Bean Leaf Beetle

Pest Facts and Impact on Crop

• Latin name is *Ceratoma trifurcata*

• Although the larvae feed on soybean roots, most damage occurs from adult feeding on foliage or pods

• Found east of the Rocky Mountains, wherever soybeans are grown

• No significant natural enemies are known

• Hosts: alfalfa, clover, green beans, wild legumes such as tick trefoil

• Generations per year
  o 3 – Southeast United States
  o 2 – Iowa and Illinois
  o 1 to 2 – Wisconsin
  o 1 – Canada

• Adults overwinter in woodlots and fence rows

• Quickly killed if exposed to temps below 14°F

• Adults may feed on alfalfa in spring before soybeans emerge

Crop Symptom Pictures

Leaf Injury

Area of green stem

Pest ID

Adult:

• Bean leaf beetle adults are 1/5 inch long

• Color is typically dark yellow, but may be orange or red

• Wing covers often with four “rectangular” marks, but may have two or no marks

• Best identifying mark—black triangle behind pronotum (neck region)

Larvae:

• Found in soil near roots and resemble corn rootworm larvae

• Body color is white and head color is dark brown/black

• Often found feeding in nodule

Crop Symptoms

• Impact from larvae is unknown, but thought to be insignificant

• Leaf feeding from adults causes little impact unless defoliation exceeds 25%

• Pod feeding results in greatest damage and affects both quality and yield

• Adults also transmit bean pod mottle virus, which:
  o Reduces soybean yield
  o Reduces soybean quality
  o Causes green stem and delays harvest
Management Considerations

Resistance

- Neither native nor transgenic resistance are currently available for bean leaf beetle

Beneficial Insects (Natural Enemies)

- Very little impact documented
- Not a recognized deterrent to beetle populations

Scouting Practices

Early Pod Fill Stages: R1-R3

- If defoliation approaches 20 to 25% and large numbers of BLB adults are present, consider insecticide application, especially if beetles exceed 20 per 20 sweeps of a sweep net
- Decision should be based on increasing or decreasing beetle numbers, costs of control and grain price of soybeans

Late Pod Fill Stages: R5-R7

- If pod injury is above 10% and beetles exceed 3 per sweep, consider insecticide application, especially if other pod feeding insects (grasshoppers) are present
  - Value of control will depend on continuing injury and pod maturity

Planting

- If the field has a history of bean leaf beetle injury or bean pod mottle/green stem, consider planting slightly later after most bean leaf beetle adults have moved away from the area

Overwintering as an adult in protected areas

One life cycle in Canada; three in southeast United States

Adults lay eggs

Emerged adults feed on leaves, mate and lay eggs in soil

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