

# Impact of HLB on Fate of Fruit

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HLB severity is associated with small fruit sizes and lower fruit numbers at harvest. We have reported that small fruit are more likely to drop during pre-harvest fruit drop. Unfortunately, management practices suggested to improve fruit size or reduce drop have had mixed results. So, before we start looking for ways to increase fruit size and number, we need to step back and understand when and why differences in size and retention occur. To do this, we are performing a survey of fruit development in 'Valencia'. We are following fruit on mildly

and severely symptomatic trees from bud to harvest. So far, we have observed that buds from mildly HLB-affected trees are more likely to set fruit than those from severely HLB-affected trees. Mild trees also have an overall higher rate of flowering and fruit set suggesting HLB affects fruit number very early on. Similarly, small differences in fruit diameter in mid-June corresponded to significant differences later in the season. This suggests HLB is affecting fruit size early on as well. We are also exploring the role of hormones in pre-harvest

fruit drop and June Drop to look for similarities between the two abscission processes. We have identified several hormones that may be involved in June Drop and pre-harvest fruit drop. Understanding which hormones are involved will help determine what plant growth regulators (PGR) may be helpful in reducing drop. Having a better idea of when differences occur will help in developing application schedules for PGRs, fertilizers, irrigation, etc. This study will lay the foundation for such future work.

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