ABSTRACT

EPG WAVEFORMS OF SHARPSHOOTERS CORRELATED WITH FIRST PENETRATION OF XYLEM

Sharpshooters (Hemiptera, Cicaellidae) are vectors of *X. fastidiosa*, a xylem-borne bacterium responsible for Pierce's Disease and other economically important crop diseases. Salivary sheaths left behind in the plant tissue were correlated with specific EPG (Electrical Penetration Graph) waveforms. Waveforms characterized for specific tissues and stylet (mouthpart) activities lead to a better understanding of feeding behaviors. A previous EPG study of the glassy-winged sharpshooter (GWSS), an important non-native Pierce's Disease vector in California, correlated multiple feeding behaviors, including ingestion from xylem. The current study focused on correlating ingestion events, separated by non-ingestion waveforms called interruptions, with specific cell types for native smoke-tree sharpshooter (STSS), a close relative of GWSS. In STSS, ingestion was found to be behavior that is highly associated with xylem by the second ingestion event, slightly earlier than in it occurs in GWSS.

Wendy Jean Holmes
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