

# Cover Crops to Improve Soil Fertility and Citrus Tree Health in the Indian River District

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**Summary:** Citrus production in southeast Florida faces significant hurdles due to the prevalent sandy and low fertility soils. Historically, cover crops were used in Florida citrus groves to increase soil organic matter, plant available nutrients, and other soil quality. However, there is a lack of recent research regarding how quickly and to what extent cover crops impact both soil and tree health in the age of huanglongbing (HLB). In the current study, we examined the impact of cover crops on soil nutrients and tree health for 2.5 years

in multiple commercial citrus groves in the Indian River District. Although cover crops did improve soil nitrate, phosphorus, and potassium, these improvements were not consistent across different groves. Additionally, no impacts on canopy volume and HLB titer were detected. Overall, the inconsistencies in soil fertility impacts are likely due to varying levels of cover crop germination and growth in the different groves. Lastly, the short time frame of this study (three years) is likely not long enough to see significant benefits to tree health.

Field trials are ongoing and additional research is being conducted on legume cover crop species selection for the Indian River District.

## Take Home Message:

- Cover crops slightly improved soil nitrate, phosphorus, and soil potassium contents.
- No tree growth and health improvements were observed.
- Soil and tree health benefits from cover crops likely takes more than three years.

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