



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.

PREPARED BY NIC FINGER, AGFIRST

Future Orchards

Business Development Group Update

Issue 19
November 2018

IN THIS ISSUE

After what I'm sure has been a busy start to the season many of you will now be at the point where you've evaluated your chemical thinning successes and "blocks to work-on" for next year.

With hand-thinning now underway in most regions it's important to consider all of your options. Prioritising blocks by both value and biennial bearing risk will form a key part of your strategy and can make a large difference to next year's return crop as well as this year's returns.

Fruit counts across several trees is the best way to get an objective read on the situation and gauge how much hand thinning is required. Whilst it's tempting to 'eyeball' the cropload, a good quality (and accurate) count over a few trees per hectare will ensure what you're seeing is correct. I give some examples of counting methods in this newsletter.

I'd also encourage you to ensure you're collecting key datapoints throughout the season. Full bloom and green tip have now passed but assessing chemical thinning results, pre and post hand thinning fruit counts and fruit sizing should all be happening now to evaluate and tweak this year's croploads.

Following the recent completion of the Orchard Business Analysis average variety returns and orchard cost data have now been updated in OrchardNet. By putting in your blocks results for 2018 into the database you can benchmark against other growers and see your block performance relative to others; you might be surprised.

Finally, OrchardNet has recently had an update to its appearance. You can take a look by logging into your own account or by looking at the Focus Orchard block details (Username: focus password: focus)

If you've forgotten your OrchardNet login then go to the website and click the 'Lost your password?' link.

<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 the AgFirst team (see details on the last page of this newsletter) if you would like to give it a go.

Critical data to record: part 2



Crop estimation; why?



Cluster counting; an option for thinning rules



Critical data to record (and that you should have already recorded)

In my September newsletter I discussed some of the upcoming data collection points for each of your blocks; did you manage to capture them?

Those discussed were:

- Green-tip date
- Full bloom date
- Tree cross-sectional area (TCA)
- Nutrition data

You can find all previous BDG newsletters on the APAL website here: <https://apal.org.au/industry-info/future-orchards/archive-library/#bdp>

So what critical datapoints are coming up/just passed?

Chemical thinning applications (and results)

Good result? Bad result? You should be retaining a copy of your spray program and matching it with results. If your chemical thinning program stripped out a specific block, you don't want to have the same issue next year. If your strategy this year got an excellent result, it's a great starting point for next year.

Record. Evaluate. Refine.

See my September issue regarding chemical thinning planning and recording

Pre-hand thin fruit counts

"Too many fruit" isn't an accurate read on the situation. Counting individual trees (at least three per hectare) can help you to identify both how many fruit to remove and a strategy to remove them.

Counting number of clusters plus fruit per cluster can help you hit your targets in an easy instruction. Counting as "tops" (ladder work) and "bottoms" (ground work) can

help you target where and how many fruit are coming off. All clusters to singles, doubles in tops, singles at bottom etc. etc.

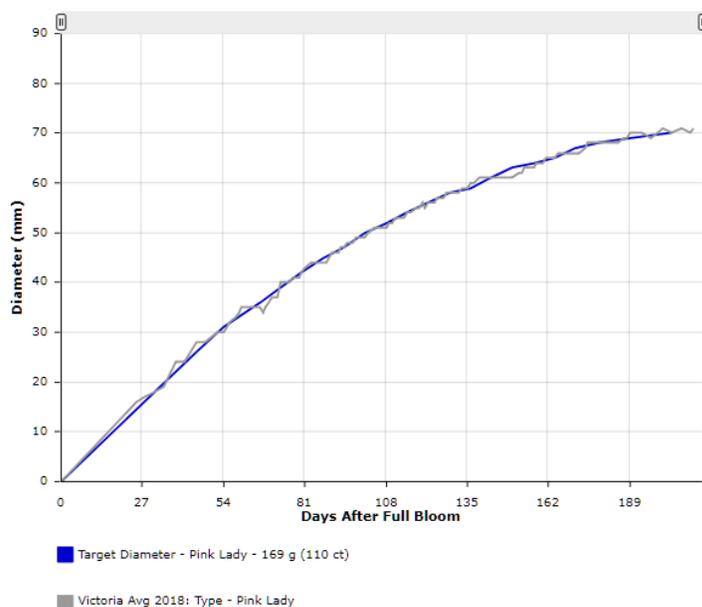
Post-hand thin fruit counts

Monitoring your actual results as thinning progresses is important to ensure you're staying on task and make any interventions (thinning more or less as well as correcting individual worker problems). Post-thinning counts are a great tool to both make any corrective actions (thin more/less) as well as ensure your cropload is where you want it.

Fruit size

Weekly monitoring of fruit development can open up a number of mid-season decision opportunities. By monitoring fruit size you're much more likely to pick up on fruit size falling behind and be able to take an intervention action. Fertigation, irrigation, use of Harvista™ or Retain™ or additional thinning may all be possible events to ensure your fruit size hits your target.

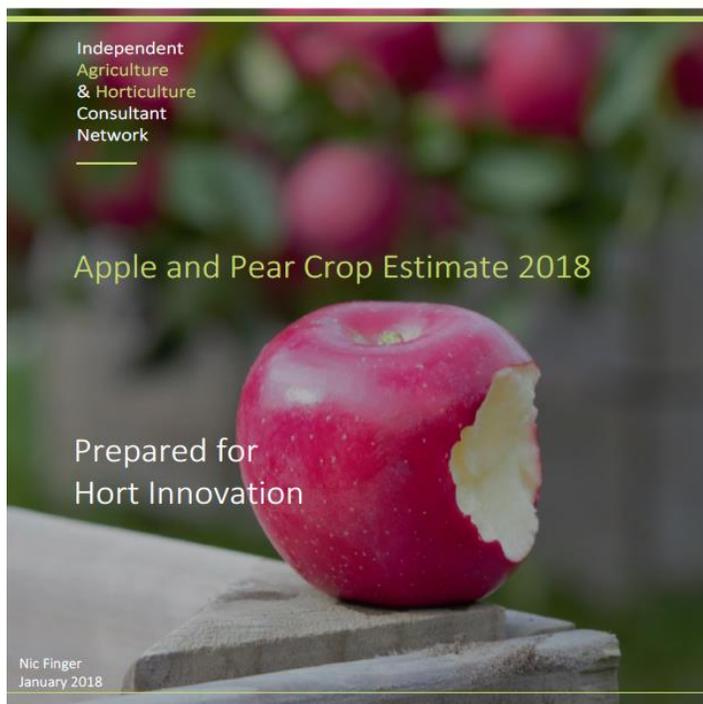
See Issue 15 of the BDG newsletter for more information at the above link.



Crop Estimation - Why it's important

Preparations for the 2018/19 AU Apple and Pear Crop Estimate are now well underway with growers encouraged to provide their own estimates over the next month to help increase the forecast's accuracy.

Why do we need a crop estimate? The answer goes well beyond the orchard gate.



What does the crop estimate tell us?

On an individual orchard level, a crop estimate plays a number of roles; primarily ensuring a proper plan is in place for crop management and ensuring fruit can be delivered to market in optimal conditions. This data informs a number of decisions both before and after the farm gate.

The crop estimate assesses the gross volume of the crop, the proportion that will meet market specification (ie. packout) and the size of the fruit by variety. In the orchard this data can inform several decisions including:

- the number of pickers required
- required bin numbers and when they're needed
- management practices (e.g. use of Retain)
- number of trucks/tractors/forklifts required

After the orchard gate these numbers can inform, amongst many other things:

- Cartons required
- Tray sizes needed
- Length of storage
- Marketing decisions
- Government negotiations
- Infrastructure requirements

When is the data collected?

Data is collected from late-November through to mid-January. The bulk of the grower crop estimation is completed in December once chemical thinning is completed and hand-thinning is well underway.

How do I participate?

In each of Australia's growing regions a regional project advisor has been appointed. Please get in contact with me (nic.finger@agfirst.co.nz) and I will direct you to the appropriate person for your region.

Alternatively, entering your orchard crop and fruit size data into OrchardNet also informs the crop estimate as well as providing the additional benefits that OrchardNet can have for your block management.

Cluster counting - getting the 'simple rules' in place

Whilst simple whole fruit counts can be quite effective for gauging where your block performance is, cluster counting can help give you the edge when it comes to instructing your thinners on the task at hand.

Simple fruit counting; an example

Let's pretend I count three Fuji trees in my block. I also measure the trunk cross sectional area for each tree as I want to maximise my cropload for the tree's age (in this case 4 years old and very healthy).

After counting my trees these are my results:

Tree	Total fruit	TCA	fruit/TCA	Target
2	836	33.4	10	334
4	700	33.2	10	332
6	540	30.8	10	308
Average	692	32		325

With this data I now know that to reach my target croploads I need to take an average of 367 fruit off each tree (approx. half).

Useful, but could we have made it more useful?

Cluster counting; an example

Same three trees; same block. Now I take approx. 1.5x as long to count each tree (best done as two people) to get the below results. For each cluster I note down fruit number/ cluster as well as whether it was accessible from the ground or the ladder (eg. third wire and up)

That gets me:

Tree 2		TCA	33.4	@ 10/TCA	334	fruit		
Clusters	1	2	3	4	5	6	Total fruit	Total Sites
Bottom	175	97	54	10	4	0	591	340
Top	53	36	23	10	1	1	245	124
Total	228	133	77	20	5	1	836	464
Tree 4		TCA	33.2	@ 10/TCA	332	fruit		
Clusters	1	2	3	4	5	6	Total fruit	Total Sites
Bottom	70	40	30	15	4	1	326	160
Top	99	70	26	7	1	4	374	207
Total	169	110	56	22	5	5	700	367
Tree 6		TCA	30.8	@ 10/TCA	308	fruit		
Clusters	1	2	3	4	5	6	Total fruit	Total Sites
Bottom	122	66	29	10	1	0	386	228
Top	43	30	10	4	1	0	154	88
Total	165	96	39	14	2	0	540	316

The red box is the total clusters.

I still have the same results as before but now I also know how my fruit are hanging on the tree. Clusters >2 would have been thinned but now I know that all clusters in both the tree tops and bottoms can go to singles and I will still achieve my target croploads.

A lot of extra information for a little bit of extra work.

Thinning all clusters to singles will get me to my target cropload and this is a simple rule to tell my thinning team.

Trees will still be slightly above-targets but by thinning these trees and tweaking (eg. space at a fist-width) I am likely to have a good set of instructions for the thinning team. Whilst this method takes a little bit longer you can design appropriate rulesets that are simple for your team to follow and implement.

Other rules you could use (depending on the target fruit number and fruit counts) include:

- Tops to singles, bottoms to doubles
- Clusters of 3/4/5/6 thin to singles. Leave doubles alone

The combinations continue but remember; keep it simple. Don't forget to evaluate if the rules are working as you go; croploads could be different in areas of the block to where you counted or thinner performance could vary. Monitor as you go.

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.

STATE	CONSULTANT	EMAIL	PHONE
OrchardNet Administrator	<i>Adrian Stone</i>	adrian.stone@agfirst.co.nz	+64 6 872 7074
AgFirst (NZ)	<i>Ross Wilson</i>	ross.wilson@agfirst.co.nz	+64 27 449 0775
AgFirst (NZ)	<i>Craig Hornblow</i>	craig.hornblow@agfirst.co.nz	+64 27 436 8441
AgFirst (NZ)	<i>Steve Spark</i>	sspark@agfirst.co.nz	+64 27 437 2344
AgFirst (NZ)	<i>Jonathan Brookes</i>	jonathan.brookes@agfirst.co.nz	+64 27 208 8750
AgFirst (NZ)	<i>Nic Finger</i>	nic.finger@agfirst.co.nz	+64 27 221 4835
FLA North Victoria	<i>Michael Crisera</i>	growerservices@fgv.com.au	+61 448 288 253
FLA South Victoria	<i>Camilla Humphries</i>	chumphries@eem.com.au	+61 427 111 852
FLA New South Wales	<i>Kevin Dodds</i>	kevin.dodds@dpi.nsw.gov.au	+61 427 918 315
FLA Tasmania	<i>Sophie Folder</i>	sophiefolder@internode.on.net	+61 439 247 172
FLA Queensland	<i>Stephen Tancred</i>	stephen@orchardservices.com.au	+61 407 762 888
FLA Western Australia	<i>Susie Murphy-White</i>	susiemurphywhite@gmail.com	+61 429 413 420
FLA South Australia	<i>Paul James</i>	paul@lenswoodcoop.com.au	+61 419 826 956