ASSCT 2019

Abstract for oral presentation

Detection of *Sugarcane yellow leaf virus* and *Sugarcane mosaic virus* in arthropods collected from corn, sorghum and sugarcane in Florida

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In Florida, sugarcane (*Saccharum* spp.), Columbus grass (*Sorghum almum*), and grain sorghum (*S. bicolor*) are three hosts of sugarcane yellow leaf virus (SCYLV) and sugarcane mosaic virus (SCMV). SCYLV is the causal agent of yellow leaf disease and is mainly vectored by the sugarcane aphid (*Melanaphis sacchari*). SCMV, the causal agent of mosaic disease, is spread by several aphid vectors. The objective of this study was to investigate the occurrence of SCYLV and SCMV in arthropods collected in the Everglades Agricultural Area in order to better understand the epidemiology of these viruses. Reverse transcription-polymerase chain reaction (RT-PCR) or nested RT-PCR was used to detect both viruses in plants and arthropods. SCYLV and SCMV were detected in sugarcane, Columbus grass, and grain sorghum. SCYLV was also found in *M. sacchari*, *Oligonychus grypus* (spider mite), and *Sipha flava* (yellow sugarcane aphid) but SCMV was not detected in any of the tested arthropods. Populations of *M. sacchari* collected from sugarcane belonged to haplotype H3 whereas populations colonizing Columbus grass and grain sorghum belonged to haplotype H1. This suggested that cross-infections of SCYLV between sugarcane and the two sorghum species do not frequently occur under field conditions. Capacity of the spider mite and the yellow sugarcane aphid to transmit SCYLV needs to be investigated. Vectors of SCMV in Florida are different from those of SCYLV, and remain to be identified.