

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 by spraying insecticide 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, 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 by spraying insecticide 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 by spraying insecticide 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 by spraying insecticide if at least 15% of whorls are infested.

If you are equipped to apply granular insecticides to whorl stage corn, then scout whorls 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. If you are not equipped to apply granular products to whorls, and you are not spraying by airplane, then delay scouting for European corn borer until the tassel stage.

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.

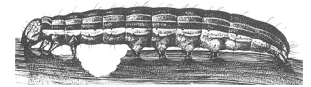
During the silking stage, the most important monitoring is for *corn earworm* moths using traps. Corn earworm moths are best monitored with a large cone-shaped trap such as the Scentry Heliothis trap, baited with a pheromone lure. For sources of traps and lures, see information online: u.osu.edu/pestmanagement/files/2014/12/TrapSpecsAndSourcesFeb2016-2baddwf.pdf. Traps should be set up at least 10 days before first silking is expected, and checked at least twice per week in June and July, and three times per week 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 online: 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



Corn earworm

During the early-silking stage, scout for *Japanese beetle*, *corn rootworm beetles*, *sap beetles*, and *picnic beetle*. Examine 50 ears in small plantings (< 2 acres) or 100 ears in large plantings (> 2 acres). Treatment by spraying insecticide to prevent silk clipping by beetles is needed during the early-silk stage if the average number of beetles is 2 or more Japanese beetles per ear or 5 or more corn rootworm beetles per ear.

During the silking stage, if corn earworm moths are present in traps, then start the spray schedule as indicated in the table below. This chart shows that treatment should be more frequent if many moths are trapped or if 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. 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 insecticide 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.

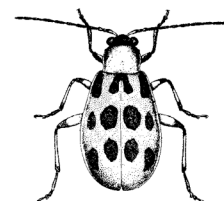
Fall armyworm occasionally infests corn during silking. If neither corn earworm nor European corn borer are detected in traps, then monitor fall armyworm moths with a green Unitrap baited with a pheromone lure. Spray with insecticide every 5-7 days during silking if more than 3 moths per week are trapped.



Japanese beetle



Western corn rootworm beetle



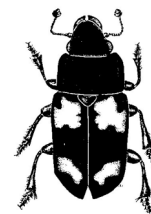
Southern corn rootworm beetle



Sap beetle, adult



Sap beetle, larva



Picnic beetle