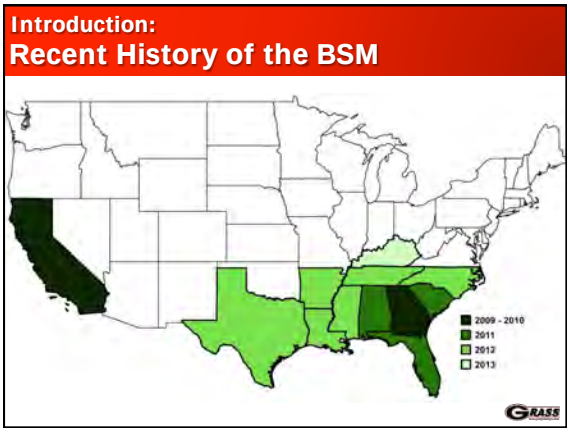
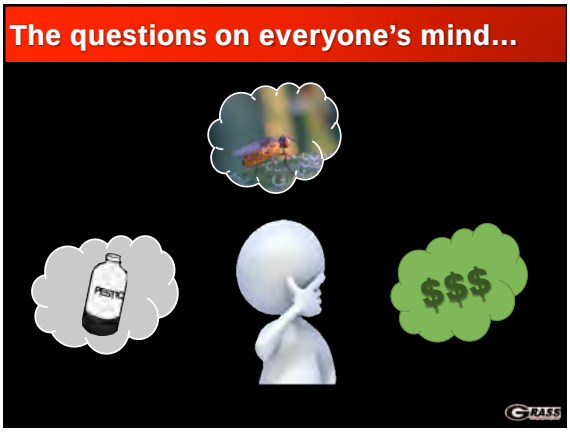
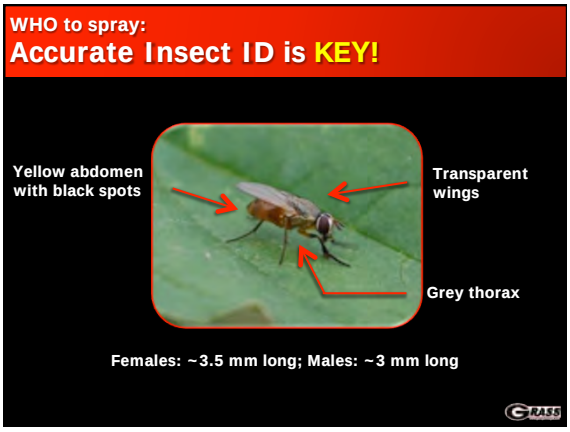
2018 Georgia Grazing School:
Bermudagrass Stem Maggot Management

Dr. Lisa Baxter
Post Doctoral Researcher







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WHO to spray:
Check the grass!

WHO to spray:
Scouting for the BSM fly

- Sweep net is <u>most</u> effective tool
  - Most active in the morning (before noon)
  - Take 10-20 sweeps in several locations in your field
  - Sweep down into the canopy (rarely fly high [< 18 in.])
  - Hard to sweep if dew present
- Often 50-80 flies/10 sweeps → ~300-500,000 flies/acre

WHAT to spray:
Pyrethroids are the only MOA available

- <u>Goal</u>: protect the bermudagrass during the *most sensitive phase of regrowth*!
- Apply the insecticide in *at least* 12-15 gallons water/acre

WHAT to spray:
Preventing resistance

Overuse of a single mode of action to combat a pest may *eventually* result in a buildup of **resistance**.

CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION CAUTION

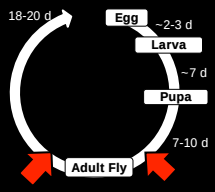
Preventing **overuse and uneconomical use of insecticides** is a crucial educational objective to combat the potential for resistance of the BSM to pyrethroids insecticides.

WHEN to spray:
Strategy is contingent on timing of damage

- Near the end of a regrowth cycle (~3 weeks after the previous cutting/grazing) → harvest as normal then begin spray protocol
- Early stage of regrowth (e.g., 6-8") → remove (mow and harvest, if possible) the damaged grass and begin spray protocol

WHEN to spray:
Spray Protocol

- Apply **labeled rate** of insecticide
  - Pyrethroids (Baythroid, Karate, Mustang Maxx)
  - Mix with *at least* 12-15 gallons of water/ac
- Requires **2 applications**:
  1. 7-10 d after cutting
  2. Repeat 7-10 d later (or 14-20 d after cutting)



Number of days after harvest to reach each part of life cycle.

The fine print
- Do not apply insecticide until you see green leaves
- Do not spray at every harvest

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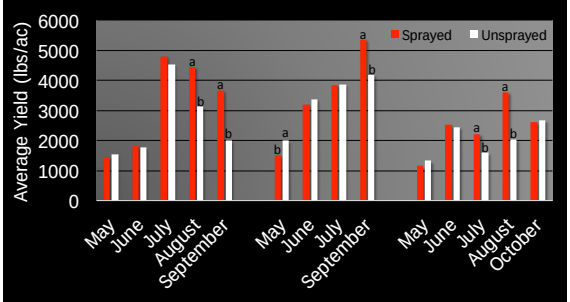
WHEN to spray:
Do not have to spray at every harvest



BSM damage is most severe in late July to mid September!

*Research sponsored by the Georgia Beef Commission.

WHERE to spray:
BSM do not fly very high (<18")

Time	Avg. # flies from 60 swings
11:00 AM	25
2:00 PM	13
5:00 PM	14

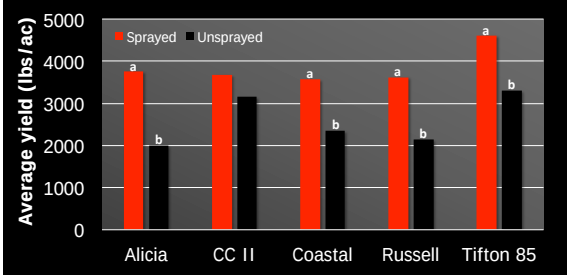
Time	Sticky card ht. 8"	16"	24"
11:00 AM	3.3	1.1	0.3
2:00 PM	2.6	0.7	0.3
5:00 PM	2.1	1.2	0.5

Spray early and spray low!

Spray before 11 am, when the morning dew is still on the ground. Set your boom height low enough to thoroughly cover the canopy. Mix chemical with enough water to ensure canopy penetration.

*Collaborative study with County Extension Agents.
*Research sponsored by the Georgia Beef Commission.

WHY Spray:
Yield may be reduced by > 40%



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WHY spray:
BSM damage negatively impacts forage nutritive value

CP increases because of reduction desirable carbohydrates.

Decreased TDN, $NDFD_{48}$, and DMI

Consequently, **RFQ is reduced by over 6%!**

WHY spray:
Estimated economic impact in Georgia

What if we strategically apply insecticide to these acres???

Assumptions:
- 400,000 acres of bermudagrass in GA
- Yield 4 tons/ac/yr
- 25% yield loss
- Hay is valued at $100/ton
- $15/ac application and chemical cost

400,000 acres x $15 ac/harvest x 2 harvests = **$12 million cost**

$40 million loss - $12 million cost = $28 million recovered

WHY spray:
Estimated economic impact on your farm

What if you have a 25 acre farm?

Applying the same assumptions....

25 ac x 4 tons/ac/yr – 25% yield loss = 25 tons hay lost

25 tons hay x $100/ton = **$2,500 loss**

$15/ac/harvest insecticide application x 25 ac x 2 harvests = **$750 costs**

$2,500 loss - $750 costs = $1,750 income recovered

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Summary

- Who: proper insect id is key!
- What: pyrethroids are the only MOA available.
- When: two applications are required.
- Where: spray low; canopy penetration is crucial.
- Why: prevent yield, quality, and economic losses.

New Extension Bulletin

Scan the QR Code for a digital download.

Much of this work has been sponsored by the Georgia Beef Commission!

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Questions?

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