Orchards of the future and implications for mechanical harvesting

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Abstract

As the Florida Citrus Industry battles new pests and diseases, along with continued uncertainty of the future of a reliable and legal harvesting workforce, the key to success lies in the ability of the industry to grow and harvest citrus with a greater efficiency than ever before. Mechanical harvesting is critical to the success of future plantings that are inevitable in the face of these challenges. Lykes Bros. Inc. has gone through an extensive planning process that takes the best ideas of today and incorporates them into a workable commercial planting, growing and harvesting system. This new integrated system will be flexible to change as better information emerges and will not be same for all plantings. Therefore, it is possible that there will need to be several different harvesting systems employed to accomplish fruit removal. At the same time, long-term sustainability and environmental stewardship of the land are paramount to the success of future plantings. Technology and data are needed to accomplish high intensity production and fruit harvesting and may employ new techniques such as more highly automated or autonomous equipment, prescription nutrient applications and hand harvesting aides, as well as fully automatic harvesters. Higher density plantings will be used to increase early fruit production, reducing the time to achieve profitability. Since there is yet to be viable disease-resistant plant stock, a likely scenario is a 12- to 15 year tree life with replacement as disease takes over. The cost to produce replacement trees is being researched, with the goal of faster production of more economical trees. Lykes is committed to fight the battle and keep citrus in Florida in spite of seemingly overwhelming obstacles.