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Black Cutworm Scouting 2014

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Abstract

The black cutworm is a sporadic pest that clips early vegetative-stage corn. Scouting for larvae helps to determine if an insecticide application will be a cost effective decision. Scouting dates are based on the peak flight of black cutworm moths and accumulating degree days after the peak flight. The adults migrate north every season, and therefore it can be difficult to determine when moths arrive each spring. After females arrive and lay eggs, degree days are estimated to determine when larvae are capable of cutting corn.

Keywords

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Black Cutworm Scouting 2014

By Adam Sisson, Integrated Pest Management; Laura Jesse, Plant and Insect Diagnostic Clinic; and Erin Hodgson, Department of Entomology

The black cutworm is a sporadic pest that clips early vegetative-stage corn. Scouting for larvae helps to determine if an insecticide application will be a cost effective decision. Scouting dates are based on the peak flight of black cutworm moths and accumulating degree days after the peak flight. The adults migrate north every season, and therefore it can be difficult to determine when moths arrive each spring. After females arrive and lay eggs, degree days are estimated to determine when larvae are capable of cutting corn.

To find out when moths arrive in Iowa, a volunteer network established and monitored black cutworm traps. We asked volunteers to start checking traps at the end of March, and so far they have contributed more than 1,000 data reports in 2014. The first moths were recorded in Muscatine County on April 3.

The map (Figure 1) shows the predicted cutting dates for the nine Iowa climate divisions. Predictions are based on actual and historical degree day data. In the east central, south eastern and south central climate divisions, a peak flight occurred in mid-April, and estimated cutting dates are shown in orange. The dates in black are predicted cutting dates for peak flights in late April. Large numbers of moths were collected over several days in early May, so continue to scout fields past the predicted cutting dates.

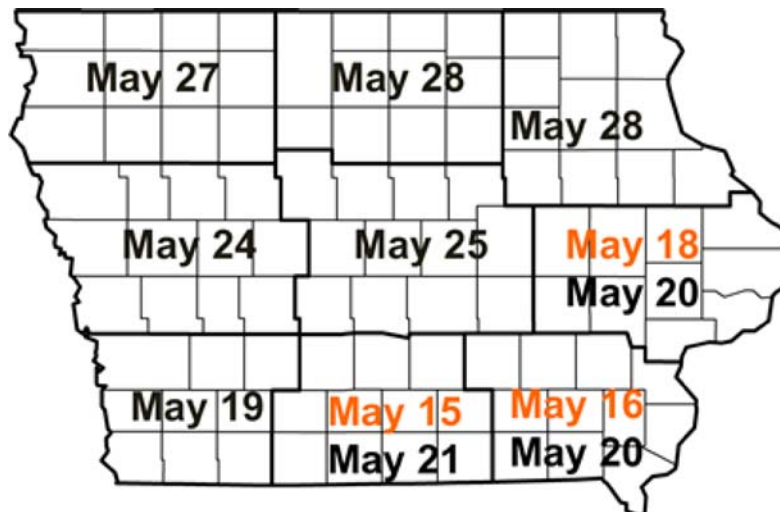


Figure 1. Estimated black cutworm cutting dates for each Iowa climate division based on peak flights of moths occurring in April 2014. The dates in orange represent estimated cutting dates from an early peak flight. Scouting should begin, and continue from, these dates as moths continue to arrive in the state.

Scouting

Fields that may be at higher risk for black cutworm damage include those that are poorly drained and low lying, those next to natural vegetation, and those that are weedy or with reduced tillage. Late-planted corn can be smaller and more vulnerable to larval feeding. Some Bt hybrids provide suppression of black cutworm, but young plants can still be clipped by larvae.

Scouts are encouraged to start looking several days before the estimated cutting dates because local larvae development may be different with weather specific to that area. Fields should be scouted for larvae weekly until corn reaches V5. Examine 50 corn plants in five areas in each field. Look for plants with wilting, leaf discoloration and damage, or those that are missing or cut (Fig. 4). Note areas with suspected damage (with a flag) and return later to assess further damage. Larvae can be found by carefully excavating the soil around a damaged plant.

Identification

Black cutworm larvae are light grey to black. Their skin appears grainy and there are four pairs of fleshy prolegs on the hind end (Figure 2). On each body segment, the pair of tubercles closest to the head is about one-third to one-half the size of the pair nearest to the abdomen (Figure 3). Black cutworm larvae can be confused with armyworms and other cutworms. Some characteristics can be used to set species apart, which are outlined further in this [article on cutworm identification](#).



Figure 2. Black cutworm larvae have light grey to black, grainy skin.



Figure 3. Black cutworms are best distinguished by the dark tubercles on the middle of the back. On each body segment, the pair of tubercles closest to the head is about one-third to one-half the size of the pair nearest to the abdomen.



Figure 4. Black cutworm larval damage usually starts above the soil surface. Leaf feeding (left) can occur. As larvae mature, they can cut plants (right). Photos copyright Marlin Rice.

Thresholds

Common thresholds for seedling, V2, V3 and V4 stage corn plants are 2, 3, 5 and 7 plants cut out of 100, respectively. But with corn price and input fluctuations, a dynamic threshold may be useful. An Excel spreadsheet with the calculations built in can be downloaded [here](#) and can be used to help management decisions regarding black cutworm.

Preventive black cutworm insecticide treatments applied as a tank-mix with herbicides are of questionable worth. Black cutworm is a sporadic pest and therefore every field should be scouted to determine the presence of the insect prior to spraying insecticides.

Trap catches in Iowa

In 2014, cooperators reported data from 49 Iowa counties, with several counties having multiple traps. The moths trapped in Iowa can be viewed by going to www.ncipmpipe.org, selecting "View all maps" and clicking on "Iowa Black Cutworm Monitoring 2014." Please consider that adult moth trap captures do not necessarily mean there will be economically significant black cutworm infestations in a particular location. Field scouting is essential to determine if an economically damaging infestation exists.

If you see any damage from black cutworm larvae while scouting, please let us know by sending a message to bcutworm@iastate.edu. This information could help us to refine our prediction efforts in coming years.

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