

enlargement (Bound, 2023). Modeling work in apple likewise shows that fruit weight is jointly determined by thinning time, crop load, flower-bud formation, and shoot growth, reinforcing that thinning intensity must be matched to canopy vigor and production targets rather than applied uniformly. In loquat cultivation, this means that thinning should focus on adjusting panicle or fruit number early enough to improve assimilate availability to retained fruit while preserving a crop load that sustains total yield, return flowering, and stable orchard productivity over successive seasons (Su et al., 2021). In sum, loquat fruit thinning rests on a clear physiological logic: the crop's unusual flowering season, variable fruit set, and strong fruit sink demand make crop-load regulation central to both yield formation and fruit quality. Across the available evidence, the most defensible conclusion is that thinning works best when it is treated as targeted source-sink management rather than as a purely mechanical reduction in fruit number.

Effects of Fruit Load on Source–Sink Relationships and Carbon Allocation in Loquat (*Eriobotrya japonica*)

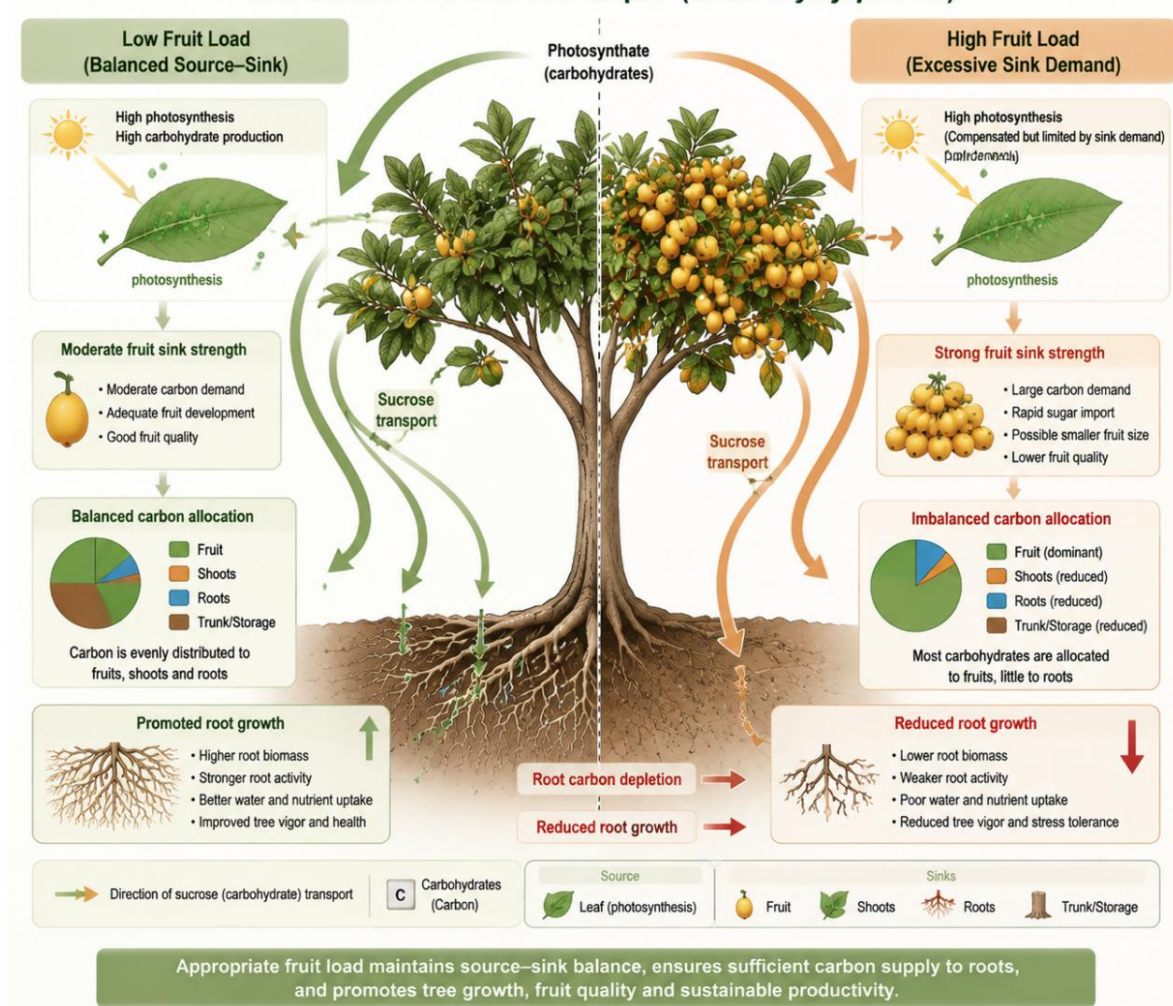


Figure 1 Source-sink regulation of carbon allocation under different fruit loads in loquat

3 Effects of Fruit Thinning on Yield Formation in Loquat

3.1 Effects of fruit thinning on individual fruit weight and fruit size

Fruit thinning clearly increases individual fruit weight and fruit size in loquat, because reducing the number of competing sinks allows more assimilates to be directed to the retained fruit. Early loquat studies directly showed that thinning increased fruit size, and later work confirmed that fruit size is a central determinant of commodity value and profitability in this crop. Recent field evidence in ‘Precoce de Itaquera’ further indicates that stronger flower-bud thinning can produce larger and sweeter fruit, with the best overall fruit-quality response obtained when only four buds per cluster were retained (Nordi et al., 2025).