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Comparing the abundance of beneficial insects in blackberry plots bordered by native perennial plants and pasture and sprayed with biologically based insecticides. MAMATA BASHYAL\*, JOHN D. SEDLACEK, KAREN L. FRILEY, E. KYLE SLUSHER, SATHYA GOVINDASAMY and MEGAN MCCOUN. Land Grant Program, Kentucky State University, Frankfort, KY 40601

Conservation biological control is a way to enhance crop production by providing habitat for beneficial insects. It has been found that non-crop plants such as flowering plants and native perennial grasses planted near crops can enhance populations of natural enemies. The spotted wing Drosophila (SWD), *Drosophila suzukii*, is a new pest of soft-skinned fruit in Kentucky. The female inserts eggs inside ripening and ripe fruit. The larvae hatch and eat the fruit from the inside. The objective of this research was to identify and quantify beneficial insects in blackberry plots bordered by native perennial plants or pasture and treated with Grandevo® or Entrust® which are listed by the Organic Materials Review Institute as treatments for organically grown blackberries. This research was conducted at Kentucky State University's Harold R. Benson Research and Demonstration Farm in Franklin County, Kentucky. Treatments consisted of Grandevo® foliar spray, soil spray, foliar and soil spray, Entrust® foliar spray and a water foliar spray, which was the control. Grandevo® and Entrust® were sprayed 7-30, 8-10 and 8-25. Five sticky traps were placed in each border row and in the middle of each treatment in the blackberry rows. Traps were collected and reset weekly. Traps were brought to the laboratory for identification and quantification. Beneficial insects found included lady beetles, minute pirate bugs, big-eyed bugs, syrphid flies and lacewings. The relative abundance of minute pirate bugs was greater in blackberry plots bordered by native perennial plants than in plots bordered by pasture.

Keywords: blackberries, spotted wing Drosophila, conservation biological control, beneficial insects