

How farmers can beat corn borer infestation

BLOOMINGTON, Ill. — Keeping ahead of corn borer infestation is a problem faced by farmers wherever corn is grown, says Entomologist Gary Beland.

Although in general the pest did not affect the 1979 corn crop to the extent of a year ago, in specific locations infestations were worse than in 1978.

Two types of corn borer can be found in the United States. The European corn borer strikes fields throughout the midwestern Corn Belt, as well as from southern Kansas, east to the northern portion of South Carolina and up the Atlantic coast into the Northeastern states.

The Southwestern corn borer is a problem in the southern corn growing states.

Beland says full-grown corn borer larvae overwinter in field residue. These larvae turn into pupae, and months emerge by the last week in May or the first week in June. Soon after, the moths begin to lay eggs that will produce the first generation, or brood, of corn borers.

The corn is at the young whorl stage when the larvae hatch and the pests feed on developing leaf tissue in the whorl.

If not controlled, the larvae will eventually bore into the stalk and then go into a resting stage as pupae for the second generation.

Corn borer control begins with the scouting process, says the Funk Seeds researcher. Farmers should start looking for the eggs when the corn is between 25 and 40 inches in extended leaf length, or when it is between calf and knee height.

Egg masses, each containing from 15 to 30 eggs (fewer for the Southwestern corn borer), are deposited on the underside of the leaf, near the midrib. The eggs overlap, resembling fish scales.

Five or six days after they are laid, black spots appear on the eggs, which are actually the head capsules of the developing borer larvae. Hatching occurs within 24 hours of this 'blackhead' stage and within days, feeding damage can be observed.

"As the young larvae feed, they cause a characteristic 'shot-hole damage' pattern. These holes become apparent as the leaves grow out of the whorl. To check for damage, look at 20 consecutive plants in five different areas for each 40 acres," says Beland.

"Earliest planted corn is the most susceptible to first brood and should be watched the closest.

"Count and record the number of plants showing foliar feeding damage," Beland continues, "and divide the number by 100 to figure the percentage of injured plants.

"Determine if borer are still present and actively feeding in the field by examining the whorl area of several plants showing feeding damage."

"If foliar damage is 50 percent or above, and live larvae are present, chemical control should be used," he says.

Aerial application of diazinon, Dyfonate, Furadan, Sevin or Thimet at rates recommended by local extension services can be used for control of first brood corn borer.

"A single chemical application is usually effective as long as it goes on within 14 days after the larvae start feeding on the leaves," says Beland.

"After that time the larvae will have bored into the stalks."

Beland points out that first generation corn borer does not do as much damage as second generation, although it can cause stunted plants and reduced yields by stalk tunneling which weakens the plant, destroys tissue used to transport water and food within the plant and increases susceptibility to stalk rot and other disease organisms.

Control of the first brood is necessary, however, to prevent a large second generation.

Moth emergence for the second corn borer cycle begins from mid to late July, although it may be earlier in southern states and later in northern states.

The moths lay their eggs during August on the undersides of corn leaves in the ear node area (usually the middle third of the plant).

After hatching, the larvae move from the leaves to the leaf axils and sheath areas where they feed on the pollen and plant tissue in the area.

Hatching of the larvae usually coincides with pollen shed, Beland says.

Later, they bore into the stalks and ear shanks, which may result in stalk breakage and/or ear damage. In addition, there is a greater possibility for stalk rot as damage from the corn borer increases the stalk's susceptibility to invading fungi and bacteria.

"It is important to scout for the second brood while it

is in the egg mass stage," says Beland. "Once the larvae hatch and start feeding, they're hard to find."

Beland recommends scouting for the second brood about the time the local extension service announces the starting of a second brood moth flight. The scouting method is the same as for the first generation.

Spraying is necessary if

one or more egg masses are found per plant. It should begin at the time the egg masses are in the blackhead stage or just beginning to hatch.

Chemicals are the same as for the first generation.

With the second brood, it may be necessary to go back and scout the field after a week for eggs, since not all the moths emerge at the same time.

Beland notes many

growers are too busy to check their fields regularly and that there is a growing trend to hire professional scouts to take care of the job.

The battle against corn borers has been made even more difficult as conservation tillage increases.

Shredding stalks in the fall along with clean plowing is effective in reducing corn borer population, if done by most farmers in an area, but this goes against the trend to

reduced tillage, the Funk entomologist states.

Hybrids are available that are moderately resistant to the leaf feeding of the first-brood larvae.

The hybrids, while not immune to the first brood of corn borers, do show less leaf feeding than susceptible hybrids. Hybrids with high levels of resistance to the second generation are not yet commercially available.

Maryland 4-H Foundation raises funds

COLLEGE PARK — Ten years ago, 37 Maryland banks contributed a total of \$2,185 to help support 4-H youth programs in the Old Line State. This year, the Maryland Club 4-H Foundation hopes to raise \$150,000 in its "Worth Your Investment" fund campaign aimed at a full cross-section of the state's business community.

Inflation during the past decade represents only a portion of this greatly increased need, reports Maurice J. Spencer, assistant director of the Maryland Cooperative Extension Service and statewide 4-H department chairman at the University of Maryland in College Park.

More importantly, the example represents changes in 4-H programming for Maryland youth. It is an attempt to respond to the challenges of the 1980's and beyond, Spencer emphasized.

An American invention, the 4-H program is operational in all 50 states. It originated near the beginning of this century as a result of a vital need to improve life in rural areas. Designed for both boys and girls, the first 4-H projects included home canning of tomatoes as well as raising corn and hogs. But the 4-H program now offers more than 100 youth education projects, including such up-to-date topics as aerospace science, consumer education and energy conservation—to name just a few.

A network of adults and older teen-agers donate untold hours as volunteer leaders of local 4-H clubs. Without this, the 4-H

program could never have been as successful as it has been for the past three quarters of a century.

But increased sophistication of modern youth clientele requires ever-increasing quantities of educational publications and audio-visual training aids. Skyrocketing transportation costs and higher-priced food and lodging elevate budgets for regional and statewide planning meetings, educational conferences and summer camps.

Then, there are new kinds of youth projects to help extend the usefulness of 4-H from affluent locales like

Royal Oak (Talbot county), on Maryland's Eastern Shore, to underprivileged areas like Roland Park in inner-city Baltimore.

Some of these new projects are still in the developmental stage. They include things like dog training and horseback riding for the handicapped—both classified as animal science projects—and "Adventures in Vision," an eye care activity just getting started as a health science pilot project in Montgomery county.

These three new activities alone call for \$15,500 in the 1980 fund drive budget. Proposed training sessions

for adults and youth—including statewide summer camps—come to more than \$50,000 for the year.

The Maryland 4-H Club Foundation business campaign began in January at the corporate headquarters of McCormick and Company in Hunt Valley, north of Baltimore. A wrap-up luncheon is scheduled during a June 27-29 statewide older youth activity.

Volunteer chairman for the fund drive is Donald W. Dick, Jr., of Fallston (Harford county), vice-president and treasurer of McCormick and Co.

National Grange Sewing Contest winners for PA announced

HARRISBURG — Pennsylvania winners of the 1980 National Grange Sewing Contest were announced by Charles E. Wismer, Jr., Master of the Pennsylvania State Grange in Harrisburg.

This year's contest had over 1300 entries hailing from every Grange County in the State of Pennsylvania.

The winner of the coveted Best-of-Show Award was Pamela Mignerey, of Honesdale, Wayne County. Mignerey's winning entry, also the Youth Class winner, was a maroon, hooded jacket, lined with fleece.

The winner of the adult class was Renee G. Beitler, Schnecksville, Lehigh County. Beitler's entry was a three piece suit, consisting of a beige slim skirt, a lined, printed blouse, and a lined jacket with a white piping.

Winner of the children's class was Mrs. James R. Haunstein, of Marysville, in Perry County. Haunstein

sewed a toddler's outfit done in white with a yellow Rosebud print. It had a smocked-yoke front, with a Peter Pan collar. The outfit was made for her 14-month old daughter, Jennifer.

Sandra Deitrich, Hamburg, Berks County, swept the honors for Class D, boys and girls. The twelve-year old seamstress won the class with a blue and white Swallow-dotted sundress.



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