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MANAGING WESTERN FLOWER THRIPS USING A COMBINATION OF IMPATIENS WITH RESISTANCE AND REDUCED-RISK INSECTICIDES

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In 2000-2001, two greenhouse experiments were conducted to determine if impatiens, *Impatiens wallerana* Hook. f., cultivars demonstrated resistance to western flower thrips, *Frankliniella occidentalis* (Pergande), feeding and if combining resistant cultivars of impatiens with the insecticides spinosad and methiocarb at different rates (label rate, 1/2 label rate, and 1/4 label rate) negatively affected western flower thrips (WFT) feeding. Individual insect-free plants of eight impatiens cultivars were inoculated with laboratory-reared WFT. Thrips were allowed to feed on the impatiens plants for a specified time period (14 d in 2000 or 3 d in 2001) before exposure to spray treatments; non-inoculated unsprayed, deionized water, and spinosad or methiocarb at different rates. Visual evaluations of feeding damage, percent leaf area damaged, and thrips counts were the variables measured. Results from the two experiments indicated that 'Cajun Carmine', plants not treated with insecticides had injury levels comparable to plants treated with spinosad and methiocarb. In comparison with the other cultivars tested, 'Cajun Carmine', and 'Cajun Lilac' had lower numbers of WFT. Spinosad and methiocarb application rates as low as 1/4 label rate reduced thrips feeding injury. The number of WFT on impatiens treated with spinosad and methiocarb were similar to the non-inoculated unsprayed control. The impatiens cultivar 'Cajun Carmine' in combination with treatments of either spinosad or methiocarb resulted in less WFT injury than a susceptible impatiens cultivar, 'Impulse Orange' given the same insecticide treatments.