Future Orchards

APAL AGFIRST Hort Innovation Strategic levy investment APPLE AND PEAR FUND

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Future Orchards Business Development Group Update

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IN THIS ISSUE

In the last newsletter we looked at important datapoints to be collecting during harvest, our harvest labour planning tool as well as looking at the importance of water budgeting coming into harvest.

This newsletter will run through fruit sizing data across Gala, Granny Smith and Pink Lady and how things are tracking. Growers who are sizing will have noticed a good mid-season growth rate and as a result fruit size has caught up after a slow start.

With more varieties starting to come off the tree now is a key time in both maximising this year's crop and beginning the planning phase for the 2022 harvest. Now is a good time to be thinking about postharvest nutrition regimes, pruning requirements, disease management, redevelopment plans and labour requirements.

All the best with the rest of harvest.

OrchardNet has a variety of in-built tools to allow for production planning. A combination of accurate tree counts, areas, block production targets and other factors can be combined to give target bud and fruit numbers per tree.

http://www.orchardnet.co.nz

Don't have an OrchardNet account?

As part of the Future Orchards project OrchardNet is provided to Australian growers for free (up to 1200 blocks total). Please contact your local FLA or a member of AgFirst (see details on the last page of this newsletter) if you would like to give it a go.

Fruit size 2021 – Where are things sitting?

The below analysis has been derived from fruit size measurements taken by growers and uploaded to the OrchardNet database. This data is an amalgamation of all growers participating in fruit sizing for the 2021 harvest season.

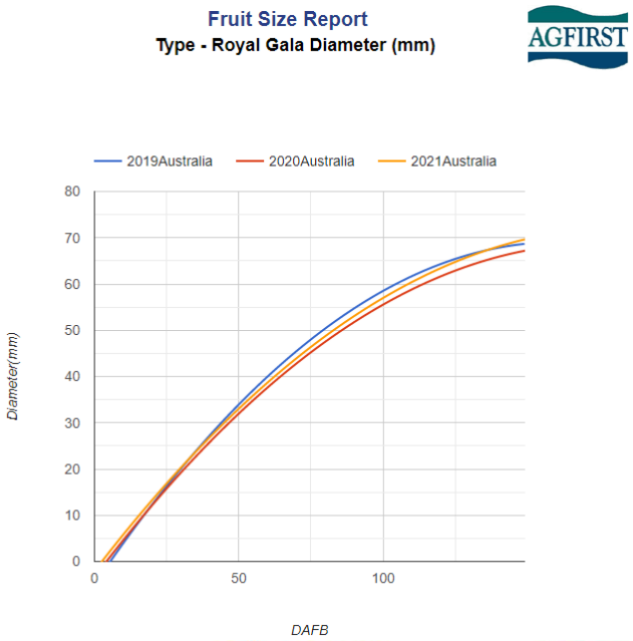
2021 Season

After a slow start to the 2021 season around the vast majority of Australian growing regions, fruit size tended to be tracking relatively poorly across all apple varieties. However, good mid-season growth rates have meant fruit size is generally similar or greater than the previous two years, variety dependant.

The below looks at main varieties to see where fruit size is tracking in OrchardNet. Data is collected across all growing regions by individual growers and monitored, typically weekly, by each grower.

Royal Gala

It is interesting to see where Royal Gala strains have ended the season for fruit sizing. With relatively good late season fruit growth rates, size has jumped on Gala types being larger than 2020 and very similar to 2019.

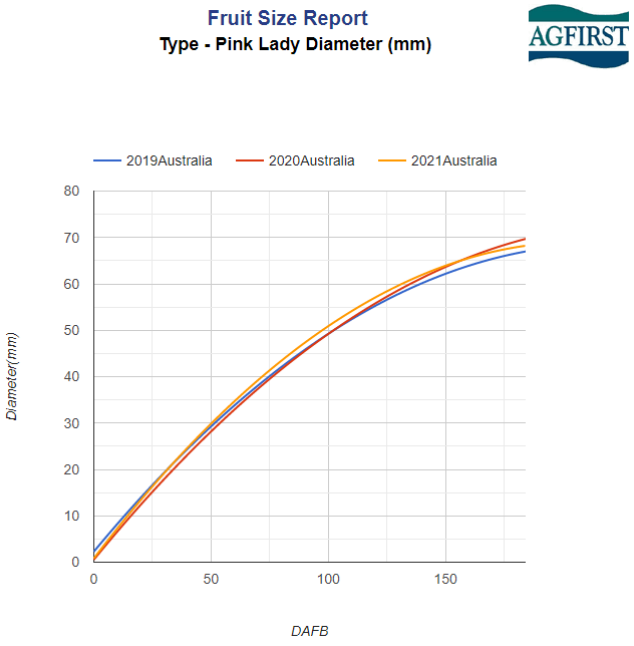


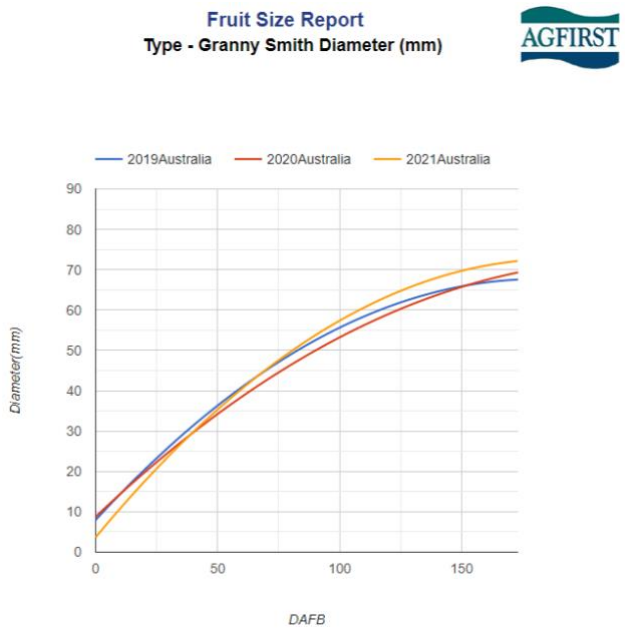
Granny Smith

Granny Smith sizing has progressed well over the season and seems to be running above the past two years at present. It is interesting given the general tendency for most part of Australia is for this to be the biennial "on" year fruit size is tracking to be larger than 2019 and 2020 at present.

Pink Lady

Similarly to last year Pink Lady had a relatively slow start however good mid-season growth rates are likely to create a large fruit size season. Trends are tracking for this year to be larger than 2019 but slightly back on 2020.





Planning for the 2021 season – the blank canvas

Harvest is now well underway which means it is time to be thinking ahead so that key tasks are not missed in the postharvest period. As outlined in previous newsletters (all are in the Future Orchards Library on the APAL website), planning ahead is critical to achieving your goals.

Pickout percentage

If you are consistently seeing 15%+ of your crop left on the tree, it is time to ask why. Is it shading? Poor genetics? Not enough labour to get the crop off? Summer conditions? It is likely that several factors are influencing the outcome. A quick 5-minute walk in a block between-picks and once finished harvest, can give great insight into areas for improvement.

Figure 1. An example of a tree with a pickout percentage of approximately 85%

Nutrition

Postharvest presents a good opportunity to correct tree nutrition. Pre-harvest leaf tests can help to inform your postharvest applications (how much or how little to apply).

Leaf tests should be taken to determine the need for any nutritional replenishment. Elements that often need attention coming into the autumn season include Nitrogen, Magnesium and Boron. As an example, leaf N levels <2.2% measured at the end of Jan early Feb period mean your trees would benefit from Autumn N.

Foliar N applications are most effective in directly raising N concentrations in the floral bud. Foliar N should be applied immediately postharvest before leaf fall starts.

Where larger N inputs are required, foliar applications won't be sufficient, with either ground applications or fertigation an effective option. If using ground application you must have the ability to wash the fertilise into the soil solution with either rainfall or irrigation.

Boron is also most effectively applied immediately post-harvest. Boron is needed for pollen tube growth and therefore fruit-set. Adequate boron levels ensure a good seed set and the higher the seed numbers the higher the fruit size and calcium levels in the fruit.

Pruning

Taking 'large cuts' out post-harvest can be an effective way to remove large branches and spread the labour demand later in the winter. By having your higher skilled pruners undertaking structural cuts, revisiting for winter detail has no need for loppers or saws.

It is important to note that in doing this task with leaf on, you are likely to see a vigour reduction. This type of structural pruning is most desirable on strong growing trees where a reduction in vegetative growth is desired. Renewal of the branch is less likely so keep that in mind depending on your desired result (and do not forget to paint!)

Disease management

Where black spot or other disease issues have been a challenge, your management in the leaf fall period can be key in reducing inoculum levels next spring.

Apply either a black-spot clean-up urea spray directed to the tree during leaf fall or to the ground leaf litter within the herbicide strip.

Getting your data into OrchardNet

Once a block is harvested (and hopefully a total bin number for that block has been recorded) this data can be put into OrchardNet to perform a range of analysis including thje production reports and the "Block Profitability Report". All reports have the ability to benchmark against other growers anonymously. The more data that gets entered the better the benchmarks.

Block profitability report

When creating your block profitablity report you will need to make sensible estimates for elements such as class 1 packout and fruit weight. Take into account historical values and try to use round numbers (eg. 80%, 85%) as they are typially easy to distinguish from actual packouts/weights later in the selling/packing season when data is finalised.

THE MINIMUM DATA YOU NEED IN ORCHARDNET TO GENERATE THIS REPORT

- Block details (planted area in hectares, variety)
- Tonnes picked/sent to packhouse
- Class 1 packout %
- Fruit weight (grams)

Planning ahead - setting a target

With the crop almost off it is now the time to be setting goals for next year. A cropload target can be set and from this 'end goal' you can produce the season plan from pruning all the way through. A useful way to predict the yield for the following season is to use the 'production by tree age' report (figure 2) and set a target based on the historic trends of the block. From there, OrchardNet will calculate an appropriate crop load figure under the 'thinning report'.

Previous BDG newsletters on the Future Orchards Library discuss this topic.

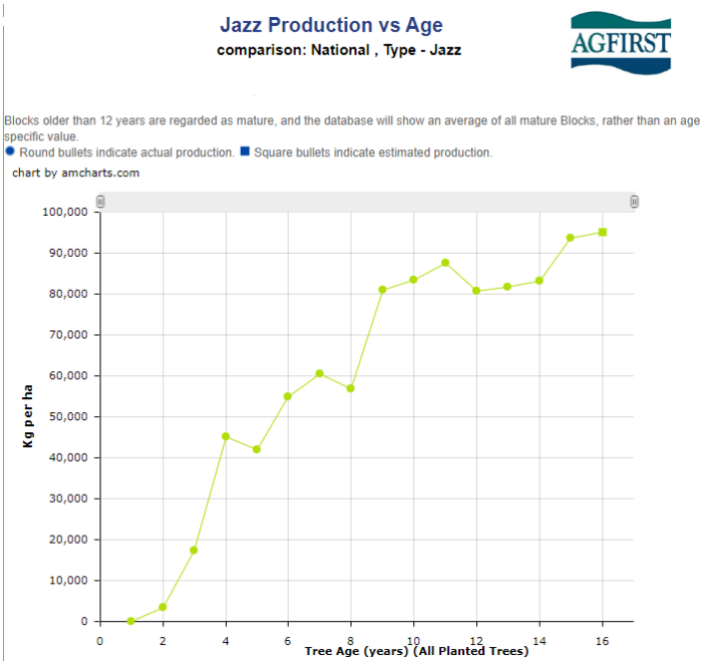


Figure 2. Production by tree age report

See: https://apal.org.au/wp-content/uploads/2019/08/23BDG-Newsletter-June-2019-NF-1.pdf

Note taking at this time of the year is worth its weight in gold. What you might notice now might be extremely useful information to you when planning for the 2022 harvest come mid-winter. Simple notes as you are driving around the orchard picking up any key outcomes which may alter your planning are important. These things are easily forgotten so let's stay on top of it.

Interested in trying OrchardNet within your business?

OrchardNet takes some perseverance and may require a different way of thinking to what you're used to.

If you're not too sure how-to login to OrchardNet, enter data, add blocks or you just need a few extra pointers don't be afraid to get in contact with your local Front-Line Advisor (FLA), the OrchardNet Administrator (adrian.stone@agfirst.co.nz) or a member of the AgFirst team.

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