**Title** High density loquat orchards increase profits and shorten the time for investment returns

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## **Abstract**

European Union, under pressure of World Trade Organisation (WTO) to achieve substantial changes, has resolved to modify the Common Agricultural Policy, and progressively liberalize EU market to nonmember states. In this scenario, only the most competitive agents can attain success. Mediterranean fruit crops face these challenges. At this regard, Spain is second world leader producer of loquat, and account for 80% of the export worldwide. Nevertheless, the labour cost represents 75% of the total and, in this sense, loquat ranks the first position among the horticultural and fruit crops in Spain. If to date this labour cost is difficult to diminish (mainly pruning, thinning and harvesting), increasing orchard density appears as a promising way to increase loquat profitability. In this study, the profitability of the traditional Spanish orchard, 540 trees per ha, has been compared to that of an ultrahigh density field (2353 trees/ha). First results show that mean yield is greater in high density orchards (31 versus 25 tonnes per hectare) even during the first years of cropping in high density, and that although both kind of orchards are yet profitable (Net Present Value above 240,000 € considering average parameters), the time required to reach this threshold is 65% less in ultrahigh density. Sustainability of high density orchards is yet to be précised, especially about longevity, and these results can reduce the uncertainty.