

Fertilisers and fruitsize.

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The result of good fertiliser management, pruning and flower or fruitlet thinning will be very apparent on fruit size at harvest.

Good fruit size at harvest depends on how well trees stored nutrients - especially nitrogen - before leaf fall last autumn. Having a "full tank" of nutrients stored in the tree before leaf fall determines the potential size individual fruitlets can grow to during the first month of the fruits growth by cell multiplication.

Obviously the number of fruitlets that set on the tree also influences early fruit size, making early fruit thinning a very important factor in the eventual fruit size at harvest. The earlier trees are thinned the greater the size potential at harvest. It is only with late maturing fruit varieties such as clingstone peaches and possibly the very late plum varieties, that thinning after stone hardening in mid to late November can improve fruit size dramatically by harvest.

With such excellent bud wood development due to the light crops in the Goulburn and Murray Valleys last season, pruning to reduce bearing laterals was the first step to reducing the number of flowers the trees carry.

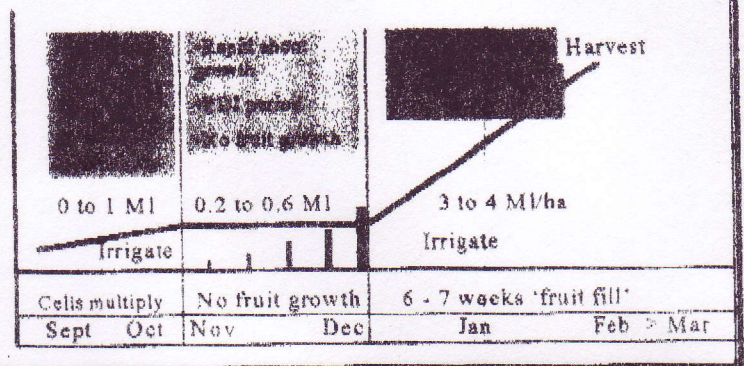
Orchardists who successfully used blossom thinners in January 2004 or at flowering this season, would have helped with the difficult and labour intensive hand thinning work needed in the last 2 months.

The important principle is thinning must be done early. Thinning an excessively heavy crop this late in the season reduces the potential yield for of the crop.

Crop Sizing = Irrigation

The most critical influence on fruit size and crop yield for the rest of the summer will depend on irrigation. The aim is to keep the green leaves functioning (photosynthesis) to complete the 'fruit fill' stage during the last 6 to 7 weeks before harvest. Any moisture stress during this period will reduce fruit size!

Fruit Tree Growth Cycle: Mid-Late Stone Fruit



The spring growth phase in mid to late season stone fruit relies on stored nutrients from the previous autumn. The final 6 to 7 weeks of fruit enlargement depends on irrigation and crop load.

Nitrogen not the answer

Adding nitrogen fertiliser during this last fruit growth phase may delay fruit maturity for a few days - and there may be some increase in fruit size. But the penalty is softer fruit, some reduction in colour and poorer storage and shelf life.

Fruit Size for next season

Fertilising fruit trees after harvest - especially with nitrogen fertilizer - has a major impact on fruit size for next season. Nitrogen applied after harvest no longer affects the current crop, but is stored in the tree before leaf-fall and winter dormancy. With a "tank full" of nutrients before leaf fall, the growth, flowering and fruit set in the following spring is enhanced.

This is especially important for next year as the trees are carrying heavier crops this year, which means reserves need to be "topped up" before winter 2005.

All the early spring growth for next year (2005) comes from nutrients - especially nitrogen - stored in the tree before leaf fall in winter. The fruit trees break out of winter dormancy and grow the initial root system, flowers and the first few leaves from nutrients stored in the tree. It is not until the first spring leaves are old enough to capture the energy from

the sun, that "photosynthesis" activity in the first dark-green leaves begin to contribute to the growth in the tree.

Most importantly, the initial 30 to 35 days of fruit growth from flowering next year is entirely driven by the nutrients stored in the tree in the previous autumn. This fruit growth occurs by cells inside the fruit multiplying into the several millions of cells that make up the final fruit.

On the many trees with light crops last season, there were abundant stored nutrients in the tree from the previous autumn. As a result, fruit set was very heavy this season. The competition between fruitlets for the nutrients available from the previous autumn will limit fruit size if trees were not thinned early and aggressively.

In Summary...

To size the current crop:

- Complete thinning as early as possible
- Irrigate, irrigate, irrigate in the last 6 to 7 weeks before harvest
- Be careful: summer nitrogen can reduce fruit colour, firmness and shelf life
- Post harvest nitrogen fertiliser is critical for next season