

SUBLETHAL EFFECTS OF INSECTICIDES ON PREDATOR FEEDING BEHAVIOR: A GUT CONTENT EVALUATION

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ABSTRACT. A field study was conducted to evaluate the lethal and sub-lethal effects of insect growth regulators (IGR) and conventional insecticides on predator foraging behavior. Management systems included two whitefly growth regulators (buprofezin and pyriproxyfen), a rotation of conventional insecticides, and an untreated control. The lethal impact of each treatment regime was monitored by measuring the abundance of predators after exposure to the various treatment regimes. Population densities of most predator species examined were significantly lower in plots treated with conventional insecticides compared with the untreated control. The IGRs caused reduction in some predator species compared with the untreated controls. The sublethal impact of the various insecticide treatments was then measured on surviving predator populations using a whitefly-specific gut content ELISA. The gut contents of over 33,000 predators representing over 25 genera were examined for whitefly prey remains. Generally, there were very few differences in the proportions of predators feeding on whiteflies among the various insecticide regimes.