BMSB Monitoring and Damage in Lima Beans and Sweet Corn

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Monitoring

- 13 BLTs throughout the state - 7 on sweet corn farms, 4 on lima bean farms and 2 on UD research farms
- Rescue Lures around sweet corn and lima bean sentinel plots in Newark

photo: www.gemplers.com
University of Delaware – Newark
BMSB BLT Counts – 2012

# BMSB / 2-3 nights

Trapping Dates

# Rescue Trap Counts – Newark DE

## Trapping Dates

- **BMSB Counts/2-3 nights**

  - #BMSB Adults Sweet Corn Rescue Trap #1
  - #BMSB Adults Sweet Corn Rescue Trap #2
  - #BMSB Adults Shared Rescue Trap #3
  - #BMSB Adults Shared Rescue Trap #4
  - #BMSB Adults Lima Beans Rescue Trap #5
  - #BMSB Adults Lima Beans Rescue Trap #6

## Trapping Dates

- 8-Jun
- 15-Jun
- 22-Jun
- 29-Jun
- 6-Jul
- 13-Jul
- 20-Jul
- 27-Jul
- 3-Aug
- 10-Aug
- 17-Aug
- 24-Aug
Tassel Infestations

photo: B. Cissel
photos: M.Walfred, Un of DE
Kent County BMSB BLT Counts – 2012

Trapping Dates

# BMSB / 3-4 nights

- Dover
- Harrington
- Little Creek
- Milford
- Rising Sun
- Rising Sun
- Wyoming
Sussex County BMSB BLT Counts - 2012

Trapping Dates

- Bridgeville
- Concord
- Georgetown
- Greenwood
- Laurel
- Seaford

# BMSB/ 3 to 4 nights
Lima Bean BMSB Survey - 2012

Surveyed 23 fields (2,000 acres) processing lima beans - sweep net sample - July 5 to Sept 11
Bags placed on plants – 3 plants/foot of row - first bud
Four reps per growth stage
One BMSB adult per bag
Left bugs in bags for 7 days– checked for live bugs 3 times
Harvest Data : puncture wounds on pods and shelled beans

photo: A. Herbert, VPI
BMSB Damage to Lima Beans

Photos: B. Mulrooney, Un of DE
Lima Bean Cage Study

![Graph showing percent damaged beans at different growth stages.]

- Bloom: 0
- Pin: 2.57
- Flat: 1.17

Growth Stages:
- Infested
- Check
Damage Evaluations

- Discolored Kernels
- Sunken Kernels
- Blasted Kernels
  - Aborted

photos: B. Cissel
Determine the effects of BMSB feeding on sweet corn ears at different:

1. Bug densities
2. Corn developmental growth stages
2011 Results
Effect of BMSB Infestation Timing on Sweet Corn

# of Damaged Kernels per Ear

- R1 (silking)
- R2 (blister)
- R3 (milk)

B. Cissel, University of Delaware
Effect of BMSB Density on Sweet Corn

B. Cissel, University of DE
2012 Preliminary Results
Effect of BMSB Infestation Timing on Sweet Corn, 2012

R1 (silking)  R2 (blister)  R3 (milk)

# of Damaged Kernels per Ear

- Green: aborted
- Red: discolored
- Blue: sunken

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B. Cissel, University of DE
Effect of BMSB Density on Sweet Corn, 2012

B. Cissel, University of DE
Infestation initiated at silking stage, 3-5 BMSB Adults/Ear

B. Cissel, University of DE
Early – Silking Stage
Incomplete ear fill??
Conclusions

- Infestations occurring prior to pollination may result in incomplete kernel fill
- BMSB must be managed from ear shank emergence to harvest
Questions?

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