

**PROGRESS REPORT
TO
N C PEANUT GROWERS ASSOCIATION, INC**

TITLE: Seeking New Solutions to Old Problems of Insect Control in Peanut

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REPORT: There were three main projects in 2023. The projects focused on pests of major concern to North Carolina peanut growers. The first is the lack of a registered product for control of southern corn rootworms since Lorsban (chlorpyrifos) was banned with no grace period to use up existing supplies. We saw the handwriting on the wall back in 2020, so we began some initial trials in 2021, and had reasonable levels of control with non-agricultural formulations of bifenthrin and imidacloprid. We saw similar results with good rootworm control with these products again in 2022 and 2023. These consistent results, however, have not caused companies to consider further development of formulations that would be practical for application in peanuts. At present, there is still no industry support in terms of financial support for these trials.

We also further evaluated the use of a foliar insecticide often used for worms in peanuts to control the southern corn rootworm beetles prior to egg laying. We used indoxacarb (Steward®), which is effective against caterpillars, but also effective against many species of beetles. We varied treatment applications during beetle flight and increased that to three applications and finally the fourth application starting in late June through early August. None of these treatments gave the level of protection we think is necessary for rootworm control in peanuts. A couple of novel insecticides were also evaluated as preventive options and we did see promise with these approaches and we hope the companies continue to pursue development.

The second pest control project was the twospotted spider mite. We obtained additional data on the use of the relatively new product fenpyroximate (Portal®) which has proven itself to be a good option. While there have been some complaints, we now have four years of data and each year the level of control has been good to excellent and it outperforms propargite (Comite II®). We also looked at a new experimental products and these gave excellent spider mite control in peanuts. Since mites have the capacity to quickly develop resistance to pesticides, we need a full toolbox to address this problem.

The remaining pest we focused on was thrips and the ongoing concern of resistance. Our thrips work looked closely at the performance of imidacloprid (Admire Pro®) and we saw “good” performance. We are not ready to pull our recommendation for this product but performance does not appear to be as good as it once was. Acephate, despite reports of thrips resistance, still performs well as a 3 week post plant foliar treatment. We also further investigated for the 4th year, the use of oxamyl (Vydate® C-LV) and saw good performance with this product.

Finally, we continued to evaluate caterpillar control in peanuts and we further confirmed the need to stay away from the use of pyrethroid insecticides. The resistance to pyrethroids and the presence of budworms make the use of the newer “worm” insecticides a better choice for a higher level of control and the reduced risk of retreating or inducing spider mite infestations.

IMPACT STATEMENT

This funded project has addressed the current issues in peanut insect management. We have addressed emerging insect management concerns by developing new approaches with old and new products. This helps peanut farmers reduce the risk of product failure, avoid the need for retreatment, and obtain cost effective control of key insect pests. We have also made progress in finding solutions and alternatives to chlorpyrifos for southern corn rootworm control in peanuts. This has been a major gap in our overall pest management strategy that we are aggressively pursuing and developing new options. In addition, we continue to add new options to the spider mite management toolbox which is valuable due to limited product access and potential resistance issues.