Sensitivity of *Athelia rolfsii* from Commercial Peanut Fields in Georgia to Tebuconazole and Flutolanil

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For over 20 years in Georgia peanut production, the control of *Athelia rolfsii* has been largely dependent on fungicides, with flutolanil and tebuconazole among the most widely used. With the frequent application of these fungicide classes to peanuts and rotational crops, the development of fungicide resistance has been an issue of concern. Through in vitro assays, we assessed the sensitivity of 256 *A. rolfsii* isolates to flutolanil and tebuconazole using the discriminatory doses 0.03 ppm and 0.02 ppm, respectively. The screened isolates were collected from 14 different locations across Georgia (research sites and grower fields) where *A. rolfsii* control was sometimes less than expected. Significant differences in percent inhibition for both fungicides were seen across the 14 locations, demonstrating variance in fungicide sensitivity between grower fields. The range of percent inhibition for tebuconazole across all locations was 14.78-21.36 (LSD=4.19), with a mean value of 17.96, whereas the range for flutolanil was 15.39-24.98 (LSD=3.61), with a mean value of 20.46. Flutolanil percent inhibition had the most variability and consisted of six significantly different groups, whereas tebuconazole only contained two significantly different groups.

To assess the possibility of fungicide resistance developing over time, our results were compared to a similar study conducted in Georgia in 1998 that used the same fungicides and discriminatory doses. In this study, the average mean percent inhibition for flutolanil and tebuconazole was 30.08 and 28.07, respectively. Our assessment shows a reduction in average percent inhibition of 32.0% for flutolanil and 36.0% for tebuconazole over the past 22 years, demonstrating a significant loss in fungicide sensitivity over time. The implications of this change for disease control in the field are uncertain, but need to be explored further.