Texas Cooperative EXTENSION
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Applied Research Report

COMPARISON OF STINK BUG SCOUTING TECHNIQUES

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Summary

A trial was conducted with the purpose of comparing the sting bug captures of beat sheet and sweep net insect sampling methods in soybeans. Whole fields were scouted using both the beat sheet and sweep net sampling methods at ten locations per field over a four week period from soybean fields in Calhoun and Victoria Counties. Stink bug nymph captures were not different when separated by species nor were adult stink bug captures different for the Southern Green, Green or Brown Stink Bugs. More Red Banded Stink Bugs were captured with sweep net than beat sheet.

Objectives

The objective of this project was to compare the sting bug captures of beat sheet and sweep net insect sampling methods in soybeans..

Materials and Methods

Whole fields were scouted using both the beat sheet and sweep net sampling methods at ten locations per field. Both sampling methods were conducted within 20 feet of one another. The beat sheet samples consisted of sampling 3 feet of row at each location; 1.5 feet from each of two adjacent rows. Sweep net sampling consisted of ten sweeps with a 15-inch hoop sweep net across one row while walking down the row. The length of row sampled with the sweep net ranged from 20-25 feet.

For the purpose of comparing the sampling methods, the number of stink bug captures was converted into bugs per foot. This was accomplished by dividing the number of stink bugs captured in the sweep net per 100 sweeps by thirty-six. Previous research has indicated that 36 southern green stink bugs per 100 sweeps is similar to 1 stink bug captured per foot by the beat sheet method. The nymphs of

Sampling was conducted over a four week period from soybean fields in Calhoun and Victoria Counties. A total of 20 scouting events occurred.

Results and Discussion

The number of stink bug adults and nymphs captured per foot and the percent of stink bug nymphs were similar for sampling methods evaluated. Stink bug nymph captures were not different when separated by species.

Adult stink bug captures were not different for the Southern Green, Green or Brown Stink Bugs. However, the captures of the Red-Banded Stink Bug (*Piezodorus guildinii*) were different between the sampling methods.

Average captures for the beat sheet and sweep net methods were 0.12 and 0.28 Red-banded stink bug adults (RBSB) per foot, respectively. In addition, 33% of the sweep net captures were RBSB adults while only 18% of beat sheet captures were RBSB adults.

This difference in RBSB captures may have several causes. Field observations indicate that the RBSB tends to take flight quicker than other stink bug species. Scouts reported a concern that some RBSB may be flying off the beat sheet prior to being counted. In some cases, the field scouts observed RBSB taking flight prior to landing on the beat sheet after being dislodged from the plants.

A second possibility, reported by local consultants, is that the RBSB may have a feeding behavior that is different from other important stink bug species. It is possible that they feed lower in the plant, or are much more mobile resulting in sampling error.

This project should be conducted again locally and should also be conducted in other soybean production regions documented to have the RBSB.

Table 1. Average numbers of stink bug species captures by both sweep net and beat sheet sampling methods for the sampling dates.

Date	Southern Green	Green	Red-Banded	Brown
6/13	5.8	11.0	9.7	3.1
6/19	4	4.0	6.9	3.7
6/26	7.9	7.8	10.6	2.9
7/20	30.2	3.2	7.9	1.8

Figure 1. Stink bug nymphs per foot for sweep net and beat sheet sampling methods.

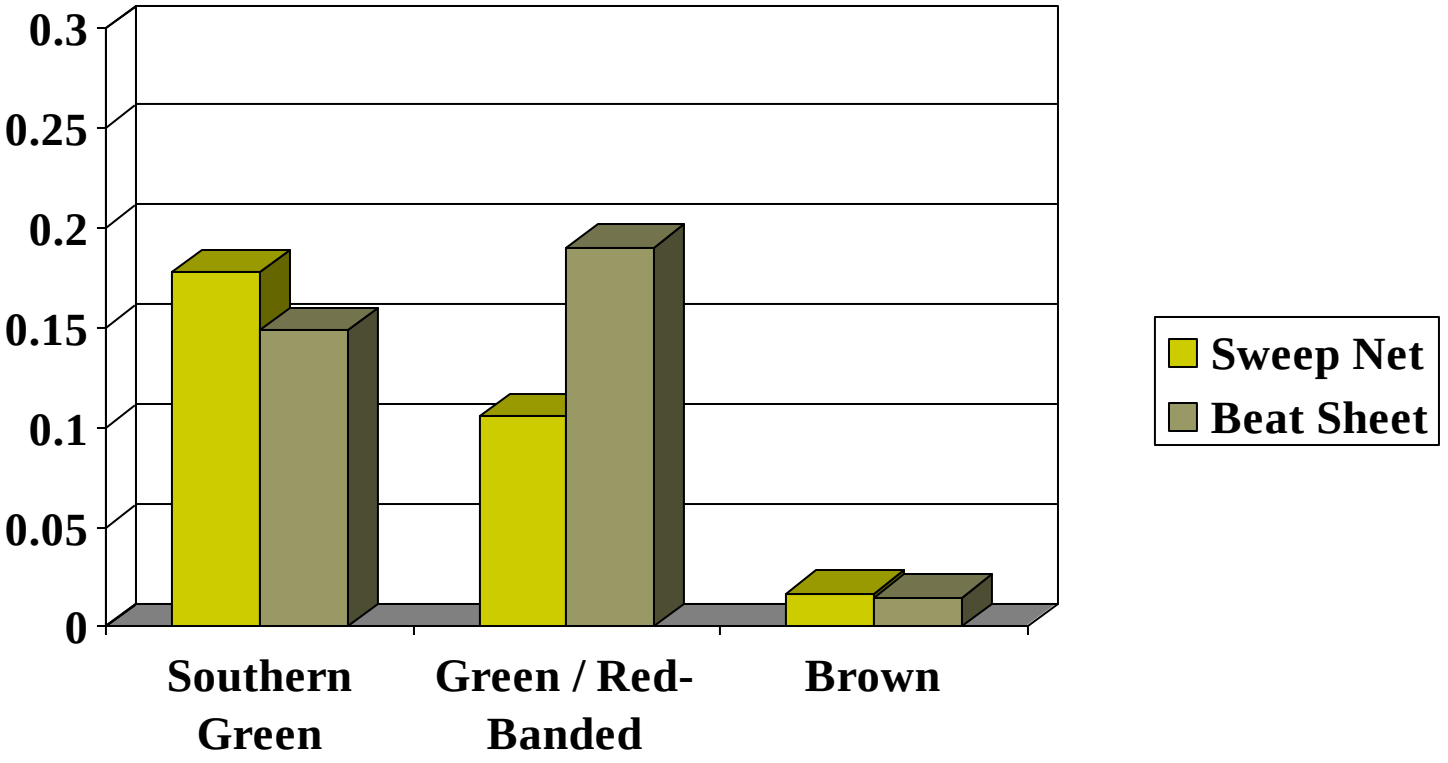


Figure 2. Percent stink bug nymphs for sweep net and beat sheet sampling methods.

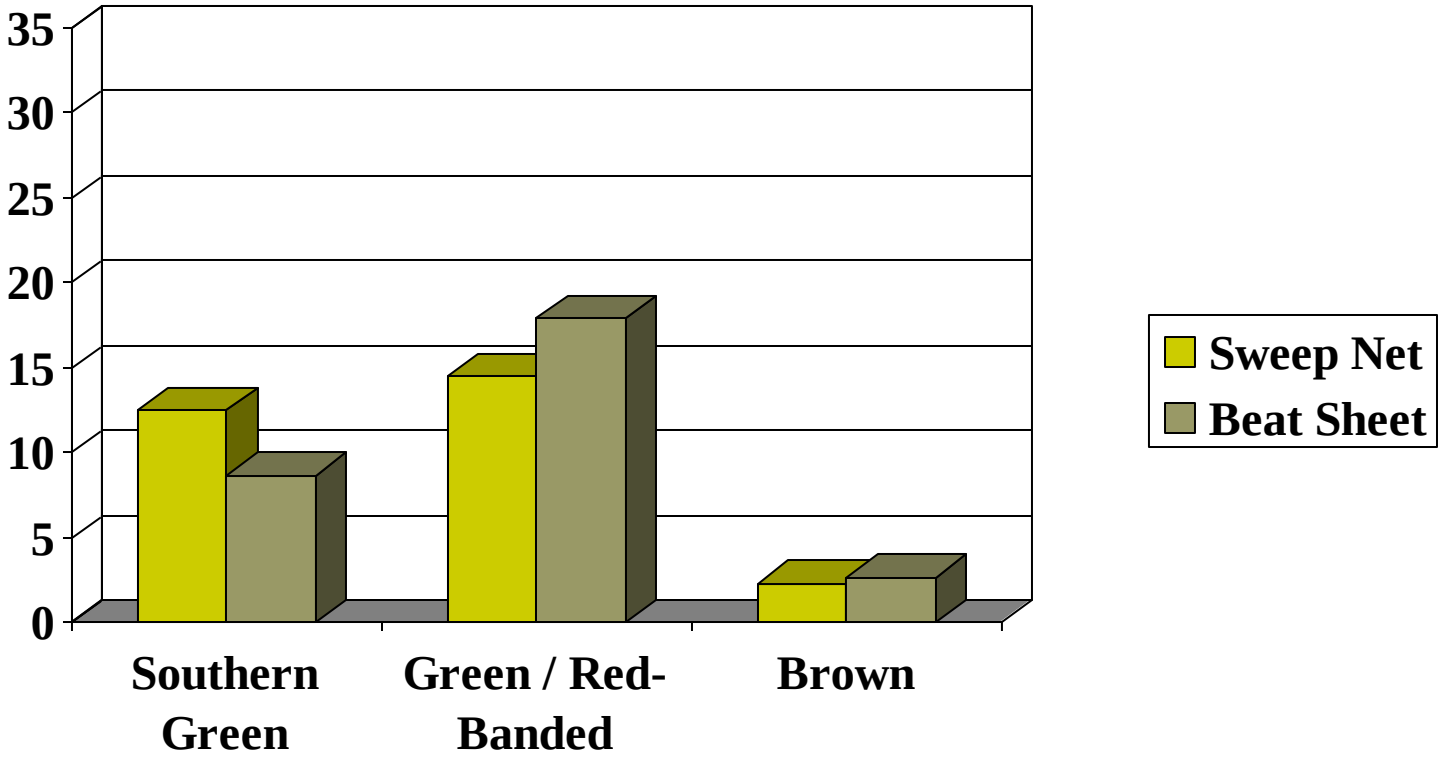


Figure 3. Stink bug adults per foot for sweep net and beat sheet sampling methods.

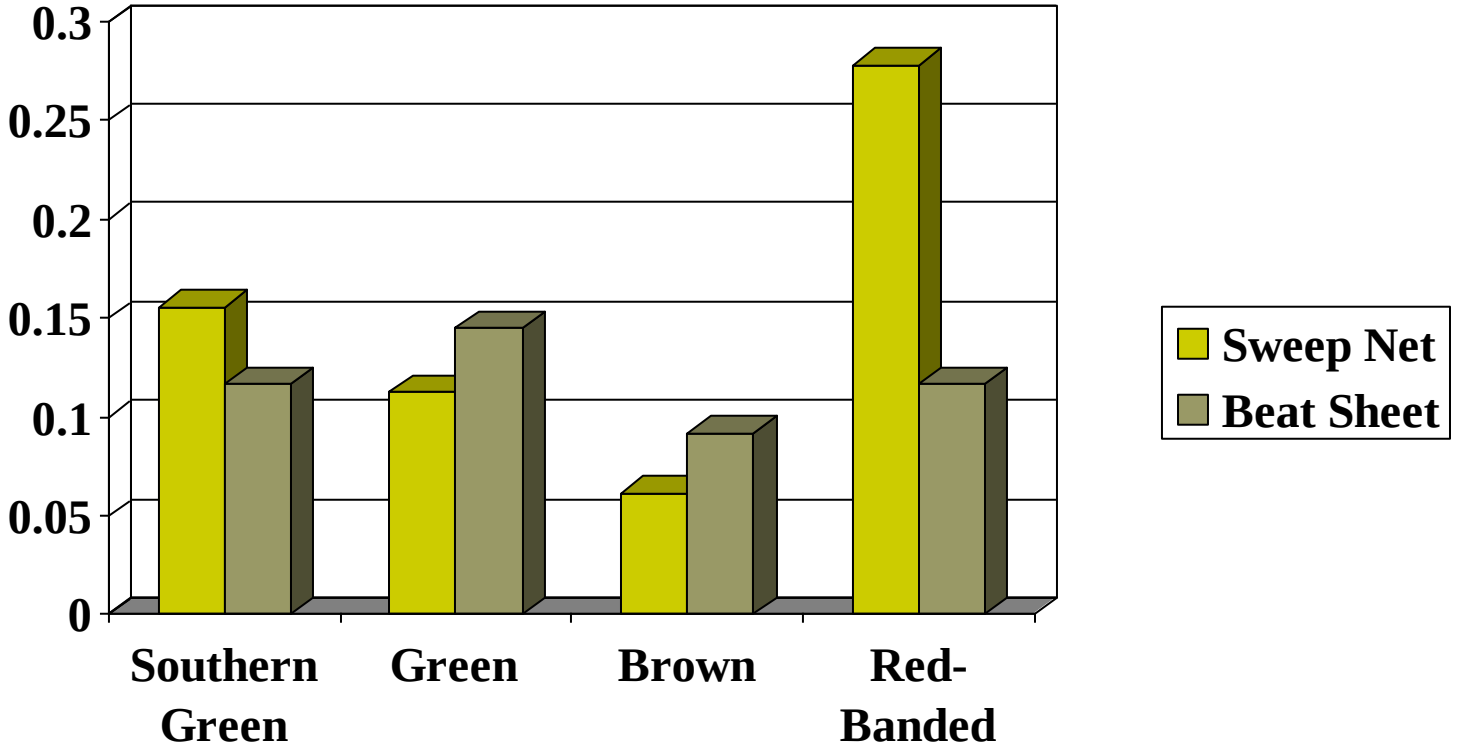
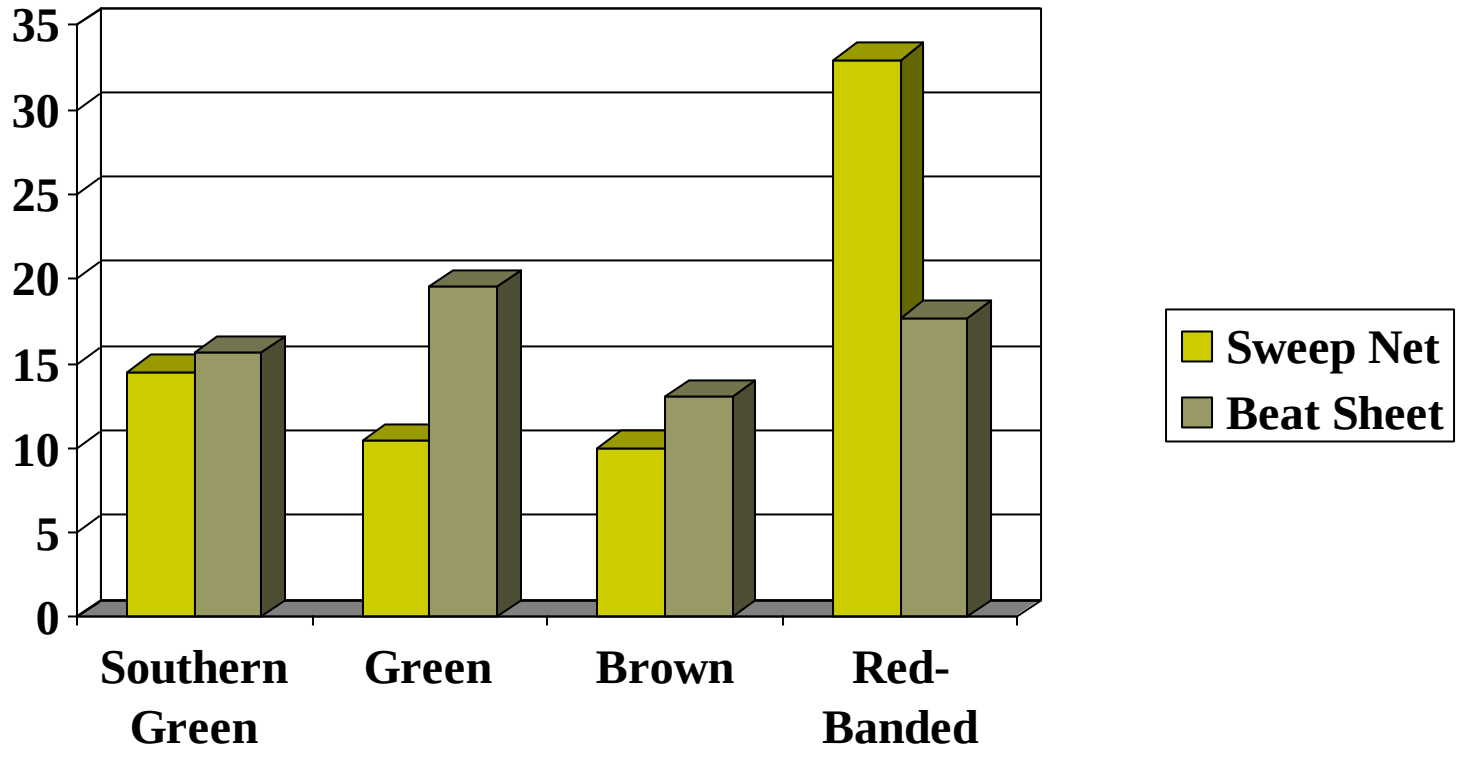


Figure 4. Percent stink bug adults for sweep net and beat sheet sampling methods.



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