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CHARACTERIZING THE DIVERSITY OF DOMESTIC POPULATIONS OF *FRANKINIELLA OCCIDENTALIS* (PERGANDE) AND THEIR POTENTIAL IMPACT ON FLORICULTURAL CROPS

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Frankliniella occidentalis (Pergande), western flower thrips (WFT), obtained from native (N), laboratory (LC), or greenhouse (GH) environments in California (CA), Illinois (IL), Massachusetts (MA), Nevada (NV), or Texas (TX) were evaluated for feeding aggressiveness on *Impatiens wallerana* Hook.f. and for spinosad resistance on *Gerbera jamesonii* Bol. ex. Adlam. In one experiment, insects from seven populations, CA-N2, CA-N3, CA-LC1, IL-LC1, TX-LC1, CA-GH1, and IL-GH1, were used to assess feeding aggressiveness or to initiate a laboratory colony. Feeding aggressiveness was assessed 0, 7, 14, and 21 weeks after collection (WAC) using a digital image analysis system to determine the percent leaf area damaged by feeding. Damage varied the most at 0 WAC and variation decreased until 21 WAC. Declining damage was attributed to the standardization of fitness in the laboratory colonies or possibly to limited genetic diversity within the colonies reducing insect fitness over time. In a second experiment, nine populations, CA-N2, NV-N1, NV-N2, CA-GH1, IL-GH1, TX-GH1, IL-LC1, MA-LC1, and TX-LC1, reared for 4 months in the laboratory varied in percent survival when flowers inoculated with 25 WFT were sprayed with spinosad at label (0.81 mL•L⁻¹), half label (0.41 mL•L⁻¹), deionized water, or no spray. At the 0.41 mL•L⁻¹ rate, CA-GH1 and IL-GH1 populations had the highest survival at 8.8 and 5.0%, respectively. At the 0.81 mL•L⁻¹ rate, 8.8% of recovered insects from IL-GH1 survived which was significantly more than any other colony. Feeding aggressiveness of WFT populations on impatiens leaves varies. Some resistance to spinosad exists in greenhouse populations of WFT.