Less Water Makes More Money on Loquat

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Loquat is a subtropical fruit crop increasingly planted in Mediterranean climates. Such areas often suffer from drought episodes leading to water shortages. With the aim to reduce water consumption on loquat we have initiated a suitable regulated deficit irrigation (RDI) strategy that not only saves water but also increases revenue. Both aspects have been conciliated previously by postharvest RDI from mid-May until August. To optimize water management we pretend now to define more precisely the best dates for RDI. Three treatments, incorporating a reduction of 66% water needs either on June, July or August, and controls, receiving full water needs, were implemented on 'Algerie' trees growing at Almería (SE Spain). Stress applied on July resulted the most promising, advancing bloom period 13 days. As a consequence of such advancement, harvest is programmed earlier increasing harvest value. Water reduction on June left blooming date unaffected whereas stress on August delayed full bloom by 8 days, suggesting that on August flower development is on course, and detrimental effects are caused. Our results permit to enlighten characteristics that define loquat as a model for successful RDI: responsiveness to water deficit in term of advance blooming, earliness as a key parameter defining crop value, and total separation of vegetative and reproductive phases that makes easier the implementation of RDI strategies during non-critical periods. Soil, climate, and watering system are also requirements of major impacts in the success of such strategies. Sandy soil, scarce rainfall, mainly during winter, and drip irrigation allowed a quick implementation of water deficit without unwished disturbance due to rain, and a fast alleviation of the stress. Precise management to avoid a negative impact on fruit quality and similitude with other subtropical fruit trees will be discussed in order to facilitate a more ample adoption of RDI strategies in the Mediterranean.