



Future Orchards™ - What Variety Do I Plant?

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Why do apple growers need to keep focussed on changing their orchards?

Doing nothing is not really a long-term option

- Customer tastes are constantly evolving, doing nothing risks growing varieties that go out of favour with your consumers and eventually making your orchard redundant

What are the risks of changing varieties in an orchard?

Changing the orchard too quickly to keep an effective cashflow.

- Replacing orchard is a very expensive exercise, it needs to be done correctly and at a pace where the cost of changing can be funded without putting too much risk on the rest of the orchard operation.

Picking a variety that does not match your specific market slot.

- To understand what variety is best you need to know your specific market slot, is your preferred market likely to change in the short or long term?

Picking a variety and / or planting style that is not financially successful

- Not all new varieties will succeed. Some will have great market appeal but are not able to achieve high yields of high quality from the orchards. Some varieties will produce well but will not return to growers a high enough \$ per kg to create a long term sustainable income.

Picking a variety that is not suited to your specific orchard site or location.

- Varieties will fail or require excessive effort if they are not suited to the specific orchard situation either not working with the regional strengths / opportunities or choosing varieties that exacerbate any challenges or weaknesses that your site might have

What should growers know to help them decide what varieties they should plant?

When it comes to making new variety decisions the common phrase of “the harder you work the luckier you get often applies”. Doing your Due Diligence really pays.

Know how much area needs to be changed every year.

Indications from successful growers internationally suggest 5 – 15% replacement planting (or grafting) every year.

Having a fixed amount of an orchard that needs to be changed every year ensures growers keep a focus on looking to the future and continuous improvement within their orchards.

Having a maximum amount of orchard change each year also keeps a bit of a lid on things, reminding growers to keep the process under control and not change too much too fast.

Understand your markets – What is changing? What is the future likely to be?

Who are your customers now? Will that change in the future? What will they want going forward?

Eating experience, flavour, texture, colour.....

The current status for apple plantings is Pink Lady, Granny Smith and Gala strains make up about 70% of Australia's production and 73% of the planted area(APFIP). Is this the correct ratio for your future markets?

Variety choice is a long term strategic decision for your orchard it is important that you spend enough time on research and planning. Create a 5 - 10 year removal list and planting plan that is reviewed annually.

Understand where the variety will be in the price vs production time scale to help with your decision.

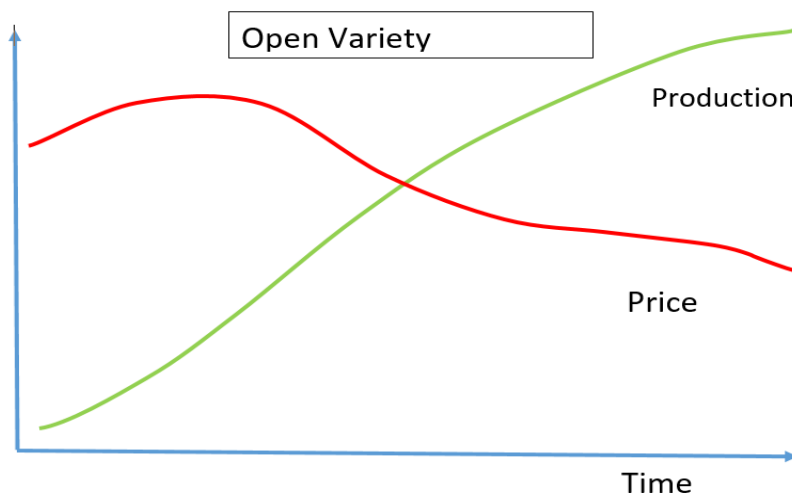


Figure1. Price and production affects over time for a non-controlled variety.

The graph above is showing the price vs production curve. As the variety develops and production increases sharply then supply eventually exceeds demand thus putting downward pressure on price. This is most common in non-controlled/open varieties as production is unlimited and often only restricted by availability of trees. Eventually production increases outstrip demand and price suffers.

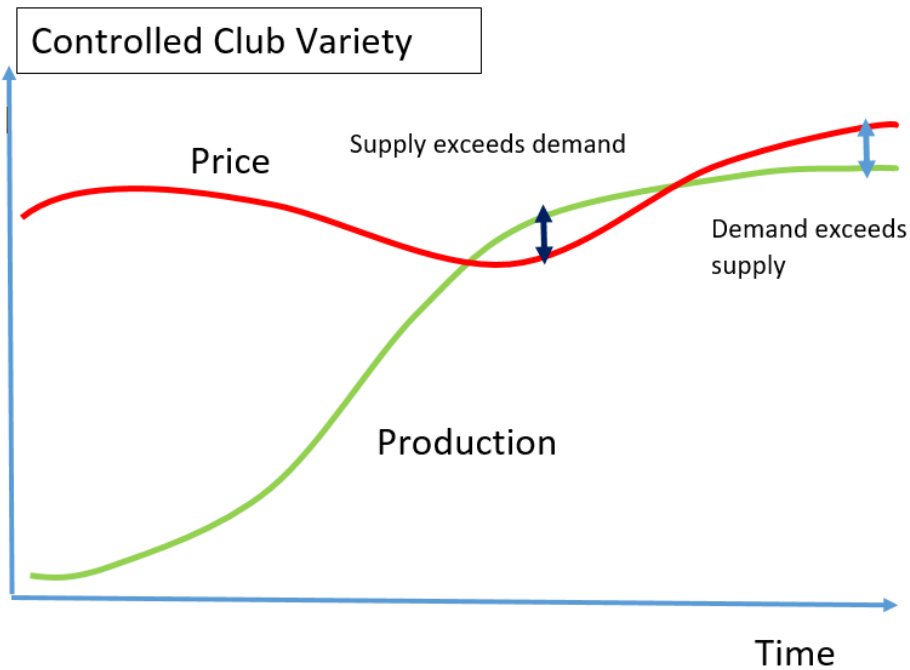


Figure2. Price and production model for a controlled variety where production is restricted.

The other model is how controlled club varieties overcome this erosion of price by capping increased production. The graph above is showing the price vs production curve. As the variety is being developed production is seen to increase sharply and supply can often exceed demand which places downward pressure on price. However, as plantings slow (controlled by the club), a successful variety will increase price again as marketing and the unique attributes of the variety become better known and demand exceeds supply. In a poor variety that high price point is never regained.

In most markets colour is king, is the variety you are looking at planting the best colour selection available at the time of planting.

New Apple Varieties available in Australia

The following are new varieties currently in Australia.

Variety	Marketing Rights	Timing	Taste
Smitten™	Montague Fresh	Early	Tangy
Jazz™	Montague Fresh	Mid	Tangy
Eve™	Montague Fresh	Late	Tangy
Envy™	Montague Fresh	Late	Sweet
Ambrosia™	Montague Fresh	Mid	Tangy
IFO-Red	Montague Fresh	Under evaluation	Red flesh
Rockit™	Lenswood	Mid	Sweet miniature
MiApple	Lenswood	Very early	Sweet

Red Love	Lenswood	Mid?	Red flesh
Red strains Galaⁱ	Open	Early	Sweet
Red strains Pinksⁱⁱ	Open	Late	Tangy
Red strains Fujiⁱⁱⁱ	Mixed	Late	Sweet
Granny Types^{iv}	Mixed	Late	Tangy
Kanzi™	Open	Mid	Sub acid
Honeymoon®	Plunkett	Mid	Sweet
Kalei®	Open?	Mid	Sweet
Sweetango	TBA	Very early	Tangy
Honeycrisp	?	Mid	Tangy
Modi™	Freshmax	Mid	Sweet
Rueben's	Graham's Factree	Early	Sweet
Bravo™	?	?	Sweet
Sweetie™	Open	Early	Sweet
Julie™	Bill Shields	Mid	Sweet

Table 1. Apple varieties in Australia.

¹ Alvina, Buckeye®, Brookfield®, Galaval, Galaxy, Cherry Gala

² Rosy Glow, Lady in Red, Pink Belle

³ Aztec, Kiku®, Morning Mist™, Fierro, Tiger, Auvil, Candy (Lolly)

⁴ Challenger, Greenstar®

New Pear Varieties registered in Australia

Variety	Market rights	Timing	Taste
Deliza	APAL	Early	Sweet
Lanya	APAL	Early	Sweet
Papple	Rullo/Kalafatis	Mid	Sweet/crunchy
Piqa Boo	Freshmax	Early	Sweet/crunchy
Sweet sensation	Montague fresh		
Velvetine	Prevar	Mid/Late	Sweet
Queens Forelle	Lenswood	Mid	
QTee	Des Muir	Early	

Table2. Pear varieties in Australia.

Variety Decision Making Matrix – What should you be asking

The following tables outline many of the questions growers should be asking from when doing due diligence on a new or improved variety. Seeks answers from as many sources as you can.

	Variety attributes	Is this attribute in this variety positive for you?		
		Yes	No	Doesn't Matter
Specific Market Fit				
Quality Attributes – Improved or Unique	Eating quality			
	Colour			
	Shape			
	Size			
	Taste			
	Texture			
	Appearance			
	Firmness			
	Crunch			
	Juice			
Market Potential	Specific/ unique market			
	Domestic			
	Export			
	Novel/new category (Rocket)			
	How much growth potential is there			
Variety Accessibility	Does this variety have market controls (a club variety)			
	Targeted to your chosen market			
	Marketing plan			
	Quality specs			
	Disciplined supply base			
	Can the club add value to the fruit			
	Are you happy to work with the marketing company			
Harvest timing	Early			
	Mid			
	Late			
Storability	Short			
	Medium			
	Long			
	Special requirements			
	Improved eating with storage			
	Smartfresh suitability			
	CA potential			
	Storage issues (Pit / Blotch)			
Pest and disease	Market specific P& D issues			
	Organic Suitability			

Table 3. Variety decision matrix for specific markets fit.

The previous table above is looking at different market impact attributes of a new variety and ask yourself if these are positive for you, or negative for you or they do not really matter.

The next table (below) is looking at the financial attributes of specific varieties and how this might fit either positively or negatively.

	Variety attributes	Is this attribute in this variety positive for you?		
		Yes	No	Doesn't Matter
Specific Variety Financial Fit				
Market returns	Current market returns			
	What is the supply /demand balance			
	What is the 3 – 5 year outlook			
	Where is it in the product life cycle			
Variety Risk	Is the supply group financially robust			
	Does the variety have critical mass			
	Does the supply company have a good reputation			
Production potential	High yielding			
	Pack out recovery			
	Regular cropping / lack of biennial bearing			
	Risk of sunburn			
	Colour development			
	Pollination requirements			
	Nutrition requirements			
	Irrigation requirements			
	Pest risk			
	Disease risk			
Other costs	Is there a tree royalty (\$/tree)			
	Is there a production royalty (\$/kg)			
	Variety management / marketing cost structure			
	Overall cost of production			

Table 4. Variety matrix for specific financial fit.

The final table is looking at the specific attributes that might be influenced by your orchard location. In some situations, the variety might make sense in market and financially in a general sense but it still might not be suitable due to a specific anomaly that exist in your orchard business.

	Variety attributes	Is this attribute in this variety positive for your orchard?		
		Yes	No	Doesn't Matter
Specific Variety Orchard Location Fit				
Climate	Does it suit your location			
	Winter chill requirements			
	Heat / sunburn			
	Snowfall / Frost			
	Irrigation / water availability			
	Russet susceptibility			
	Biennial bearing risk			
Harvest timing	Fit with your current variety mix			
	Fit with your future variety mix			
	Fit with your labour availability			
Pest and disease	Is there any specific increase in pest risk			
	Is there a specific disease risk increase			
Tree Availability	Are trees available when you want them on the rootstock you require			
Packing / Marketing	Commitment to the variety in your area			
	Location of packing facilities			
R&D	Local variety experience			
	Is there any variety R&D			
	Access to information			

Table 5. Variety matrix for orchard location fit.

Summary

Choosing the right variety needs a reasonable amount of research and planning if it is to be done with reasonable confidence.

You need to understand

- How much area you should be changing each year (5–15%)
- What are your current and future markets
- If the variety makes sense financially
- If the new variety is suited for your specific orchard locality.

New variety decisions are specific to individual orchards there is not a one size fits all solution. Learn what you need to know to help with your decisions, what questions to ask yourself and where to get assistance if you require it.