MONITORING OF SILVERLEAF WHITEFLY POPULATIONS IN GEORGIA: RESULTS OF A TWO-YEAR STUDY

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Abstract

Whitefly populations were monitored weekly at 125 sites throughout southern Georgia using yellow sticky cards from January 2018 through December 2019. Although each year was different in terms of weather, first buildup of whitefly populations started in early to mid-July. Populations rapidly increased during August and September and then declined in October and November. While a sharp decline was evident in October of 2018 as a result of Hurricane Michael, the decline in 2019 was less dramatic. Overall, the whitefly population was about four times higher in 2019 compared to 2018. Highest captures generally occurred in Tift, Colquitt, Worth and Ben Hill Counties. Analysis conducted to reveal the hot-spots or traps with high density of captures indicated that exact trap locations were inconsistent between years. More whiteflies were captured on traps located adjacent to vegetable and cotton fields; conversely, fewer whiteflies were captured on traps located near grassland or pastures. A comparison of trap height indicated that traps placed at approximately 0.5 feet above ground captured as many as four times more whiteflies than the traps placed at 4.5 feet above ground. Silverleaf whitefly, Bemisia tabaci, was the most abundant species captured, but at least four other whitefly species were observed on the traps. Out of the four others, bearberry whitefly, Teraleurodes ursorum, was found to be widely present in the sampled area. Our research shows the diversity of whiteflies in the agricultural landscape of South Georgia, and underscore the importance of proper identification of pest species. Since the adults of several whitely species look similar to the target species, Bemisia tabaci, one should be aware of the possibility of contamination while collecting data on whitefly capture using yellow sticky cards.