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Redbanded Stink Bug FAQ

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Mid-South Soybean Stink Bug Pest Complex



Nezara viridula



Chinavia hilaris





J. Davis 2010

Euschistus servus



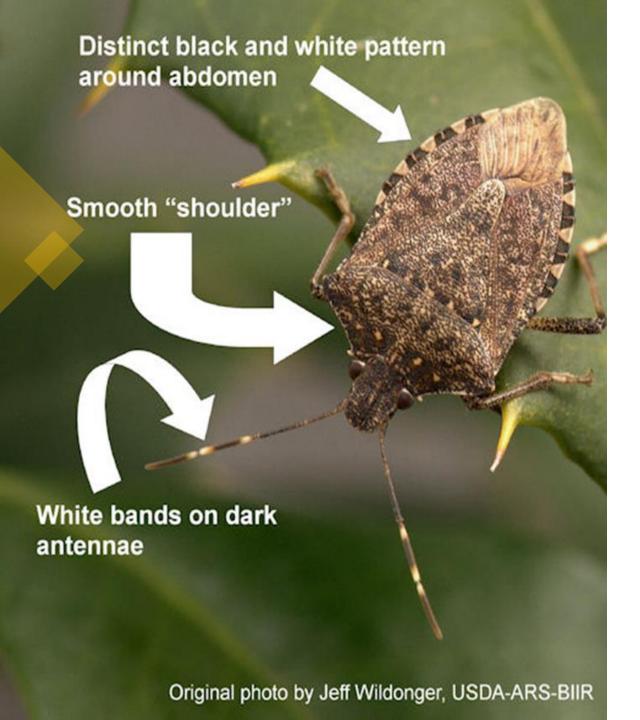


Euschistus quadrator

Brown marmorated stink bug (Halyomorpha halys Stahl)







• In June 2021, we confirmed a reproducing population at a property in Iberville Parish

 Range did not change this year and is not impacting row crops currently

That red stink bug...

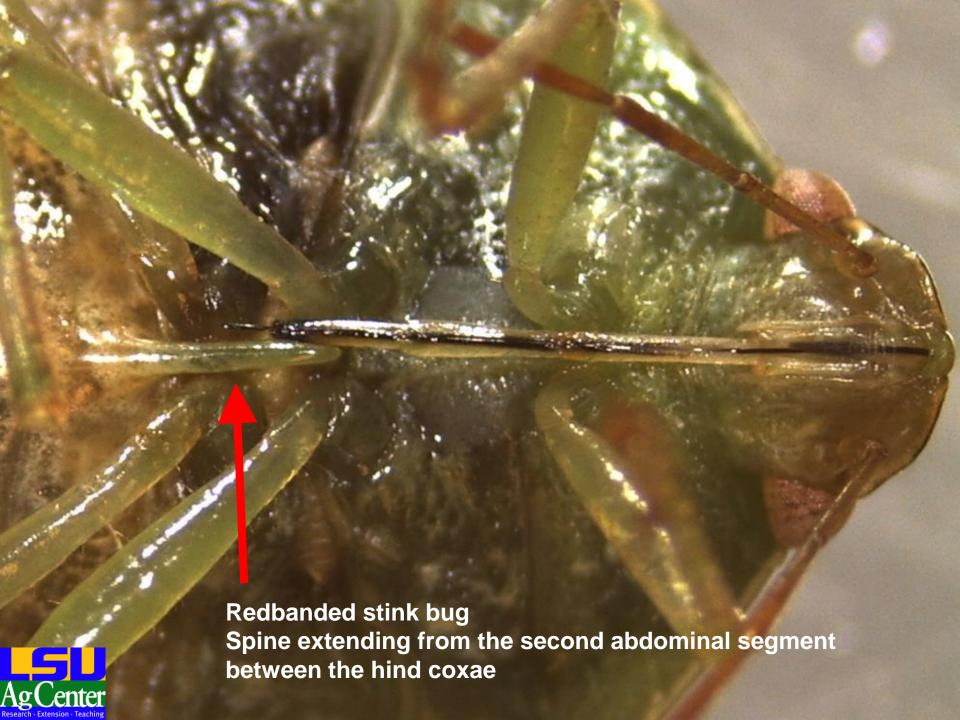


Redbanded Stink Bug



Red Shouldered Stink Bug







Not all stink bugs are bad





Q1. When and where are redbanded stink bugs active?



Temperature is important to stink bug overwintering survival

Redbanded stink bug supercooling point is -4°F

Redbanded stink bug lethal temperatures (LT):

At 23°F, $LT_{50} = 4 \text{ hr and } LT_{90} = 7 \text{ hr}$

At 32°F, redbanded stink bug had to be exposed for 7 days to see 95% mortality





Temperature is important to stink bug overwintering survival

How well did redbanded stink bug survive this winter?

From November 1, 2022, to February 8, 2023, the weather station at Chase, LA has recorded 32 hr at 23°F.

Lowest air temperature reached: 12°F

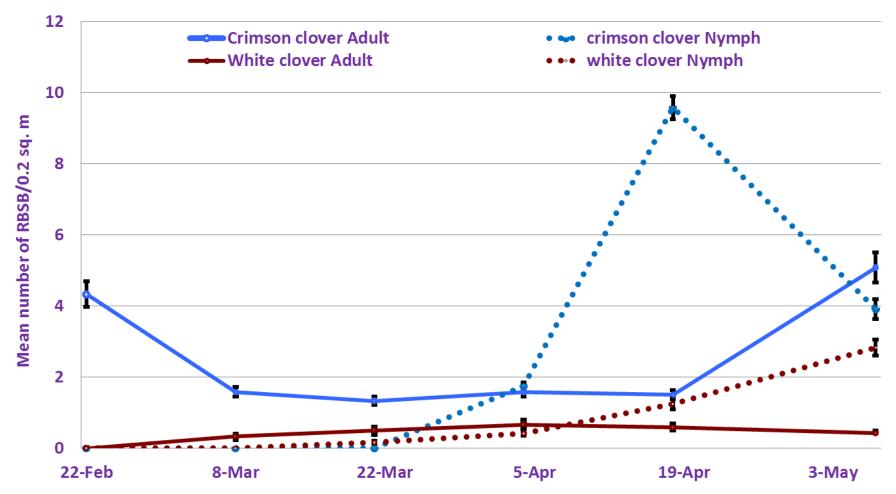
From November 1, 2022, to February 8, 2023, the weather station at Baton Rouge, LA has recorded 13 hr at 23°F.

Lowest air temperature reached: 20°F





When are redbanded stink bugs active? All year







Where are redbanded stink bugs active? On weeds

Scientific name	
Indigofera suffruticosa	3

Common name **Bush indigo**

Survivorship 90%

Sesbania herbacea

Hemp sesbania

Birdsfoot trefoil

70%

75%

Lotus corniculatus

100%

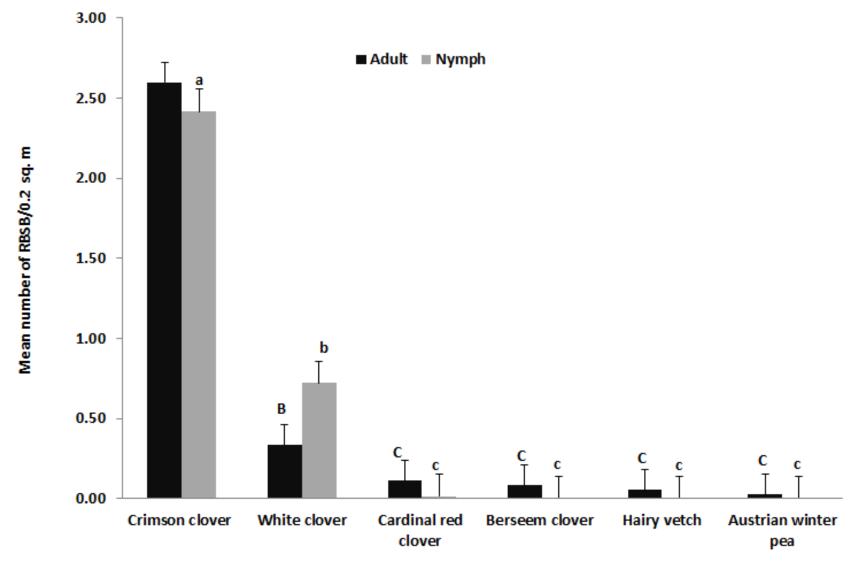
Ligustrum lucidum **Glossy privet**



Photo credits: Larry Allain, U.S. Geological Survey

Data: Zerbino et al. 2015, 2020.

Where are stink bugs active? In cover crops







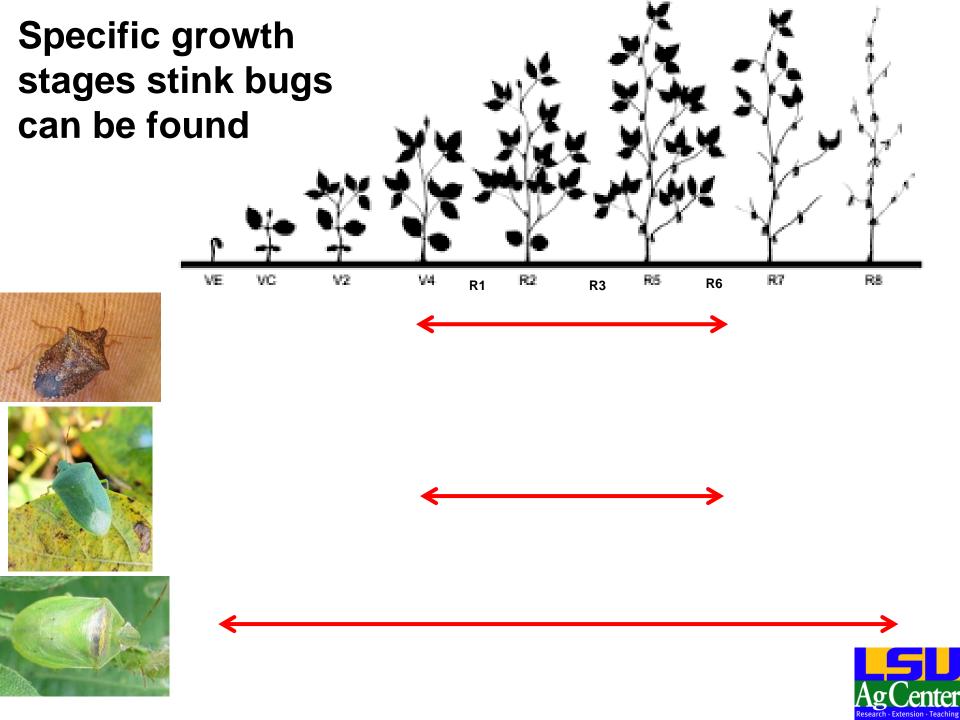


Stink bugs are in cover crops

Based on mean nymphal production over 3 years, a single acre of crimson clover can produce 570,000 RBSB in a 12-week period

 In comparison, a single acre of soybeans produces 35,000 RBSB, 16 times less.







Q2. Are redbandeds resistant to current insecticides?



Resistance to current chemistries?

Insecticide resistance monitoring for redbanded stink bug

Acephate (Orthene)

2022: LC₅₀ 10.0 ppm

2021: LC₅₀ 10.0 ppm

2020: LC₅₀ 10.0 ppm

2015: LC₅₀ 10.0 ppm

2011: LC₅₀ 6.0 ppm

2010: LC₅₀ 3.5 ppm

No change since 2015



Resistance to current chemistries?

Insecticide resistance monitoring for redbanded stink bug

Bifenthrin (Brigade)

2022: LC₅₀ 2.5 ppm

2020: LC₅₀ 2.5 ppm

2010: LC₅₀ 0.5 ppm

5X increase over 10 years



Identification of microsatellite alleles for a population genetics study of the invasive pentatomid soybean pest, *Piezodorus guildinii*



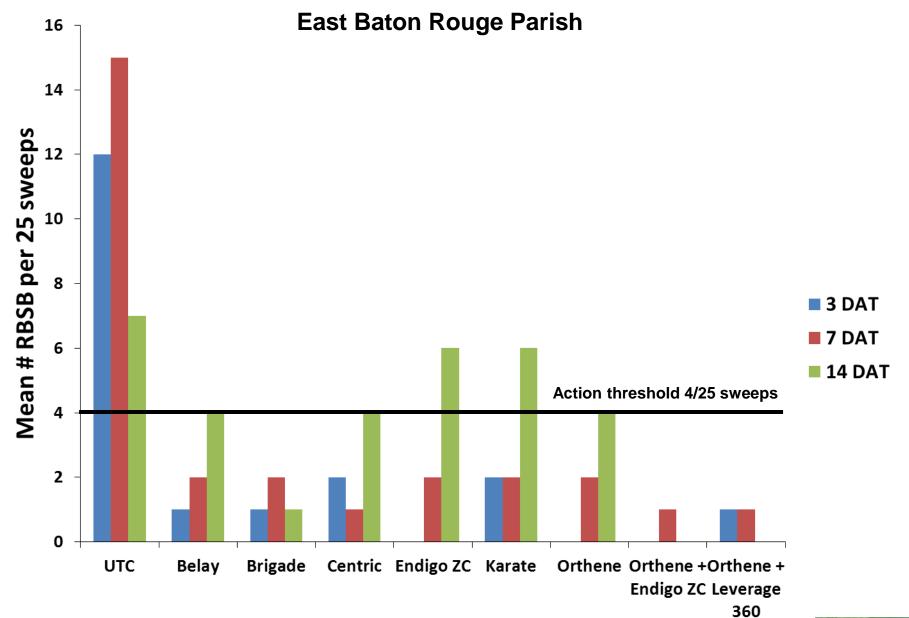
Hannah T. Shult, Jeff Davis, and Claudia Husseneder

Department of Entomology, LSU AgCenter, Louisiana State University, Baton Rouge, LA 70806

by a better understanding of this species, is necess sequence with short tandem repeats of nucleotide solibit satisfactory levels of allelic diversity to be in	thwood), is an economically important crop pest which is in any. In order to aid in our understanding of the population 5. These loci acquire mutations rapidly, which allows them diversation for covariation processor. If the seast	ndynamics							
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- Small founder population with limited genetic diversity.
- Harsh winters and/or extreme insecticide pressure are reducing genetic diversity.
- RBSB has limited dispersal rates and mate with individuals in their vicinity, most likely their relatives.
- Resistance will be localized but will be permanent

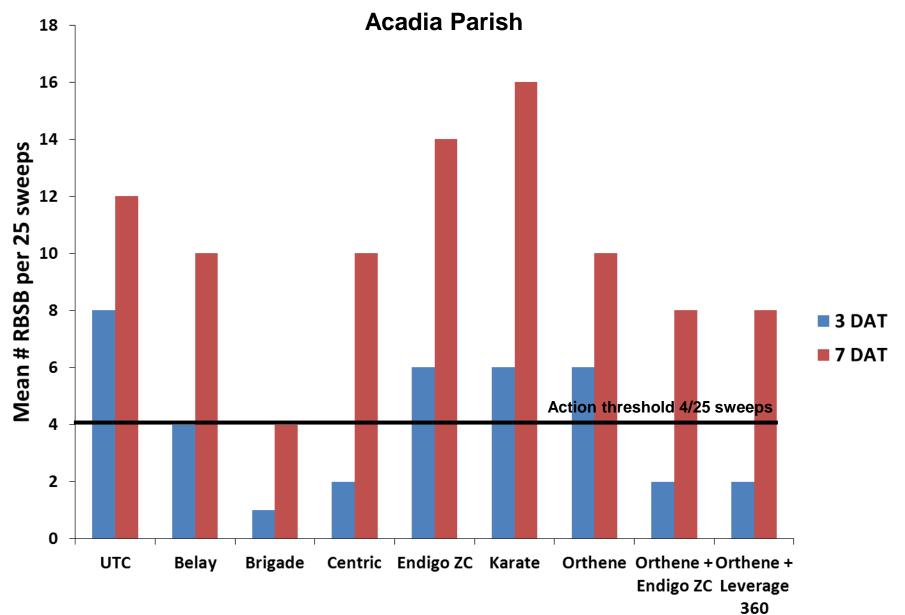










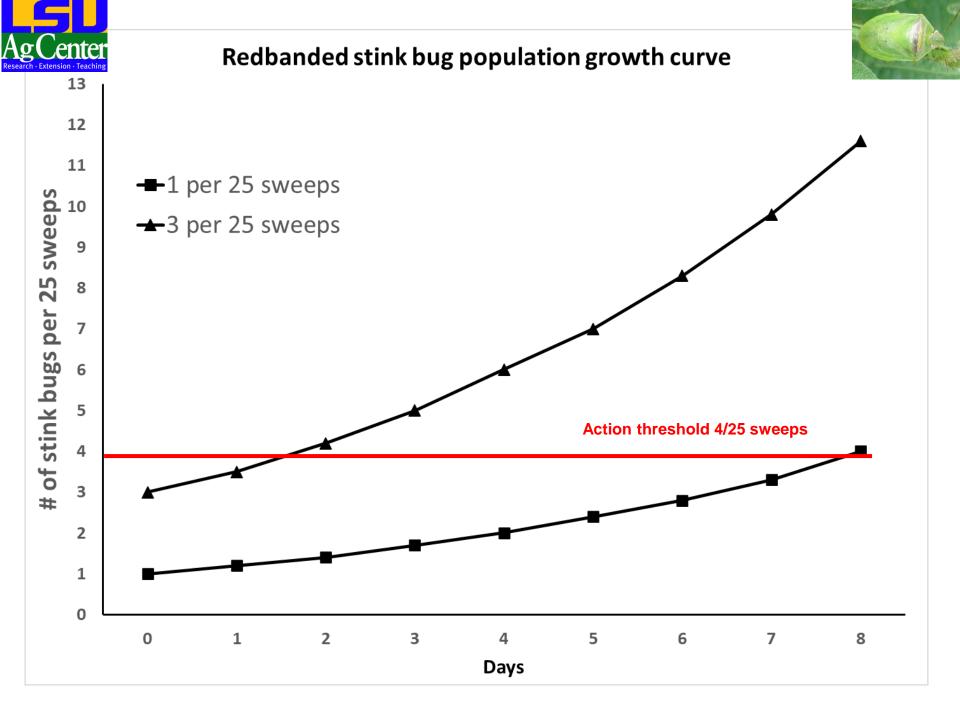




Treatment



Q3. When can I terminate stink bug control? Ag Center





Losses can occur even at R8

Effect of stink bug feeding on MGV soybean

% wt loss (g) due to stink bug feeding

Stink bug spp.	1 DAT	5 DAT	10 DAT	15 DAT
C. hilaris	0.0 a	0.0 a	0.0 a	0.0 a
E. quadrator	0.0 a	0.0 a	0.0 a	0.0 a
N. viridula	1.1 a	5.0 b	6.4 b	8.2 b
P. guildinii	3.5 a	7.5 b	12.8 b	10.3 b
P-value	0.5594	0.0274	0.0009	0.0181



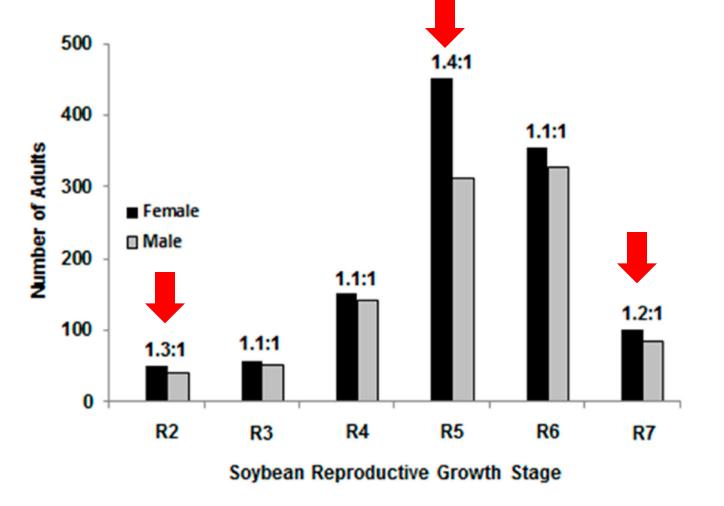




Figure 3. Redbanded stink bug sex ratio during soybean reproductive growth stages.

More females at R2, R5, and R7 = more eggs

More eggs = more stink bugs



It's important to have a small stink bug population on your farm at the end of the year

Month	Initial pop. 100	Initial pop. 5	Cold event
Oct.	100	5	5
Nov.	432	22	22
Dec.	1,867	93	8
Jan.	8,073	403	35
Feb.	34,891	1,744	150
Mar.	150,797	7,539	645
Apr.	651,739	32,586	2,791

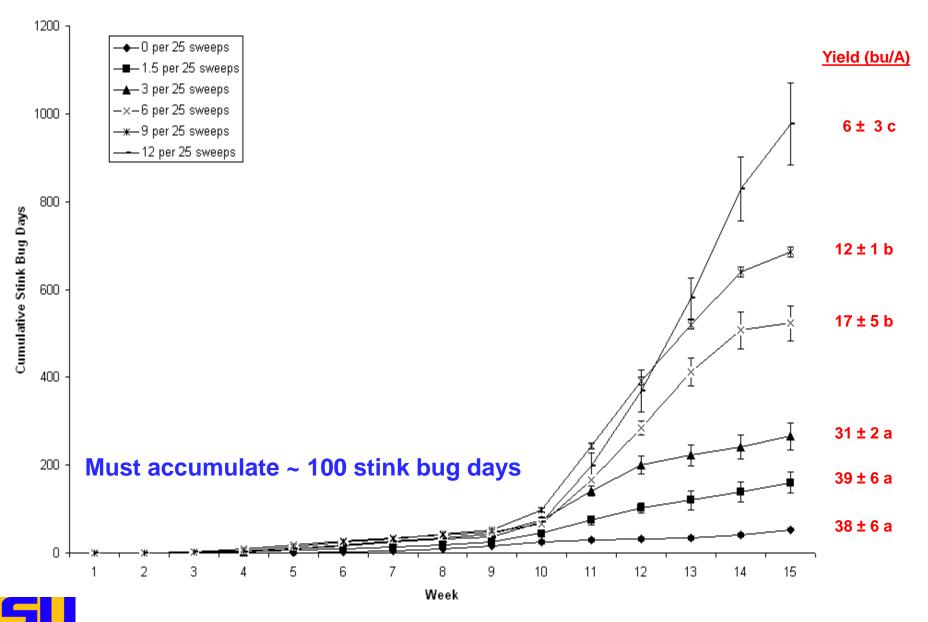


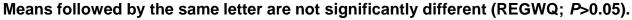


Q4. Subthreshold levels over an extended period of time?



Sub-threshold levels of stink bugs over an extended period?







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Thank you

Questions?