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USE OF GA₃ TO ADVANCE MATURITY OF 'HASS' AVOCADO FRUIT FOR EARLY HARVEST

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Michoacán and Nayarit are, respectively, the largest and second largest avocado producing states in Mexico. The main harvest of the 'Hass' avocado in both states is concentrated during November to December, which saturates the market and reduces the price of fruit and grower income. The goal of the research was to manipulate vegetative and reproductive growth of 'Hass' avocado with properly timed foliar-applied plant growth regulators (PGRs) to shift the date of flowering and harvest to the period before or after the main harvest. Effects of canopy sprays of gibberellic acid (GA₃) or prohexadione-calcium (a gibberellic acid biosynthesis inhibitor) applied at different stages of tree phenology on inflorescence development, time of anthesis, and date of legal maturity and harvest of 'Hass' avocado fruit, yield and fruit size were quantified. PGR treatments had no effect on time of anthesis. However, a single application of 50 mg·L⁻¹ GA₃ in July (approx. four months before the main harvest) resulted in 'Hass' avocado fruit reaching legal maturity (mesocarp dry matter ≥21.5%) 30 days earlier than those of untreated control trees with no negative effect on yield or fruit size.