

## DO HORMONES PLAY A ROLE IN ALTERNATE BEARING IN CITRUS?

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### ABSTRACT

Whereas climatic events initiate alternate bearing, a heavy on-crop followed by a light off-crop, it is perpetuated by endogenous tree factors. The mechanism and underlying physiology by which fruit influence return bloom of citrus was unresolved. Fruit were removed from individual shoots monthly or from entire on-crop 'Pixie' mandarin trees during periods critical to shoot initiation (summer) and phase transition (winter). Fruit removal provided clear evidence that the inhibitory effect of fruit on return bloom was greatest during the summer. The on-crop reduced summer-fall shoot growth and spring bud break on the one-year-old wood of fruit-bearing parent shoots. Buds collected during the summer from on-crop 'Pixie' mandarin trees were characterized by high indoleacetic acid and low isopentenyladenosine concentrations compared to buds from off-crop trees. The starch level of the buds was not affected. Inhibition of summer-fall vegetative shoot growth of on-crop trees appears to be due to a mechanism similar to apical dominance, not a lack of available carbohydrate.

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