

Report to the Georgia Agricultural Commodity Commission for Peanuts-2015 Adaptation of New Fungicides and Application Strategies for Control of Early and Late Leaf Spot of Peanut

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Recent promising results with in-furrow applications of Velum Total nematicide/fungicide for nematode and thrips control, prompted us to study the effects of Velum Total on early season leaf spot epidemics in multiple experiments in 2014-2015. As previously observed, in-furrow applications of Proline provided excellent control of leaf spot for approximately 30 days, whereas Velum Total provided equal or better suppression for longer duration.

Multiple trials were conducted in 2015 to compare the new BASF product Priaxor to Headline for leaf spot control. When applied at the same time and left for extended intervals before subsequent applications, Priaxor was superior to Headline for leaf spot control. Similarly, when applied at similar times integrated into a similar fungicide regime, Priaxor or superior to Headline. Based on 2015 results, direct substitution of Priaxor for Headline should work well for leaf spot control. In these and other trials, the strobilurin fungicides Headline and Abound, alone did not perform as well as expected based on previous years' results. In 2015 we also had multiple trials with the new fungicide "Elatus", which includes azoxystrobin. Elatus performed very well for leaf spot control under heavy late-season pressure in fields where full rates of Abound alone did not. Although resistance to the strobilurin fungicides has not been demonstrated for the leaf spot pathogens, it is very much suspected. The mixture of fungicides with two different modes of action, such as those used in Priaxor or Elatus may help prolong the efficacy of a fungicide even when resistant populations of leaf spot fungi develop to one of the fungicides in the mixture.

A leaf spot trial was conducted at Plains in 2015 to compare fungicide efficacy in situations where leaf spot infections had already occurred. Similar trials had been conducted since 2009. Across "delayed application" tests from 2009-2014, applications of Proline alone or Proline + Topsin, Priaxor, and Alto + Topsin were among the best treatments evaluated. Although Elatus has better protectant activity than systemic "kickback" activity, that fungicide performed well in the 2015 trial. These results indicate that although Headline performance has diminished in our plots, fungicides, and especially fungicide mixtures are available that can help slow leaf spot epidemics that for whatever reason have gotten out of control.

Trials were also conducted to evaluate the relative resistance/tolerance of available cultivars to late leaf spot. In 2015, the cultivars Georgia-13M and TUFRunner 511 had considerably worse leaf spot than Georgia-06G. New cultivars Georgia-14M and TIFNV HiOL both showed considerable resistance to late leaf spot, in addition to their resistance to TSWV and root-knot nematodes. In the thesis research of Mr. Brian Jordan, across several planting dates, final leaf spot severity in Georgia-12Y was less than that of Georgia-06G, and yields were higher for Georgia-12Y. Both cultivars had heavier leaf spot with later planting dates. The combination of reduced leaf spot with early planting and apparent tolerance in Georgia-12Y show promise for reducing fungicide applications needed for this cultivar as well as potential for use in organic production situations when fungicide use is much more limited.