



This newsletter has been produced as part of the Future Orchards® program. Future Orchards is a strategic levy investment under the Hort Innovation Apple and Pear Fund. It is funded by Hort Innovation using the apple and pear levy and funds from the Australian Government and is delivered by APAL and AgFirst.

Future Orchards
Business Development Group
Update

Issue 25
November 2019

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IN THIS ISSUE

Spring is already coming to a close and things are warming up...a number of blocks are underway with hand-thinning with reports of variable return bloom and fruitset in a number of regions across the country.

In this newsletter I've got a few more data reminders to be looking out for over this critical hand-thinning period (and the rest of the year to harvest) as well as a look at optimising return bloom. Whilst not exhaustive, these concepts (and further reading) should be considered over the coming weeks to help ensure a better return bloom (or worse depending on your goals...where trees are biennially off this year you may want to take a reduction approach similar to the approach taken by some stonefruit growers).

With Christmas just around the corner and hand-thinning efficacy for return bloom starting to taper away from early-December for most

varieties there are a big few weeks ahead dropping croploads down via hand thinning. If you haven't started yet it's not too late.

Good luck for the month ahead.

- Nic

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.



What datapoints are coming up?



Optimising return bloom



Reminders: Critical data for the season ahead

If you've been reading past newsletters, you'll have collected datapoints for a number of your blocks for the season already (e.g. green tip date, full bloom date, tree cross sectional area and notes on the season to date).

Here's a few more to be capturing over the next few weeks...

Pre-hand thinning counts

Before you start thinning, it's important to establish what you're working with.

After secondary thinner-related fruit drop is finished (or when you're confident on what will/won't stay) undertake a series of counts to establish what you're working with.

Undertaking cluster counts by zone of tree (e.g. ladder crew, ground crew) can be a good way to establish clear rules for workers to achieve target croploads.

For more information on this technique see page 4 of last November's newsletter at:

<https://apal.org.au/wp-content/uploads/2019/09/19BDG-Newsletter-November-2018-NF.pdf>



Hand thinning strategy

With a good look around all of your blocks (include the management team to discuss strategy) establishing a block priority list, rules for each block and scale of each job can help with season planning.

Having a reference list of planned movements for thinning teams can ensure smoother operation and high priority blocks don't get left later than intended. Monitoring and

measuring against this planning sheet can help to highlight if things are taking longer than intended (e.g. budgeted 25x8-hour days and only halfway through at 20 8-hour day equivalents) and an early insight into labour shortfalls.

Post-hand thinning counts (as you go and after you're done)

Are your hand-thinning rules and strategies working?

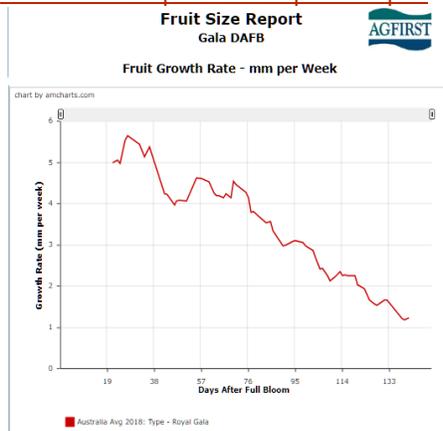
Counting trees behind thinning crews can ensure you remain on track. Ratios of 1 person counting/quality control to 6-12 thinners is typical depending on worker experience and tree structure. Counting is a critical part of this role but watching for damage (e.g. fruitlets being dropped through the tree) and defects being missed is equally as important.

Fruit size

If you are monitor fruit size, you should have started or be about to start. This can be undertaken in OrchardNet.

See page 4 of:

<https://apal.org.au/wp-content/uploads/2019/09/15BDG-Newsletter-April-2018-updated.pdf>



Nutrition

Mid-late November is a good nutrition intervention point.

Consider a leaf test and appropriate action (e.g. foliar sprays) to rectify any issues.

If you're not sure on approximate leaf standards for key times throughout the year, OrchardNet has these built in and can be seen under the nutrition reporting; assuming you have some leaf test data entered.

Rest of season strategy

Think about what needs to happen and when.

For example:

- Thinning priority
 - Est. start date and number of worker-days required
- Tree training/pruning
 - When, what, how long will it take?
- Harvest plan
 - Date for reflective mulch
 - Date to start monitoring maturity (check you have all supplies ready to go now rather than the day your start)
 - Harvest management (Retain, Harvista)
 - Stop-drop plan (if needed)
 - Accurate crop estimates can help to foresee labour/bin number issues
- Postharvest nutrition plan
 - Who is responsible?

Optimising return bloom

Flower bud differentiation is a crucial part of fruit production and one that has emerged as a challenge for a number of blocks across the country from the 2018/19 season into this year.

With consistency a key component in fruit production (and profitability); what strategies are available to assist return bloom and what can you do if things don't go to plan?

Cropload - appropriate amount and right timing

Modulation of cropload is one of the key strategies to ensure return bloom. Reducing stress load as well as gibberellic acid load (more fruit = more seeds = more gibberellin load; generally peaking at 60-80 days after full bloom which is why we want to drop croploads down by then)

Establishing an appropriate cropload for the tree (and potential stress levels) is critical. This starts at pruning, a good hit of chemical thinner where appropriate and getting things where they need to be with hand thinning to finish off.



Some other intervention options

To oversimplify, growth suppression strategies will encourage floral bud formation whereas rank growth will typically discourage it particularly when either option coincides with early summer. In reality, it's not a simple process and stressors (despite slowing growth) can negatively impact flower bud formation as well with high temperatures and water stress having a negative association with flower bud formation despite their suppression effect on tree growth.

Summer pruning timed for mid-December will typically generate additional buds. This would typically involve tying branches down, snapping branches down or 'click cutting' to form short terminal buds where appropriate (this has the bonus of stiffening weak branches)

Strategies that typically are used to address blind wood (notching, girdling, plant growth regulator application etc.) can also be highly effective.

Sequential sprays of NAA in the early summer period has also been associated with increased return bloom. Timely termination of shoots can also be helped along with some early season root drying and ethephon applications. A little tree stress can be a good thing...

Optimising fruitset with poor return bloom

Where poor return bloom is expected strategies to ensure a higher percentage of fruitset should be considered.

Some effective options are:

- Root pruning coming into the off-year
- Regalis™ (prohexadione-calcium) application, particularly when early
- Retain™ (aminovinylglycine) application over bloom
- Reduced primary thinner usage to ensure set)
- Girdling or trunk incision
- Increase bee density per hectare, open nets etc.
- Ensure adequate nutrition



***some of the growth regulator options outlined above are not on Australian label recommendations. Be aware of your legal obligations regarding off-label chemical usage in your region as well of the risks in doing so.**

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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