USES OF PGRS IN CITRICULTURE

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Plant growth regulators (PGRs) are used in fresh and processed citrus fruit production to maintain or increase grower and/or industry profitability. Preharvest application of auxins such as NAA have been used to thin fruitlets and improve size of certain fresh citrus types, whereas 2,4-D can be used to reduce preharvest drop of mature fruit. Gibberellins such as GA_3 delay rind aging and extend the harvest period, thereby improving fruit size. Some uses for GA_3 in improving fruit set and juice yield have been reported. Postharvest applications of PGRs in citrus include applications of 2,4-D for 'button' retention in lemons, GA_3 for delaying rind senescence, and ethylene for degreening. Recent work has demonstrated the potential for the abscission agent 5-chloro-3-methyl-4-nitro-1*H*-pyrazole to improve mature fruit removal when used with mechanical harvesting, and to maintain the following year's yield when mechanically harvesting late season Valencia. In all cases, an understanding of environmental, timing and application effects are crucial to successful management of PGRs and to maximize economic benefit.