CONTROL OF SWEET CORN INSECT PESTS

Kacie J Athey
Specialty crops entomologist

Sweet corn pests
- Corn ear worm
- European corn borer
- Cutworms
- Corn root worms
- Flea beetles
- Seed and root maggots
- Corn leaf aphid
- Stink bugs

Sweet corn pests
- Overwinter as pupae
- Migration of adults
- Lay eggs on silks
- 2 to 4 generations per year
- Late season damage

Corn earworm control
- Variety choice
- Planting date
  - Early and midseason
- Pheromone traps
  - Spray every 5 days
    - 1-10 moths/night
  - Spray every 2 days
    - 100 moths/night
- Lay eggs on corn silks
  - Must be controlled by directing sprays at the silks so larvae will immediately contact the insecticide after hatching

Insecticides
- Biopesticide (Bt)
- Pyrethroids (Ambush, Asana, Baythroid, Capture, Mustang Maxx, Permethrin, Tundra, Warrior II)
- Spinosyns (Entrust, Radiant)
- Sevin
- Dual action (Besiege)
European corn borer
- Overwinters as an adult
- Adult emergence late May and June
- 22 days to reach full grown caterpillar
- Two generations per year

European corn borer damage
- Kernel damage
- Stalk tunneling

European corn borer monitoring
- Late whorl stage
  - Black light traps
  - Field observations
- Insecticides sprays
  - Bt (Ambush, Baythroid, Capture, Mustang Maxx, Permethrin, Tundra, Warrior II)
  - Ryanoid (Coragen)
  - Spinosyns (Entrust, Radiant)
  - Sevin
  - Dual action (Besiege)

Cutworms
- Early season pests
- Overwinter as eggs or larvae
- Cut plants

Cutworms
- Fall and spring tillage
- Weed control before planting
- Barriers around plants
Cutworm control with insecticides

- Biostaincide (Bt)
- Pyrethroids (Ambush, Asana, Baythroid, Capture, Force, Mustang Maxx, Permethrin, Tundra, Warrior II)
- Ryanoid (Coragen)
- Spinosyns (Blackhawk, Entrust, Radiant)
- Diamides (Exirel, Harvanta, Verimark)
- Sevin
- Dual action (Besiege)

Corn rootworm beetles

- Overwinter as eggs
- Larvae of two species feed on corn roots ONLY
- One generation per year
- Crop rotation
- Monitoring
  - Sticky traps

Corn rootworm larvae

- Insecticides
  - Pyrethroids (Brigade, Capture, Force, Warrior II)
  - Sevin
  - Dual action (Aztec, Ethos)

Corn flea beetles

- Insecticides
  - Pyrethroids (Ambush, Asana, Baythroid, Capture, Mustang Maxx, Permethrin, Tundra, Warrior II)
  - Sevin
  - Dual action (Besiege)
Corn flea beetles
- Overwinters as an adult
- Emerge in spring
- Larvae feed on roots of grass plants for two weeks
- Generation time is about one month
- 2-3 generations

Leaf damage
- Stewart’s wilt
- Tasselling
- Drought
- Early stage

Corn flea beetles
- Overwinter as pupae
- Lay eggs in early spring
- 3-5 generations per year
- Life cycle of as little as 21 days

Flea beetle control
- Scouting
- Threshold
- 6 beetles per 100 plants
- Insecticides
  - Seed treatments
  - Pyrethroids (Ambush, Asana, Baythroid, Capture, Mustang Maxx, Permethrin, Tundra, Warrior II)
  - Sevin
  - Dual action (Besiege)

Seed and root maggots
- Overwinter as pupae
- Lay eggs in early spring
- 3-5 generations per year
- Life cycle of as little as 21 days

Damage from seed and root maggots
- Corn seed damage
- Reduced stands
- Weak seedlings
- Can cover most of a field

Sampling for seed and root maggots
- Dig in soil where plants didn’t emerge
- Check seed for injury and maggots
- 2 linear row feet in each of 5 areas
Control of seed and root maggots

▪ No rescue treatments
▪ Replanting
▪ Insecticides
  ▪ Seed treatments
    ▪ Neonicotinoids
    ▪ Spinosad
    ▪ Abamectin
  ▪ Pyrethroids (Brigade, Capture, Force, Mustang Maxx, Permethrin, Tundra)
  ▪ Dual action (Aztec, Ethos)

Corn leaf aphid

▪ Colonies on tassels
  ▪ Produce honeydew
  ▪ Adults migrate from the south
  ▪ Live birth
  ▪ Pests in late June through August
  ▪ 9 generations a year

Corn leaf aphid monitoring

▪ Before tasseling
  ▪ In each of 5 areas of the field, select 4 plants
  ▪ Count in 20 whorls per area
  ▪ Consider insecticides if 50% of plants have 50 aphids per plant

Aphid control

▪ Natural enemies are recommended

Stink bugs
Stink bug control

- Insecticides
  - Pyrethroids (Baythroid, Brigade, Capture, Tundra, Warrior II)
  - Dual action (Besiege, Hero)

Contact Information

Department of Crop Sciences

- NSRC 266
  1101 W Peabody Dr
  Urbana, IL 61801

- kathey@illinois.edu
- 859-433-8364