

NATIONAL PEANUT BOARD/SOUTHEAST
PEANUT RESEARCH INITIATIVE
~~Quarterly~~ + Summary
QUARTERLY PROGRESS REPORT FOR WORK
DONE UNDER RESEARCH AGREEMENT

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INSTITUTION: University of Georgia

Project Title: Examining issues associated with the efficacy of two neonicotinoid insecticides (CruiserMaxx[®] and Admire Pro[®]) against thrips on peanut in comparison with Thimet[®]

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Summary

Neonicotinoid insecticides such as imidacloprid (Admire Pro[®]) and thiamethoxam (CruiserMaxx[®]) are beginning to replace old-class broad-spectrum insecticides such as aldicarb (Temik[®]) and phorate (Thimet[®]). Neonicotinoids are preferred due to their efficacy against thrips, ease of application, and low costs. However, recently their efficacy has not been reliable. Reasons speculated included resistance development in thrips among others. In 2015, we assessed the efficacy of neonicotinoid insecticides against tobacco thrips by estimating their LC₅₀ values, and also how those values varied between lab and field populations. Resistance ratios were determined between field and laboratory populations. Results indicated no evidence for resistance against thrips in peanuts. The efficacy of insecticides in relation to application timing was also assessed using peanut leaf tissue residue analysis and bioassays with thrips. Peanut leaf tissue samples were periodically sampled following imidacloprid, thiamethoxam, and phorate treatments and sent for residue analysis. Also, bioassays were conducted with adult thrips and mortality percentages were determined. More experiments were conducted with the larvae to assess how insecticide applications could reduce larval feeding and suppress their development on treated peanut leaflets over time. This information is critical, as tobacco thrips (*F. fusca*) colonizes peanut leaflets effectively, and could also facilitate transmission of TSWV. More research is underway to examine efficacy issues including resistance to neonicotinoids in thrips in peanut.