KAS AGRICULTURAL SCIENCES

Spotted wing Drosophila, *Drosophila suzukii,* larvae in blackberries bordered by native perennial plants or pasture and treated with biologically based insecticides. SATHYA GOVINDASAMY\*, JOHN D. SEDLACEK, KAREN L. FRILEY, E. KYLE SLUSHER, MAMATA BASHYAL and MEGAN MCCOUN. Land Grant Program, Kentucky State University, Frankfort, KY 40601

Spotted Wing Drosophila (SWD), *Drosophila suzukii*, is a new invasive pest of small fruit and fruit tree crops in Kentucky. Female SWDs insert their eggs inside undamaged ripening and ripe blackberries. The larvae hatch, and eat the berry from inside. It has been demonstrated that planting flowering plants and grasses near crops can enhance beneficial insect populations. The objective of this research was to enumerate SWD larvae present in blackberries bordered by native plants or pasture and treated with Grandevo® or Entrust®, two products listed by the Organic Materials Review Institute that can be used in organic systems. This research was conducted at Kentucky State University’s Harold R. Benson Research and Demonstration Farm in Franklin County, Kentucky. Blackberry plots were bordered by native perennial plants or pasture. Treatments included Grandevo® foliar spray, soil spray, foliar and soil spray, Entrust® foliar spray and a control using a water foliar spray. Grandevo® and Entrust® were sprayed every other week beginning 7-30 for a total of three times. Grandevo® was rotated with Entrust® while Entrust® was rotated with PyGanic®. Ten berries were collected from each treatment plot weekly and taken to the laboratory. Berries were placed in a sugar solution and the SWD larvae were then counted. Fewer larvae were found in blackberries bordered by native perennial plants than those bordered by pasture overall and later in the growing season when populations of SWD were higher. Results will be discussed relative to native perennial plant bloom periods.

Keywords: spotted wing Drosophila, blackberries, native perennial plants, beneficial insects