

Influence of Variety Selection on Leaf Spot Management with Various Fungicide Programs in North Carolina

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Determining effectiveness of fungicide programs based on cultivar resistance to pathogens is important in establishing recommendations to farmers. Research was conducted in North Carolina during 2021 at three locations to compare leaf spot incidence (percentage of leaves with lesions), canopy defoliation caused by leaf spot disease, and yield of the Virginia market type cultivars Bailey II, Emery, and Sullivan when five fungicide programs for leaf spot and southern stem rot were used. Fungicide programs included: 1) non-treated control, 2) chlorothalonil followed by (fb) Miravis plus Elatus (4 weeks of control) fb Provost Silver fb chlorothalonil, 3) bi-weekly applications of chlorothalonil fb Provost Silver fb Revytek fb Lucento fb chlorothalonil, 4) bi-weekly applications of chlorothalonil fb chlorothalonil plus tebuconazole (3 bi-weekly sprays) fb chlorothalonil, and 5) chlorothalonil fb chlorothalonil plus tebuconazole 4 weeks later fb chlorothalonil 4 weeks later. Visual estimates of percent leaf spot incidence and defoliation caused by leaf spot were recorded prior to digging and vine inversion using a scale of 0 to 100%. Pod yield was also recorded.

When pooled over the three locations, applying fungicide increased control of leaf spot and protected yield compared with non-treated peanut. Generally, Bailey II was affected less by leaf spot than Sullivan, and both Bailey II and Sullivan expressed greater resistance to leaf spot than Emery. As expected, the least effective fungicide program (treatment 5 listed above) was when chlorothalonil was applied alone or with tebuconazole when the interval between sprays was 4 weeks rather than 2 weeks. In contrast, the fungicide program that included chlorothalonil alone or with tebuconazole was the most effective fungicide program when fungicides were applied bi-weekly (treatment 4 listed above). Fungicide programs including Miravis (treatment 2 listed above) or Revytek and Lucento (treatment 3 listed above) suppressed leaf spot and protected yield but not as well as the chlorothalonil/tebuconazole bi-weekly program.