

## **YIELD BENEFITS DERIVED FROM TIMING SOIL-APPLIED FERTILIZER TO THE PHENOLOGY OF THE 'HASS' AVOCADO**

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Soil fertilizers were applied at key stages in tree phenology when nutrient demand was likely to be high in order to stimulate a specific physiological process that increases yield, fruit size or fruit quality, such that the fertilizer application results in a net increase in grower return, even when the tree is not deficient in the nutrient by standard leaf analyses. Applying N to the soil at anthesis, fruit set and initiation of the spring vegetative flush (April) increased yield and yield of commercially valuable large size fruit over strategies supplying an equal or greater amount of N to trees in orchards with or without soil N reserves. In contrast, trees receiving soil-applied NPK in July (to target "June" drop for the current crop, rapid N and K uptake by mature fruit from the previous spring bloom and development of the summer vegetative flush) and again in August (to target exponential fruit growth of the current crop, abscission of mature fruit, and inflorescence initiation for next year's crop) had greater total yields and yields of commercially valuable large size fruit than trees receiving twice as much NPK in more frequent applications. In three separate experiments, properly timing soil-applied fertilizer was a cost-effective means to increase total yield, yield of commercially valuable large size fruit and grower net income.