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RESPONSE OF SIX CITRUS GENOTYPES TO PROHEXADIONE-CA

E. W. Stover*
U. of Florida, IRREC, 2199 S. Rock Rd., Ft. Pierce, FL 34945 USA

Control of vegetative growth is a significant problem in commercial production of Florida citrus. Citrus is now planted at higher densities to encourage higher early production, which increases the cost of containing vegetative growth as plantings mature. In many orchards, more aggressive pruning results in lower mature yields than were realized prior to containment pruning. In addition, competition between vegetative growth and fruit development may sometimes compromise fruit set in parthenocarpic cultivars. Several GA biosynthesis inhibitors have been evaluated for vegetative growth reduction. The compound Prohexadione-Ca (P-Ca) has been approved for use in several fruit species, and was examined for effects on six citrus genotypes (Duncan grapefruit, Sun Chu Sha mandarin, *C. macrophylla*, *C. aurantium*, Swingle citrumelo, and Smooth Flat Seville). In two greenhouse experiments, potted young trees were sprayed with 500 ppm P-Ca plus 0.05% Silwet with or without pH adjusted to 3.5. In experiment 1, either a single or double application of pH adjusted P-Ca decreased shoot growth across all genotypes within a month of the first treatment, but only a double application of P-Ca at 4-week intervals reduced shoot growth 3 months after application, with a 38% reduction in shoot length across all genotypes. In experiment 2, all P-Ca treatments reduced shoot growth in the first three months after treatment, with a 40% reduction across all genotypes from a double application of pH adjusted P-Ca at 4-week intervals.