expense of the State and Federal governments and in many cases no borers were found the next season. With the large number of towns infested, appropriations are inadequate to continue this system, and the grower must control the pest in his cultural operations. As the borers pass the winter in corn stalks, stubble and weeds, the following methods of handling the infested crop will greatly reduce the injury next season:

1. Corn stalks should be cut just as early as possible after maturity and put in the silo or fed out to cattle. When fed out, uneaten portions of stalks should be destroyed. If allowed to stand, such stalks furnish a favorable shelter for borers.
2. If cut close to the surface of the ground, very few borers will be contained in the stubble. If cut 6-12 inches high, the stubble may furnish enough borers to ruin the crop the following year, and such stubble should be plowed under cleanly, or pulled and burned.
3. Corn stalks which are not cut and used for silage or fodder should be burned in the field or cleanly plowed under. The larger weeds in the fields and around its margins should also be burned.
4. By clean plowing in the fall, a large percentage of the second-brood borers are killed during the winter. Fall plowing is somewhat less effective against the single-brooded borers, but against both one-generation and two-generation borers, early spring plowing (during April) is beneficial, especially if all debris is covered deeply. There are now plows and attachments devised to facilitate the clean plowing under of standing corn stalks, and your county agent can advise you regarding them.
5. Small patches of sweet corn in back yard gardens can perhaps be pulled and burned to best advantage. If not cleaned up, such places will produce enough borers to infest the entire countryside.

QUARANTINE

After due notice and a public hearing at the Station February 25, the following quarantine order was issued, effective March 25, 1929. This is in accord with Federal quarantine No. 43, sixth revision, effective March 1, 1929.

STATE OF CONNECTICUT
AGRICULTURAL EXPERIMENT STATION

NEW HAVEN, CONN.

Quarantine Order No. 21

CONCERNING THE EUROPEAN CORN BORER

The fact has been determined that the European corn borer, *Pyrausta nubilalis* Hubn., has spread to such an extent as to make it necessary to extend the area restricted by State Quarantine Order No. 13, effective June 1, 1927, and likewise to bring it into conformity with Federal Quarantine No. 43, sixth revision, effective March 1, 1929.

Now, therefore, I, Director of the Connecticut Agricultural Experiment Station, do hereby proclaim the following towns (including those affected by Quarantine Order No. 13) to be under quarantine and subject to the restrictions and regulations made a part of Federal Quarantine No. 43, as revised, and effective March 1, 1929:

REGULATED AREAS

Two-Generation area: Clinton, East Haddam, Essex, Old Saybrook, Saybrook, and Westbrook in Middlesex County; Bozrah, East Lyme, Franklin, Griswold, Groton, Ledyard, Lisbon, Lyme, Montville, New London, North Stonington, Norwich, Old Lyme, Preston, Salem, Sprague, Stonington, Voluntown and Waterford in New London County; Canterbury, Killingly, Plainfield, Putnam, Scotland, Sterling, Thompson and Windham, in Windham County.

One-Generation area: Suffield, in Hartford County.

MOVEMENT OF RESTRICTED PLANTS

Until further notice, unless accompanied by a certificate or permit issued by an authorized inspector of the State or Federal Plant Quarantine and Control Administration, the following plants and plant materials cannot be allowed movement from the restricted areas to points outside, or from the two-generation area into the one-generation area or from the one-generation area into the two-generation area: corn, broom corn, sorghum and sudan grass including all parts of leaves and stalks throughout the year; from the two-generation area all cut flowers and entire plants of chrysanthemum, aster, cosmos, zinnia, hollyhock, gladiolus and dahlia (except gladiolus and dahlia bulbs without stems) and for the period between June 1 and December 31, all celery, green beans in the pod, beets with tops, rhubarb, oat and rye straw as such or when used as packing.

No restrictions are placed on the movement of shelled corn in packages weighing two pounds or less; larger quantities must be certified.

This order shall take effect March 15, 1929.

W. L. SLATE,

*Director, Connecticut Agricultural
Experiment Station*

Approved:

JOHN H. TRUMBULL, *Governor.*

For additional information, address,

W. E. BRITTON, State Entomologist, Agricultural Experiment Station,
New Haven, Conn. In charge of State regulatory work.H. N. BARTLEY, 1188 Main St., Bridgeport, Conn. In charge of
Federal work in Connecticut.