The European Corn Borer (Pyrausta nubilalis) which has recently spread over areas in Massachusetts, New Hampshire, New York and Pennsylvania, is regarded by many authorities as the most dangerous insect menace to corn that has ever appeared in America. It has not yet been definitely determined that the European corn borer will be as destructive in this country as in Europe or that it will assume the importance of the Hessian fly or cotton boll weevil, but the danger is so great that the entomologists of America have organized to prevent its distribution and especially to keep it out of the corn belt. Quarantines against this pest have already been promulgated by Michigan, Illinois, Wisconsin, Minnesota, and Missouri, and more recently a Federal quarantine prevents the movement from the infested areas of all plants known to be attacked.

WHERE THE PEST IS FOUND

At present the known infestations in America are confined to areas in New Hampshire and Massachusetts near Boston, in New York near Albany, in western New York, and in northwest Pennsylvania. The known infestations are all in regions where corn growing is of little importance as compared with the great corn belt.

CROPS WHICH IT ATTACKS

The corn crop is of first importance in the list of plants attacked by the pest. It is known to attack also numerous vegetables, grasses, flowers and weeds in Massachusetts. Next to corn it attacks barnyard grass, pigweed, dock, ragweed, lamb's quarter, dahlias, fox-tail, smart weed, burdock, horse weed, etc., in the order given. It is evident, therefore, that it is not a pest of any one single crop; which increases the difficulty of its control. Under Missouri conditions, however, should it ever become established in the state, it would no doubt prove to be a pest primarily of the corn crop.
NATURE OF INJURY

The pest does its injury while in the caterpillar stage. It is a boring caterpillar and works within the roots, stalk, ear and tassel of the corn plant. It is usually first detected in a new region by the breaking over of the tassels at "shooting" time. Corn growers in Missouri and throughout the corn belt should, therefore, be on the lookout for possible infestations, especially just after the tassels of the corn appear. The injury to the corn plant results from a weakening of the plant, from faulty pollination due to tassel and silk injury and from the loss of grain where the ear is directly attacked.

GENERAL APPEARANCE OF THE PEST

The caterpillar varies in length from about one-sixteenth of an inch, when hatched, to nearly four-fifths of an inch when full fed. It is light or with a slight greenish color when young, becoming darker with age. The full-fed caterpillar is of a brownish or pinkish color with darker spots or tubercles, and with the head shiny brown. In general appearance it resembles other common caterpillars, so corn growers should send to the Agricultural Experiment Station, Columbia, any specimens of this type found boring in corn.

The male moth has a wing expanse of about one inch and the female is a little larger. The front wings of the female are usually dull yellow and more or less distinctly streaked with brown, while the hind wings are grayish brown. The front wings of the male are reddish brown while the hind wings are more gray than in the case of the female.

LIFE HISTORY

The pest lives thru the winter in the full-grown caterpillar stage and in the latitude of Massachusetts changes to the pupa the middle of May, and soon thereafter emerges as the adult moth. Under Missouri conditions, should it become established, its transformation would probably take place two weeks earlier. In Massachusetts, where it is near the coast, it is double brooded while in New York State it seems to be single brooded. Under corn belt conditions it is believed that it would have two or more broods annually. The life cycle of the pest in the east, where it is double brooded, covers two months. The summer brood attacks young corn and the later brood attacks the maturing or late corn.

METHODS OF CONTROL

Since the pest overwinters in corn stalks and other plants as a caterpillar the destruction or utilization of such materials will assist in
its control. Using corn for ensilage would largely prevent overwintering in corn. Using fodder corn during the winter, especially if shredded, will also help. Clean culture during the growing season in and near corn fields and winter work to get rid of weeds and corn stalks, will largely prevent infestation carrying over from year to year.

**MISSOURI QUARANTINE**

The pest is believed to have been imported in broom corn from Hungary eight or ten years ago. A quantity of imported broom corn was used in broom factories in Missouri. It is possible therefore, that the pest may already be present in the state. Spring inspection work will determine this. To prevent the possibility of the pest being introduced into the state from the eastern areas of infestation, the director of the Agricultural Experiment Station has promulgated a quarantine against those areas.

The quarantine prohibits the movement into Missouri, directly or indirectly, from the states of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York and Pennsylvania, of all corn on the cob, corn cobs or any portion of the corn plant except milled corn products. It likewise prohibits these materials where used as packing for other commodities or manufactured products or as food or bedding for live stock while in transit in railroad cars. Provision is made, however, whereby shelled corn may be shipped into the state under permit issued by the Director of the Agricultural Experiment Station. All farmers, seed dealers, freight and express companies and others are urged to cooperate in making the quarantine effective, in preventing the introduction of the pest into the state, and in promptly locating it should it become established. Caterpillars suspected of being the pest, and samples of their injury, should be mailed in tight containers to the Agricultural Experiment Station, Columbia, Mo.
Broken tassels with extrusions of sawdust-like material at the breaks are the plainest signs of an infested field.

Holes in the stalk with sawdust-like debris extruded indicate where the borer is at work.

The borer enters the ears through the husks and also through the stem and cob.

Burn All Plants Containing Caterpillars.

Cornstalks, corn stubble, grasses, weeds, and stalks of garden plants should be thus destroyed throughout infested areas during fall, winter or early spring. No other effective method is known for combating this pest.

—Illustration from U. S. Department of Agriculture