NEW PLANTING OPTIONS 2007 AND BEYOND

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Plant the Best Available Today

The pipfruit business is a dynamic industry in constant change. Irrespective of what your planting decision is, there will always be talk of something better around the corner worth waiting for. The bad news is that often the "something better around the corner" does not materialize, or when it does it fails to live up to the expectation that preceeded its arrival.

The good news is that if you plant the best available today and manage it well, there will be adequate returns coming into the business to continue to be able to redevelop with any new options that happen to occur.

What is the Best Available Today?

Your industry, through the Australian Pome Fruit Improvement Program Ltd, is working on this question for you through its variety and rootstock evaluation programmes, and lifting the quality of your nursery trees through its certification system. At this stage seven Australian nurseries have become licencees for the certified tree programme, and it is estimated their production covers around 65% of tree production available to the industry.

The best available today should include:

- Virus tested rootstocks.
- Virus tested scion varieties.
- Thoroughly tested budwood sources certified true to type.
- Varieties and clones which have been adequately tested under your local conditions and shown to give satisfactory performance.
- Varieties capable of attaining critical mass in the market place to stimulate continuing consumer demand at premium prices.

What Newer Varieties?

Variety options can be broken down into three distinct categories:

1 Improved strains of established varieties.

These have relatively low risk because they will generally behave in a similar manner to the parent variety.

Improved red colour is usually the main distinguishing feature in improved strains of established varieties, although the distinguishing feature can include harvest season differences, growth habitat (eg, spur types), or lowered sensitivity to some defect such as russet.

Almost all partially coloured varieties in their lifetime will progress through a range of colour sports leading to more and more red colour development. These changes are commercially very significant and may have the following impact on your existing and future orchard business:

- Established low-colour strain tends to lose its premium position.
- The better coloured strain packs out better so has lower production costs and better profitability.
- The production range of the variety can be expanded into locations where the standard strain did not perform well due to poor colour development.
- Earlier colour development reduces the risk of over-maturity related storage problems.

On the negative side, some eating quality may be lost with high colour strains and colour instability is often a problem in striped strains.

High colour strains are fully established for Red Delicious and the Gala group.

Fuji is in transition towards high colour strains.

High colour sports are becoming available for Cripps Pink and over the next decade will have a major impact on the sustainable production of the standard Cripps Pink, particularly where conditions are marginal for satisfactory colour development.

New orchard plantings of Fuji, Royal Gala types and Cripps Pink should be of the better coloured strains.

New Varieties from Australian Sources

New varieties near to release:

- Black spot resistant strain RS103130, with several others from this programme not far away.
- Western Dawn with several others likely to follow.

Locally bred varieties or local chance seedlings, if well tested prior to general release, should adapt well to local growing conditions, but still carry relatively high commercial risk:

- Testing cannot cover all production situations.
- Often takes many years to understand the variety and its particular husbandry requirements.
- Establishing and attaining critical mass in the marketplace may fail.

New Zealand experience shows new variety development to be a very lengthy process, eg, Royal Gala and Braeburn took twenty to thirty years to be recognized as commercial varieties of high value. More recent introductions, the Pacific series, after ten to fifteen years of

commercialization have not succeeded yet due to production difficulties and failure to gain critical mass in the marketplace.

On the other hand, Cripps Pink™ and Jazz™ development models have been highly successful because these are good branded products with marketing plans.

New Varieties from Off-Shore

In many respects these have similar challenges to new varieties from Australia discussed above.

In addition, there are several other features about them to consider:

- Were not selected under Australian growing conditions, so may not be suited to the Australian climate. Will need very thorough testing to determine their suitability for Australia.

- Some have established marketing programmes in place, eg, Jazz™, Tentation™.

Examples of new off-shore varieties that are in Australia include Jazz™, Kansi, Tentation™, Greenstar, Honey Crisp™, Ambrosia, Sonja. Among these, Jazz™ is the only variety being planted in any volume with an established marketing plan, but restricted availability only to licenced Jazz™ growers. Honey Crisp™ and Sonja do not adapt well to hot climates.

Revival of Older Varieties by New Technology

Red Delicious and Jonathan respond well to Smartfresh^{SM} and this has improved market acceptance of these varieties.

Jonagold is also very responsive to Smartfresh^{SM}.

Granny Smith is more adaptable to heat under net, and responds well to Smartfresh^{SM} for superficial scald management.

Will this alter the future of these varieties for the Australian fruit industry?

Pear varieties – Corella, Sylvanar in addition to present established varieties.

Readily Available Rootstocks for Intensive Plantings

Apples

Budagovski 9 (Bud 9)	Approximately 10% smaller tree than M9. Not woolly apple aphid resistant.
M9	Dominant worldwide rootstock for intensive plantings. Range of vigour among clones. Dutch 337 weakest, EMLA 9 and Pajan 2 at the stronger end of the range. Uniform tree size, weak rootsystems, moderately tolerant of Specific Apple Replant Disease (SARD) and phytophthora, not woolly apple aphid resistant. Must be virus free for good tree performance. Preferred rootstock for intensive plantings.

M26	Dominant dwarfing rootstock in Australia. Tree about 25% larger than M9. More variable tree size than M9. Very sensitive to SARD. Not resistant to woolly apple aphid. Weak bud union with some varieties.
Ottawa 3	Similar vigour to M26. Can have graft compatibility problems in presence of virus.
CG202	Not available yet, may replace M26 when available.
MM106	Tree size approximately twice M9. Not suited to intensive plantings at tree densities above around 1,500 trees/ha, except where soils are poor, but well drained and trees weak growing. Very sensitive to phytophthora and poor drainage. Woolly apple aphid resistance.
MM102	Similar to MM106, but tree size more variable.
MM111	Vigorous. Suitable replant sites only. Not recommended for intensive plantings.

Pears

Quince C	Weakest pear rootstock. Generally needs Beurre Hardy interstem to overcome graft incompatibility with most pear varieties. Suitable for intensive plantings at high densities for vigorous scion varieties.
Quince A	More vigorous than Quince C. Needs B Hardy interstem. Suitable high density plantings.
Quince BA29	Most vigorous Quince rootstock. Suitable weaker precocious scion varieties such as Packhams Triumph. B. Hardy interstem needed.
BP1	Low vigour pyrus species rootstock.
BM2000	Showing promise in trials as a pear rootstock.
D6	Main Australian pear rootstock. Non-dwarfing and slow to come into production, although some impressive intensive V-trellis blocks in Goulburn Valley on this rootstock.

Planning the New Planting Programme.

Successful orchard development requires a commitment to long term planning which needs to begin two or three years before the orchard is going to be planted.

Critical Decisions need to include:

- Identification of site and assessment of its suitability.
- A plan to overcome any site limiting factors and risk management, eg, water supply, frost protection assessment and frost protection possibilities, hail.
- Finance plan to fund the development properly.

- Plan to secure the right planting material. Rootstock orders need to be placed two to three years before planting is to start. Scion orders 18 months to 2.5 years before planting the orchard.