

Trellis versus Hedge designs

Once the decision has been made to transition to a higher density planting, the next choice to consider is whether to opt for a hedged design (Figure 1) or install a trellis system (Figure 2). Both systems have advantages and disadvantages that growers should consider prior to finalising their decision. Table 1 outlines the advantages and disadvantages of trellis designs and Table 2 summarises the advantages and disadvantages of high density slim-hedge designs.



Figure 1



Figure 2

Table 1. Advantages and disadvantages of trellis designs

Advantages	Disadvantages
Provides strength and support to developing tree and resilience to cyclones and/or strong winds	Trellis infrastructure requires a significant initial capital investment
Narrow canopy allows greater light and spray penetration improving fruit quality, quantity, and blush	Trellis infrastructure may require maintenance and/or replacement over time
Fruit wall allows for quick and easy harvesting, reducing labour costs	Installing trellis infrastructure requires specialised skills and equipment
Facilitates higher planting densities per unit area; orchards begin producing commercial yields earlier	Specialist skills required to train and prune branches to desired trellis shape
Encourages tree to petition more resources towards fruit production in preference to vegetative growth; improved yield	High labour costs for training, bending and pruning branches until mature tree architecture is established; this can be 10+ years
Enables mechanisation of harvesting and automation of yield estimation	New technology with no long-term studies of trellis longevity and/or ongoing maintenance costs of aging infrastructure

Table 2. Advantages and disadvantages of slim-hedge designs

Advantages	Disadvantages
Significantly lower initial capital investment costs as no trellis materials or installation costs required.	More prone to canopy gaps, as there is not any wire infrastructure onto which branches can be trained accurately
Quick and efficient hedging with mechanical hedger; significantly reduced pruning costs	Not as adaptable to mechanised harvesting; particularly with some fruit hanging inside canopy.
Low maintenance costs	Fruit hanging inside canopy likely to have higher pest pressure, lower blush and more skin blemishes.
Low complexity of management, particularly for specialist pruning and training skills	Yield forecasting less accurate as fruit hanging internally may be occluded from view
	Lower resilience to strong winds and/or cyclones