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The sugarcane aphid (Hemiptera: Aphididae): An invasive pest of sorghum in North America

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In 2013, the sugarcane aphid, *Melanaphis sacchari* (Zehntner) (Hemiptera: Aphididae), a new invasive pest of sorghum in North America, was confirmed on sorghum in 4 states and 38 counties in the United States. In 2016, it was reported on sorghum in 19 states and over 400 counties as well as all sorghum-production regions in Mexico. Ability to overwinter on living annual and perennial hosts in southern sorghum-producing areas and wind-aided movement by alate aphids appears to be main factors in its impressive geographic spread in North America. Morphological characteristics of the sugarcane aphid include dark tarsi, cornicles, and antennae, allowing easy differentiation from other aphids on the crop. Sugarcane aphid damages sorghum by removing sap and covering plants with honeydew, causing general plant decline and yield loss. Honeydew and sooty mold can disrupt harvesting. The aphid's high reproductive rate on susceptible sorghum hybrids has resulted in reports of yield loss ranging from 10% to greater than 50%. In response, a combination of research-based data and field observations has supported development of state extension identification, scouting and treatment guides that aid in initiating insecticide applications to prevent yield losses. Highly efficacious insecticides have been identified and when complemented by weekly scouting and use of thresholds, economic loss by sugarcane aphid can be minimized. Some commercial sorghum hybrids are partially resistant to the aphid and plant breeders have identified other lines with sugarcane aphid resistance. A very diverse community of predators and parasitoids of sugarcane aphid has been identified and their value to limit sugarcane aphid population growth is under investigation.

Biography

Robert Bowling has completed his PhD from Kansas State University and MS from Kansas State University Department of Entomology. He is the Assistant Professor of Texas A&M University, USA.

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