ACCESSION NO: 0431547 **SUBFILE:** CRIS
PROJ NO: 8080-21000-030-22S **AGENCY:** ARS 8080
PROJ TYPE: USDA COOPERATIVE AGREEMENT **PROJ STATUS:** NEW
CONTRACT/GRANT/AGREEMENT NO: NOT APPLICABLE
START: 01 SEP 2016 **TERM:** 31 AUG 2021

INVESTIGATOR: LESKEY T C

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AN AREAWIDE BIOINTENSIVE MANAGEMENT PLAN FOR BROWN MARMORATED STINK BUG (BMSB)

OBJECTIVES: The objectives for this project will be to: 1) implement biorational management of brown marmorated stink bug (BMSB) in key specialty and row crops; 2) advance strategies for enhanced biological control of BMSB; 3) assess impact of biointensive management of BMSB populations at landscape scale; and 4) promote adoption and implementation of biointensive tactics for management of BMSB.

APPROACH: We will: 1) Develop pheromone-based treatment thresholds in apple and peach using available commercial traps and lures; 2) Develop treatment thresholds in soybeans using either sweep netting or visual assessments; 3) Evaluate and implement border-based management strategies in apple, peach, and soybean with and without attract-and-kill trees, and in conjunction with treatment thresholds; 4) Develop a decision matrix based on relative risk periods between and across host plants to identify key periods of risk; 5) Examine impact of threshold- and perimeter-based management tactics on presence and abundance of natural enemies in apple, peach, and soybean; 6) In addition to native natural enemies, Trissolcus japonicus, a parasitoid of BMSB, will be evaluated for habitat/host preference and impacts from conventional and biointensive management strategies. Strategies for farms will include those most effective at retention of natural enemies; 7) Mass rearing techniques will be developed and implemented for field release (if a permit is granted); 8) The overall efficacy of the biointensive management program will be evaluated for analysis and modeling of BMSB phenology and abundance across regions and ecosystems; 9) A model will be developed to aid as a predictor of population fluctuations and emergence; and 10) Finally, results will be disseminated at state, regional, and national Extension programs and meetings.