

Insect monitoring procedures & action thresholds for sweet corn insect pests in Ohio

During the seedling stage, scout once per week for *cutworms* by looking at 100 consecutive plants in each of 3 areas of the field, up to the 6-leaf stage. Control is justified if at least 3 to 5% of seedlings are cut; use the 3% threshold if larvae are small, or the 5% threshold if larvae are medium to large. Treatment is most effective in the evening.

For plantings where systemic insecticide was not used on seed or in soil at planting, then scout 3 times per week during the seedling stage for *corn flea beetle*. For hybrids that are very susceptible to Stewart's wilt (Earlyvee, Jubilee, Impulse, Amazingly Sweet, Snowbird), treat if there are at least 6 corn flea beetles per 100 plants. For hybrids that are tolerant of wilt (Eliminator, Sweet Sue, Miracle, Ambrosia, Buckeye, Encore, Lancelot, Seneca Nation, Table Treat, Argent), treat only when there is an average of at least 2 corn flea beetles per plant and 25% of seedlings are severely damaged. Control of flea beetles is not needed after the 7-leaf stage.

Armyworm is not present most years in Ohio sweet corn. It can infest no-till corn planted into grass, or corn that borders mature wheat. Treat if 35% of plants are infested during seedling or early whorl stages.

During the whorl stage, scout once per week for *fall armyworm*. Examine 50 plants in small plantings (< 2 acres) or 100 plants in large plantings (> 2 acres). Record the number of plants with fresh feeding damage. European corn borers chew small holes in leaves while fall armyworms chew large ragged holes. Fall armyworm should be treated if at least 15% of whorls are infested.

If you are able to apply granular insecticides to whorl stage corn, then also scout for *European corn borer's first brood larvae* (only in June and early July). Treat with granules if 30% of plants are infested during the whorl stage. If you plan to apply insecticide by airplane, then scout for European corn borer *egg masses*. Treat when egg masses are found on at least 4% of plants.

During the emerging-tassel (green tassel) stage, scout once per week for *fall armyworm* (all season), *European corn borer's first brood* (in June and early July only), and *corn leaf aphid*. Examine 50 plants in small plantings (< 2 acres) or 100 plants in large plantings (> 2 acres). Spray if 10% or more of plants are infested with European corn borer and/or fall armyworm. For corn leaf aphid, treat if 50% of the stand is infested with more than 50 aphids per plant, and natural predators (especially the spotted lady beetle and insidious flower bug) are not present.

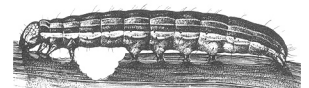
During the silking stage, the most important monitoring is for *corn earworm* moths using traps. If corn earworm moths are caught, then corn should be treated with insecticide during silking, and monitoring for other pests is not needed. Corn earworm moths are best monitored with a cone-shaped trap such as the Scentry Heliothis trap, with a pheromone lure such as those made by Hercon. For sources of traps and lures, see the information sheet posted on a website: <http://u.osu.edu/pestmanagement/files/2014/12/TrapSpecsAndSourcesFeb2016-2baddwf.pdf>. Traps should be set up at least 10 days before first silking is expected, and checked at least every 5 days in June and July, and every 2 days in August and September. For the best decisions, corn earworm moths should be monitored on individual farms, but similar trends are often seen throughout a region. Trap data from several locations in Ohio are posted weekly on the internet: <http://u.osu.edu/pestmanagement/trap-reports/vegetable/>.



Black cutworm



Corn flea beetle



Armyworm ('true')



Fall armyworm



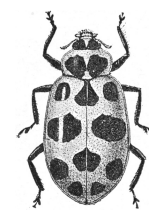
European corn borer



Corn leaf aphid, wingless



Corn leaf aphid, winged



Spotted lady beetle



Insidious flower bug

During the silking stage, if corn earworm moths are present, then start the spray schedule as indicated in the table below. This chart shows that treatment should be more frequent if pest populations are heavy or temperatures are high. Continue to monitor traps during silking, and adjust the spray schedule if the moth catch increases or decreases. No sprays are needed during the last 6 days before harvest.

Insecticide Spray Schedule for Corn Earworm Based on Number of Moths Caught per Week in Pheromone Trap (Scentry Heliothis model):

Average number of corn earworm moths per trap		Spray interval (depending on maximum daily air temperature)	
Per day	Per week	<80 degrees F	>80 degrees F
< 0.2	< 1.4	No spray	No spray
0.2 - 0.5	1.4 - 3.5	Every 6 days	Every 5 days
0.5 - 1	3.5 - 7	Every 5 days	Every 4 days
1 - 13	7 - 91	Every 4 days	Every 3 days
>13	>91	Every 3 days	Every 2 days

If corn earworm moths are not present or are present in very low numbers, then the status of *European corn borer* needs to be known. European corn borer is monitored with the same style of pheromone trap as corn earworm, but with a different lure. Ohio populations of this species are attracted to the 'Iowa' type of lure, not the 'New York' type. If European corn borer is present, as found by pheromone traps that catch more than 1 moth per day (7 moths per week), then a 5-7 day spray schedule is needed. It is critically important to make the first application as soon as silks are first seen in a planting (on 10-20% of plants), even if many plants do not yet have silk. The 5-day schedule is best during peak egg hatch (during peak moth catch and for one week after peak) or when temperatures are high (>80F), while the 7-day schedule is adequate during non-peak activity or when temperatures are lower (<80F). This pest can also be monitored with a blacklight trap. Data on European corn borer from pheromone and blacklight traps at several Ohio locations are posted weekly on the internet site mentioned above for corn earworm.

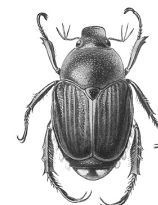
Fall armyworm occasionally infests corn during silking. If neither corn earworm nor European corn borer are detected in traps, then monitor fall armyworm moths with a green Unitrap baited with a pheromone lure. Spray every 5-7 days during silking if more than 3 moths per week are trapped.

If neither corn earworm, European corn borer, or fall armyworm are detected in traps (as sometimes happens in July), then scout for *sap beetles*, *picnic beetle*, *Japanese beetle*, and *corn rootworm beetles*. Examine 50 ears in small plantings (< 2 acres) or 100 ears in large plantings (> 2 acres). Treatment to prevent silk clipping by corn rootworm beetles and Japanese beetles is needed during the early-silk stage if there are at least 2 Japanese beetles per ear or 5 corn rootworm beetles per ear.

Celeste Welty, Extension Entomologist, Ohio State University, October 2001, revised August 2016.



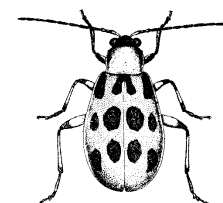
Corn earworm



Japanese beetle



Western corn rootworm beetle



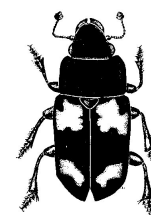
Southern corn rootworm beetle



Sap beetle, adult



Sap beetle, larva



Picnic beetle