

Impact of Oak Mulch on Florida Flatwoods Soil Characteristics and Nutrient Uptake of HLB-affected Citrus

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With no cure for HLB available, searching for alternative mitigation strategies is an urgent priority for a sustainable citrus industry. Anecdotal reports indicated citrus trees growing in close proximity to oak trees have reduced HLB symptoms. As a result, the use of oak mulch as an HLB management strategy has increased in recent years. Interestingly, no studies have investigated the impact of oak mulch on HLB-affected citrus trees or oak mulches' impact on

soil characteristics. Therefore, this study was created to (1) to study the capability of oak mulch to contain and suppress CLAs and (2) to measure the effect of oak mulch on soil characteristics and nutrient uptake in HLB-affected trees. Three inches of oak mulch were applied to trees once a year and the control trees had no mulch applications. After two years, oak mulch treated plots generally had higher soil phosphorus (P), potassium (K), and magnesium

(Mg) as well as higher soil moisture content and increased root density. Additionally, mulch treated plots had improved soil structure and biological activity compared to non-mulched plots. However, no differences in leaf Ct value and leaf P, K, and Mg content were observed. These results suggest that oak mulch improves soil characteristics but does not reduce HLB symptoms. Data collection will continue until 2022.

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