Entom

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7. Title

Flies Impacting Livestock, Poultry and Food Safety

12. Investigator Name(s) (Last Name and Initials)

Foil, L. D.

20. Termination Date 09/30/2012	40. Period Covered (mo/da/year): 01/01/2011 TO 12/31/2011

Outputs:

A series of studies determined appropriate targets and target placement for achieving stable fly control with treated targets. Four formal presentations were delivered on fly control: Stable Fly Regional Project meeting, San Antonio, Texas; Symposium on Livestock Insect Management, San Carlos, Brazil; Entomology Society of America meeting, Reno, Nevada; and Tropical Medicine and Hygiene meeting, Philadelphia, Pennsylvania. An outreach activity was conducted over a five day period in Campo Grande, Brazil, in association with stable fly studies. Alsynite traps, sticky sleeves, and an array of targets were shipped to Embrapa Beef Cattle, Campo Grande, Brazil, to be used in demonstration trials. Two Embrapa researchers were instructed on stable fly biology, surveillance and control, and field trips were made to stable fly source locations. A report was prepared as a guideline for stable fly research projects that would contribute to the description of the spatial and temporal aspects of stable fly habitats. The researchers were trained to use the techniques required to complete this objective.

Outcomes/Impacts:

Electric grid studies revealed no differences in the number of stable flies that land on blue, black, or blue/black targets when compared weekly over a one month period. This study will be repeated in 2012 over a longer period and also compared to a study using targets and alsynite traps. A solid black 1sqm target as efficient as a blue/black treated cloth target for stable fly control. These results present major implications for the potential acceptability of using treated targets for stable fly control for cattle producers. The construction of the blue/black target requires sewing, while a single colored target can be assembled with little preparation. At least between 350 stable flies per hour (between 3,000 and 4,000 flies per day) can be killed using a treated target that is randomly placed in pastures on cattle farms during stable fly season. However, a study comparing the catch UK grids near and away from cattle showed that the grids caught 4.3 times more flies when placed near cattle. Randomly placed targets will not be as effective as targets strategically placed around cattle. Studies comparing pasture size and the presence or absence of cattle showed that four targets can be used for pastures up to three acres in size containing cattle. The process achieved a 3-fold increase in the number of flies captured, and presumably would be more efficient in protecting cattle from stable fly attack. Regarding placement for maximum efficiency, treated targets that are placed around cattle for stable fly control should be placed at ground level. Treated targets will have to be placed outside of fence rows or other areas protected from cattle physical damage. The defensive behavior of heifers including stomping of the front legs was reduced by over 50% when six treated targets were placed around five acre pastures. Treated cloth targets will be a viable addition for stable fly control programs. Protecting growing cattle from moderate stable fly infestations has been shown to result in approximately 50 pounds of additional weight gain over a 100 day period, which could result in a sixty dollar difference per head in today's market.

Publications:

No Publications Reported

Participants:

L. Foil (PI), LSU AgCenter.

Livestock entomologist and members of the cattle industry.

Project Modifications:

Nothing significant to report during this reporting period.

Approved (Signature)	Title	Date