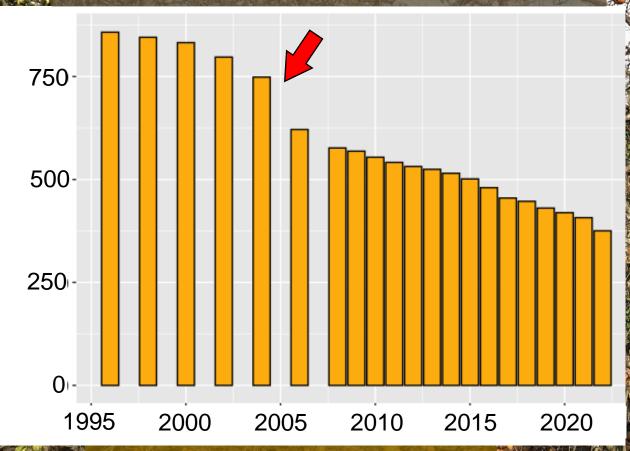
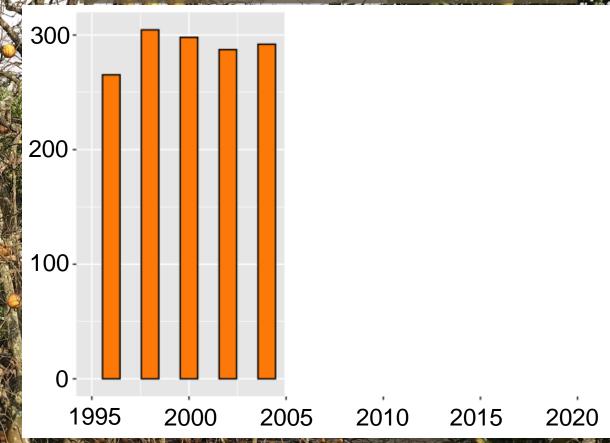


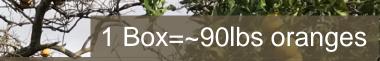
Acres of Citrus (Thousands) Boxes of citrus (Millions)



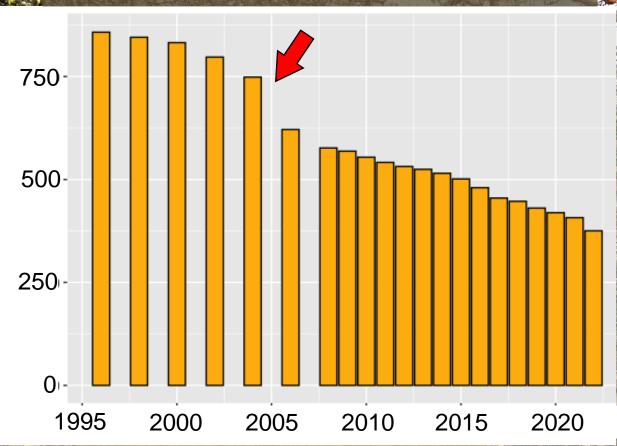


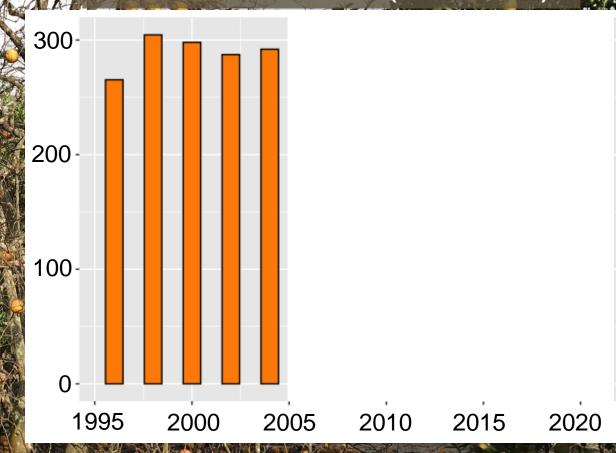
2004: 748,555 acres

2022: 375,302 acres



Acres of Citrus (Thousands) Boxes of citrus (Millions)





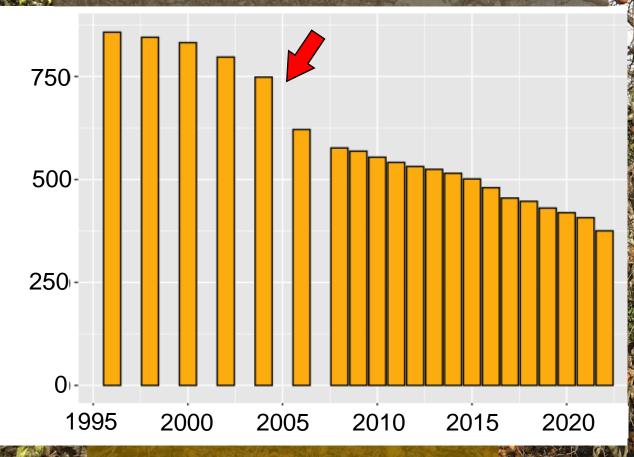
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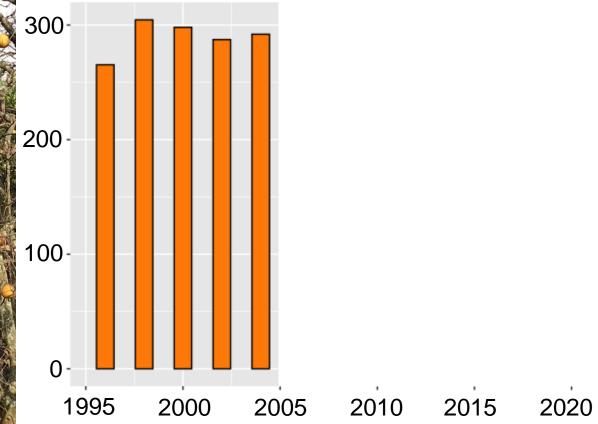
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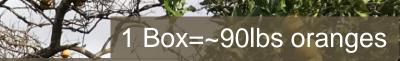




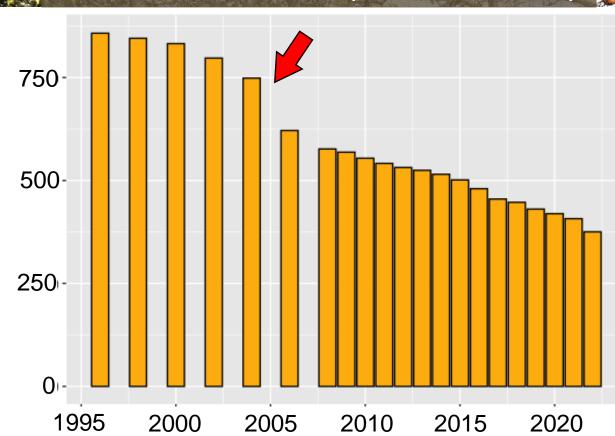
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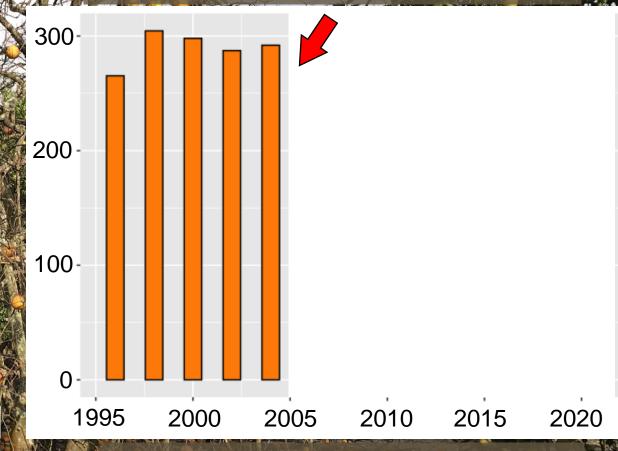
2004: 292 Million boxes



Acres of Citrus (Thousands)



Boxes of citrus (Millions)



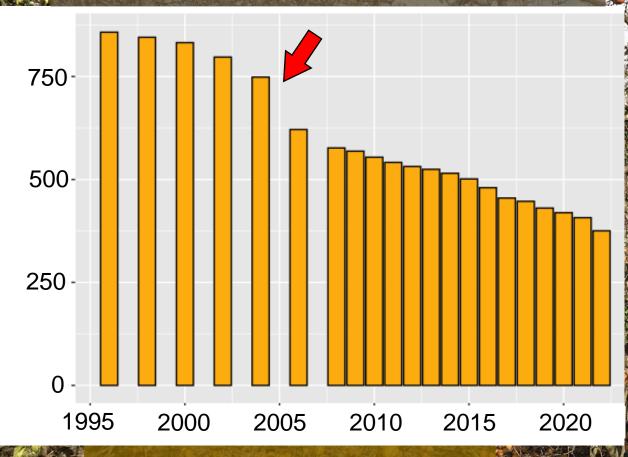
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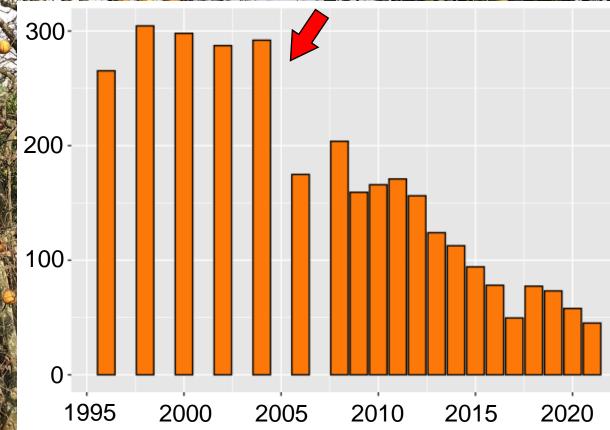
2022: 375,302 acres

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Acres of Citrus (Thousands) Boxes of citrus (Millions)



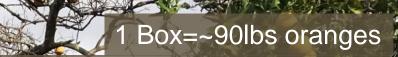




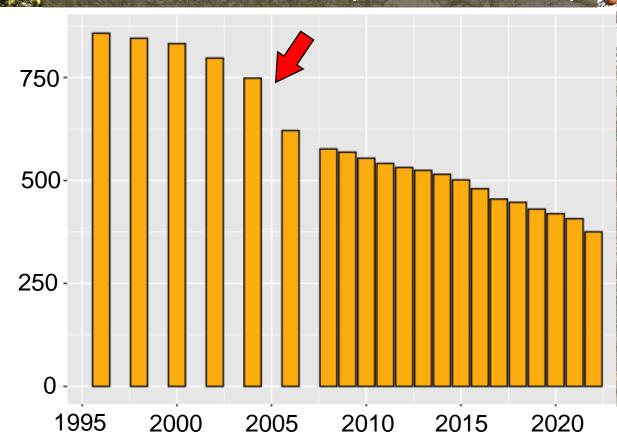
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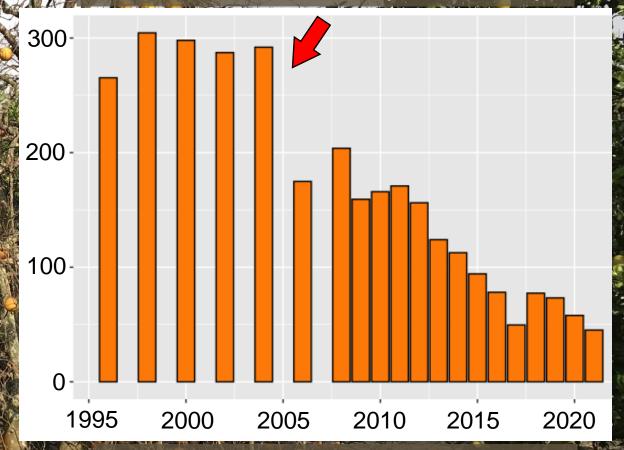
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Acres of Citrus (Thousands) Boxes of citrus (Millions)

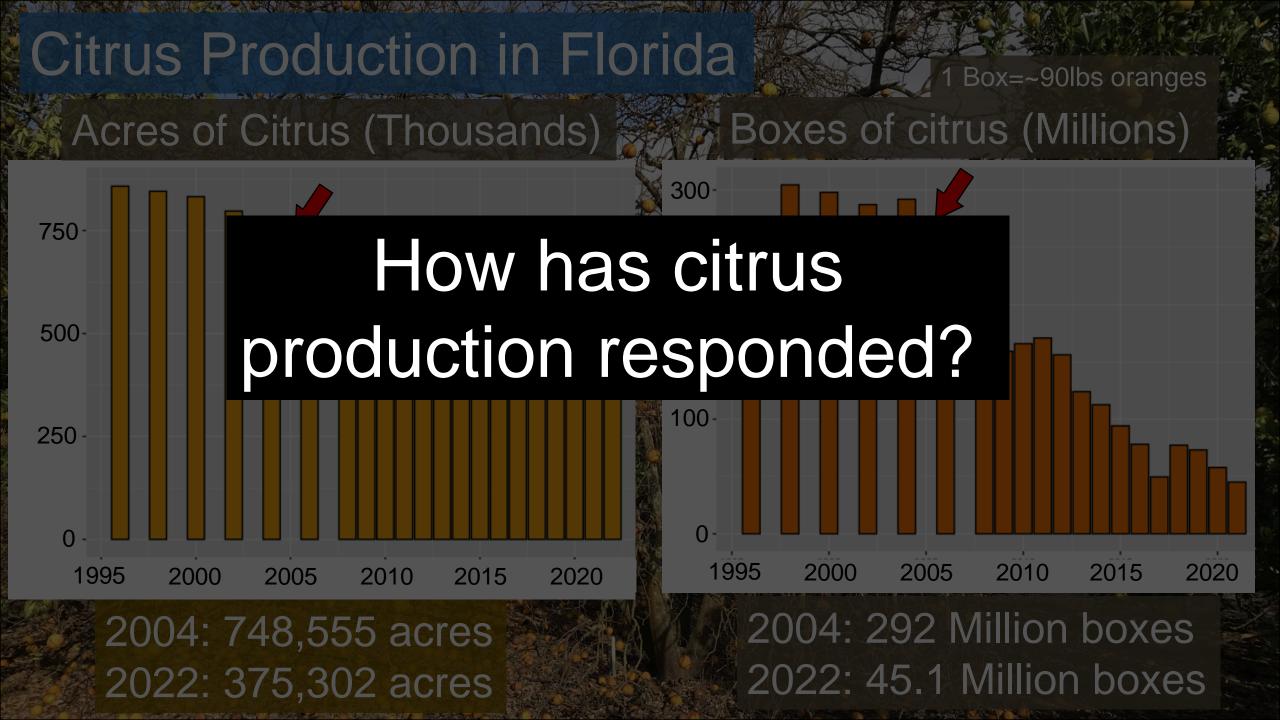




2004: 748,555 acres

2022: 375,302 acres

2004: 292 Million boxes 2022: 45.1 Million boxes



Expected grove lifespan reduced from 30 to 20 years



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Young trees especially vulnerable



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Yields down even if trees survive

Decline from ~8,000 to ~2,500 citrus growers during HLB

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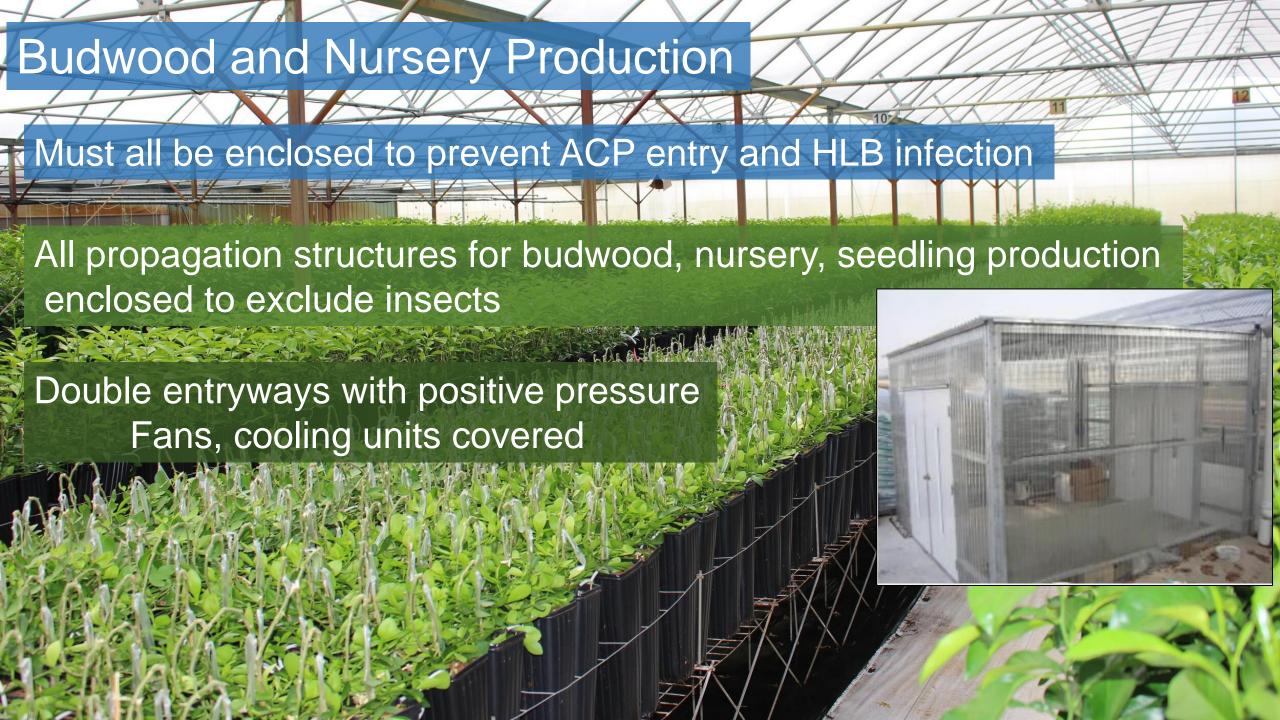
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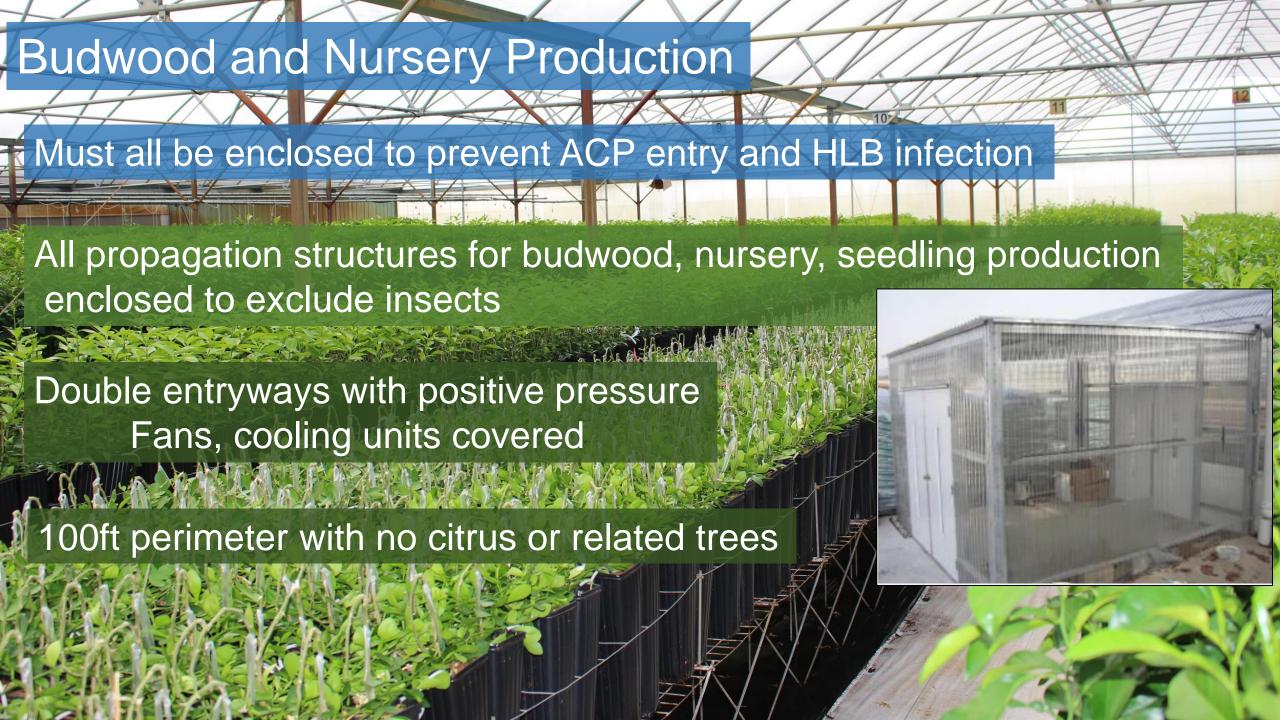
Dead/abandoned groves common sight

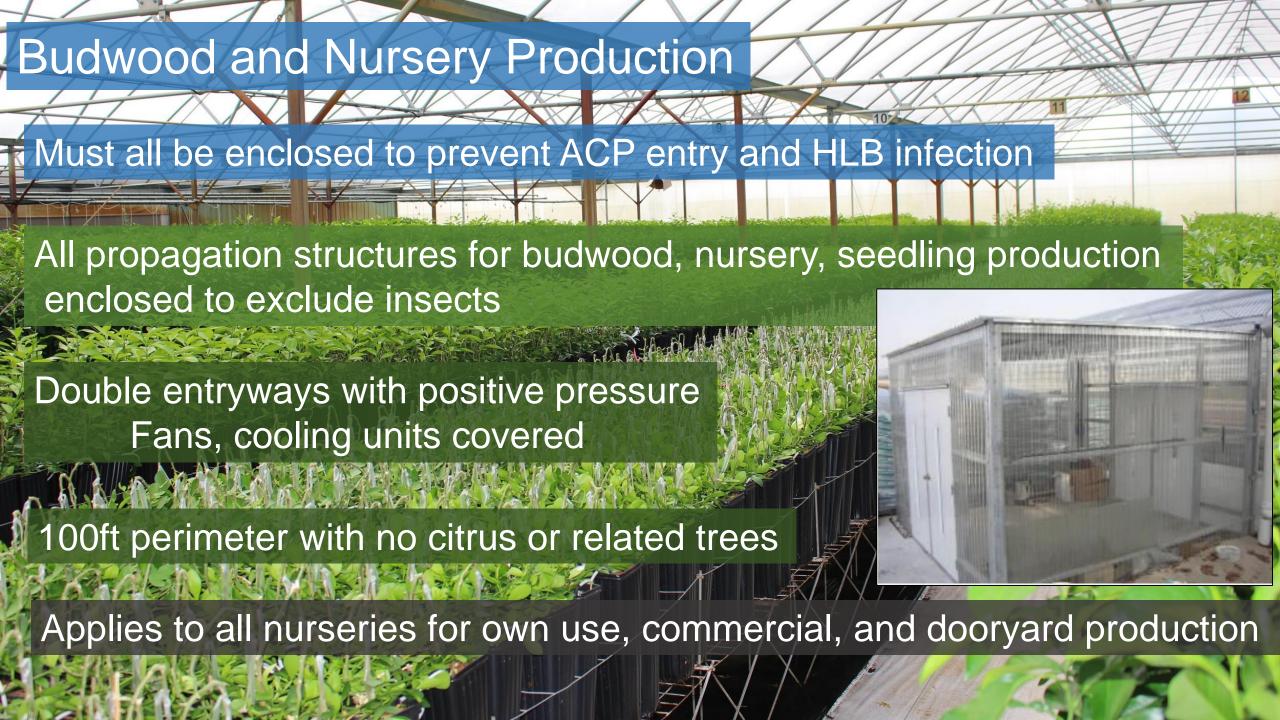














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Tested 22x9 and 18x8 spacing (220 and 303 trees/acre)
Both are profitable where standard spacing is not

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HLB: up to 80% root loss

Trees much less efficient taking up nutrients

More frequent, smaller applications of fertilizer are best

Fertilize and irrigate frequently in small doses

Remove infected (symptomatic) trees

Once trees no longer productive, or if very young



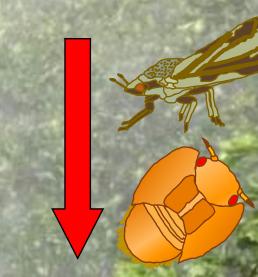






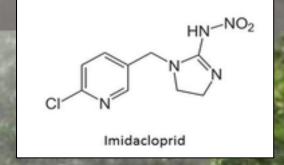


Goal to reduce ACP populations as much as possible Try to protect young trees for about 4 years

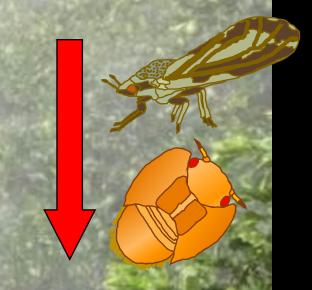


Drenches of neonicotinoids (imidacloprid, thiamethoxam, and clothianidin)

and cyantraniliprole on young non-bearing trees



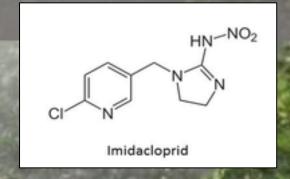
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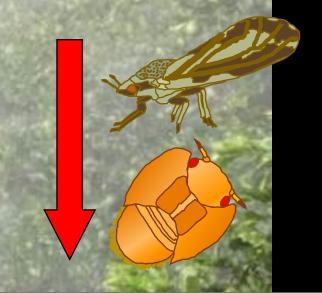
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Broad spectrum foliar applications for bearing trees Organophosphates, pyrethroids: 3-6 per year



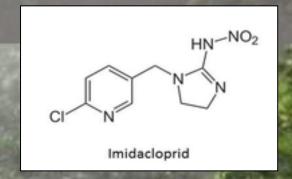
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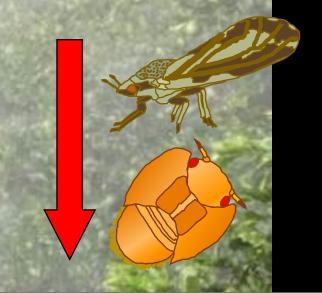
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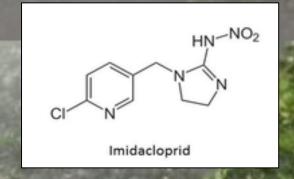
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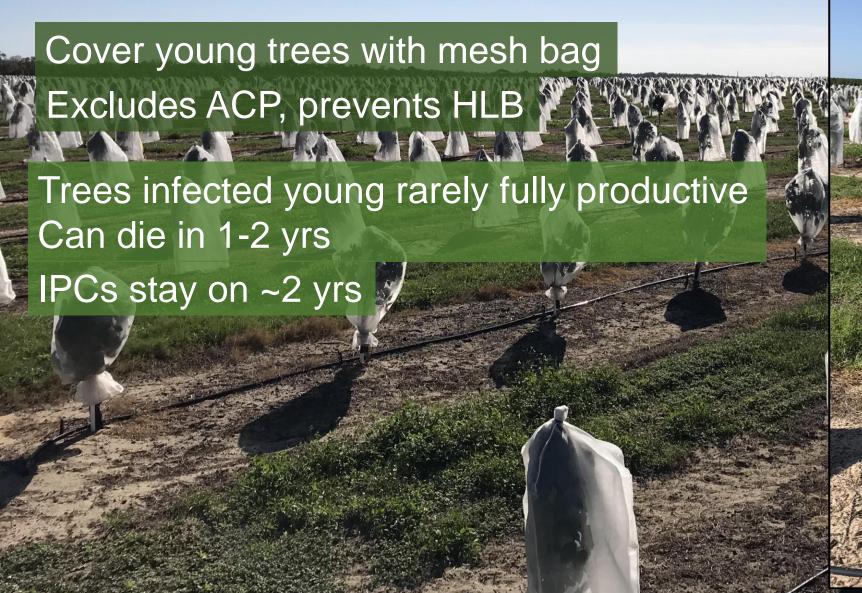
Broad spectrum foliar applications for bearing trees Organophosphates, pyrethroids: 3-6 per year



Recognized that this leads to increases in mites, other insect pests Insecticide resistance is appearing (Imidacloprid and other neonicotinoids)









Cover young trees with mesh bag

Excludes ACP, prevents HLB

Trees infected young rarely fully productive Can die in 1-2 yrs

IPCs stay on ~2 yrs 🧳

Regular scouting for infested young trees
At least 4 times a year, focused Oct-Mar.
Can treat like uncovered trees



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Still being studied, but also widely adopted





