Future Orchards
Business Development Group Update

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Last issue I outlined how you can enter your blocks into the OrchardNet database (and see where they rank against the rest of the country), how you can raise the 'precision' of your pruning with bud counting and tactics for homing-in on your target croploads.

If you missed it, you can find it my last newsletter here: http://apal.org.au/wp-content/uploads/16BDG-Newsletter-April2-2018.pdf

As a gentle reminder, the data you need to compare your blocks is:

- Block details
  - Planted area (hectares)
  - Variety
  - Tree number and spacing (very useful for other tools)
- Gross picked/sent to packhouse
  - can be entered as bins, kilograms or tonnes/ha
- Class 1 packout %
  - If your fruit isn't packed yet make a sensible estimate
- Fruit weight (grams)
  - If your fruit isn't packed yet make a sensible estimate

Winter's now set-in and giving some much-needed winter chill to fruit trees across the country.

On the next cold and rainy day when you don't feel like braving the elements, I'd encourage to sit down at the computer and get stuck in to any bookwork you've being neglecting. By looking at your crop results for 2018 and simultaneously planning your 2019 harvest you can start to plan what resources you're likely to need in the coming year (number of bins, staff etc).

Whilst a winter plan won't be perfect it's a great starting point to making sure you have the right resources in the right place at the right time.

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?

Please contact your local FLA or a member of the AgFirst team (see details on the last page of this newsletter) if after trying the demo you would like to give it a go.

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OrchardNet's thinning report as a planning tool; how many fruit should be on that tree?

Farming by numbers; why do it?

With a year under my belt in Hawke's Bay I've recently been reflecting on what jumps out as the major differences between NZ and Australia.

Whilst the obvious come to mind with the funny accent (I'm constantly reminded that Nic is incorrect; Nec is the correct pronunciation of my name in New Zealand) there's one thing that comes to mind every time someone asks me what's different over there.

The sheer volume of counting, estimating, updating, budgeting, readjusting, counting again and finally reviewing those numbers at the end of the season. Whilst many growers are doing it in Australia; the sheer scale of counting undertaken by some of the best New Zealand growers is mind-boggling (up to 12 trees per hectare counted 4-6 times within the season accompanied by as many budget alterations and reviews).

In addition to this 'higher-level' counting; most working gangs have a team leader (or supervisor/QC) who monitors their performance in real-time ensuring orchards tasks are being done correctly and any necessary changes are communicated back to orchard management. The ratio of team leader to workers varies between businesses and tasks but probably ends up somewhere around the 1:10 level (with additional checks from managers who can monitor the team via this individual who will have all the 'numbers' on what is happening)

So why do they do it?

Simply put; you need to monitor to manage.Knowing more about what's going on will help you manage more effectively.

Whether it's dialing in a yield to the optimum crop load for maximum profitability, ensuring that you've actually got enough bins to pick into (and pickers!) or prioritizing which blocks to irrigate in a dry year numbers ultimately drive your everyday decisions on the orchard.

By knowing and updating:

- what crop you have (buds, fruitlets, fruit)
- hours required to complete upcoming tasks
- money available for upcoming tasks
- water and other resources (e.g. bins) available

you can calculate all kinds of requirements, shortfalls and issues that you may have further along in the season.

To name a few:

- Labour
  - Do I need more or less staff in February than last year?
- Bins
  - Do I need more or less bins this year?
- Logistics
  - How many truckloads of fruit do I need to move?
- Cashflow
  - Is there going to be enough money at the right time to do the tasks I need to do? Can I shift tasks to different windows?
- Fruit quality
  - Is this the optimum cropload for colour, taste and size for my market?
- Postharvest
  - How many crates do I need? How many stickers? How much coolstorage? Do I have a plan for where my crop goes?
- Water
  - Where should I allocate water if things get tight to maximise returns?
- Marketing
  - Likely prices; what window should I look to sell this quality of crop into?

The list goes on from there...

Ensure that your decisions on farm are informed by the best data available.

If you've got a plan (updating it as you go through the season) those split-second decisions become much simpler and more likely to have favourable outcomes.

Focus Orchard Winter 2018 Update

To look at the focus orchard blocks in OrchardNet:

Go to: http://www.orchardnet.co.nz
Username: focus
Password: focus
After logging in you will come to the Focus Orchard dashboard (pictured below) where you can see all of the focus orchards and access each block's data.

Click on each business name to look at its data. By clicking on a given block under each business you can see its 'numbers' and how it stacks up. I outlien how to run some basic reports over the next few pages.

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For the below I'll outline how to view where a block stacks up. Take Volpato Orchard's Hay Shed – Pink Lady block.

To access the block I would click Volpato Orchard in the focus orchard login screen (on the left hand pane next to the green arrow) and the choose the relevant block.

I will then get a screen with the below at the top as well as the entered block data below. Select "View block reports for..." (show in the red box below)

<<-Volpato Orchard <<-Volpato Focus Blocks <<-A

Hay Shed - Pink Lady

Block details: edit

edit location

Block name:	**Hay Shed - Pink Lady**
Production Site name:	A
Property name:	Volpato Focus Blocks
RPIN?:	
Variety:	Pink Lady
Rootstock:	MM109
Year Planted/Grafted:	2006
Status:	**Active** - subscription expires 30 June 2019

View block reports for Hay Shed - Pink Lady

View fruit size data and reports

View leader extension data and reports

I would then suggest trying a few options on the next screen (scroll down and select the relevant year; 2018 will be selected by default) and click:

1.   "Block analysis" which I've outlined in previous BDG newsletters

2.   "Thinning report" a tabular breakdown of fruit harvested per tree for the last few years

1. The block analysis report.

   Volpato's Hay Shed block is ranked number 2 out of the 46 blocks who have put their results into OrchardNet (packouts/fruit size are estimated for a number of them).

Block Analysis
Volpato Orchard - Volpato Focus
Blocks - A - Hay Shed - Pink Lady
2018 Pink Lady
ranked by: Profit per ha

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Comparison: **Australia** Type - Pink Lady (46 Blocks 78 ha)

Actual industry costs and returns are not currently available for this year, so estimated values have been used
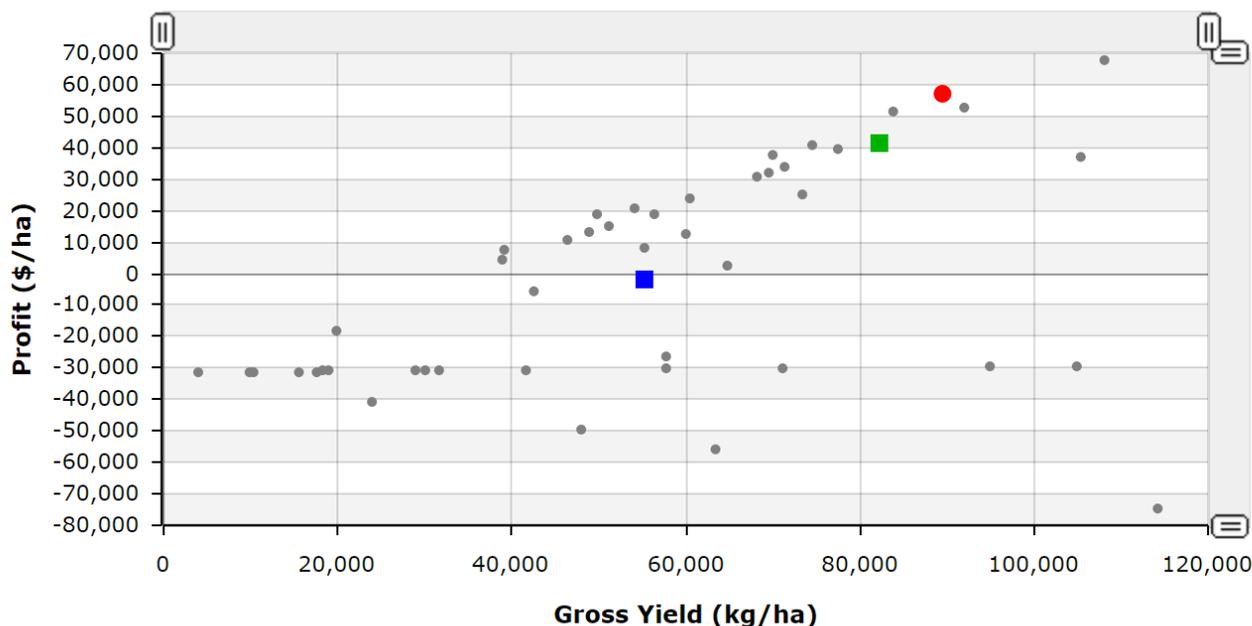
Rank	Block Name	Gross Kg per ha	Class 1 Kg per ha	Packout	Fruit Wt (g)	Hg%	Income	Profit
	Upper Quartile	82,047	61,803	76%	170	0%	$135,986	$41,832
	Average All	55,188	26,855	42%	169	0%	$62,539	$-1,768
1		108,235	82,259	76%	172	0%	$181,737	$67,451
2	Hay Shed - Pink Lady	89,600	76,160	85%	180	0%	$158,959	$56,630
3		92,121	69,091	75%	160	0%	$154,001	$52,265
4		84,000	71,400	85%	180	0%	$149,024	$51,108
5		74,667	63,467	85%	185	0%	$130,909	$40,348
6		77,508	58,131	75%	160	0%	$129,572	$38,942
7		70,000	56,000	80%	170	0%	$123,253	$37,349

Some blocks have not had a packout entered and are thus at a significant loss/ha in the above graph.

When entering data into OrchardNet you're far better off putting in a sensible estimate for packout/fruit size based on your 'gut feel' at harvest to ensure that your block is ranked on an even playing field. Once you have confirmed your actual packout and fruit size (after your fruit is packed) it is a simple process of entering the updated value.

2. Thinning report for Volpato's Hay Shed Pink Lady.

Company:	Volpato Orchard
Property:	Volpato Focus Blocks
Production Site:	A
Block:	Hay Shed - Pink Lady

Thinning Report
Season Ending 2018

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Blockname	Ssn	Type	Gross Kg/ha	Class1 Kg/ha	Fruit Harvested Weight (g)	Fruit /Tree	TCA Harvested Fruit /TCA	Tree Pickout %	Target Fruit/Tree post-thin	Actual Fruit/Tree pre-thin	Actual Fruit/Tree post-thin
Volpato Focus Blocks											
A											
**Pink Lady**											
Hay Shed - Pink Lady	2018	_Est_	_80,000_	_64,000_	_180_	_313_	-	-	_90_	_348_	-	-
		Act	**89,600**	**76,160**	**180**	**351**	-	-	-	-	-	-
	2017	Act	59,000	50,150	180	231	59.4	3.9	186	257	-	124
	2016	Act	78,280	58,710	180	307	79.0	3.9	-	341	-	-
	2015	Act	57,600	43,200	180	226	-	-	-	251	-	-

You'll note that 2017 tree pickout, the proportion of fruit post-thinning to calculated fruit harvested (based on average fruit size and yield) was 186%. This suggests an issue with the tree(s) counted for.

To minimize the risk of "miscounts" (or more likely counting trees that weren't truly representative of the whole block)
- Ensure trees are representative of the whole block
  - This is a relatively easy task in highly uniform blocks but is more challenging in blocks with high variability
  - Aim for trees that you'd rank as 'average'
    - I like to categorise trees (eg. In a 2 hectare block I might categorise 20% as 'small', 50% 'medium', 30% 'large'). In my method I'd then count 2 small, 5 medium and 3 large trees to get an average that I feel is representative for the block.
  - Counting more trees can help minimize this risk
- Utilise a counting system
  - Count by branch from the bottom of the tree
  - Avoid edge rows and end trees

I've included how the thinning report can be used for estimate purposes as well on the next page

Thinning Report
Season Ending 2019

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Blockname	Ssn	Type	Gross Kg/ha	Class1 Kg/ha	Fruit Harvested Weight (g)	Fruit /Tree	TCA Harvested Fruit /TCA	Tree Pickout %	Target Fruit/Tree post-thin	Actual Fruit/Tree pre-thin	Actual Fruit/Tree post-thin
A Block											
Gala											
	2019	*Est*	*69,788*	*59,320*	*158*	*155*	-	-	*92*	*168*	-	-
		Act	-	-	-	-	-	-	-	-	-	-
	2018	Act	66,766	57,659	158	147	-	-	-	164	-	-
	2017	Act	63,623	48,989	194	114	-	-	-	127	-	-
	2016	Act	56,971	42,729	160	124	-	-	-	138	-	-
B Block											
Rosy Glow											
	2019	*Est*	*85,000*	*68,000*	*170*	*175*	-	-	*92*	*190*	-	-
		Act	-	-	-	-	-	-	-	-	-	-
	2018	Act	92,121	69,091	160	202	-	-	-	224	-	-
	2017	Act	78,283	51,475	174	157	-	-	-	175	-	-
	2016	Act	60,646	45,485	160	133	-	-	-	147	-	-
Pink Lady											
	2019	*Est*	*61,622*	*46,216*	*170*	*304*	-	-	*92*	*331*	-	-
		Act	-	-	-	-	-	-	-	-	-	-
	2018	Act	49,000	36,750	160	107	-	-	-	119	-	-
	2017	Act	55,789	39,053	174	0	-	-	-	-	-	-

Data required for this report:

Historical data (eg 2017 and 2018 above)

- Gross picked
- Average fruit size (grams) – estimated for 2018 in the Cripps/Rosy blocks
- Percentage packout – estimated for 2018 in the Cripps/Rosy blocks
- Number of trees and block area

Upcoming year (2019 above)

- Estimated gross yield target
- Target fruit size (grams)
- Target packout
- Number of trees and block area (which is unlikely to have changed in most scenarios)

From this dataset OrchardNet is able to determine how many fruit at the target size are needed on the tree at harvest (blue arrow) and at thinning (red arrow) assuming a 90% pickout. The 10% drop in 'pickout' is associated with losses through the season or what 'gets in the bin' (eg. Some natural drop, dropped fruit during harvest and missed fruit)

A 92% pickout is being used in 2019 for these blocks

With this data a target is easily set for the block and with it a plan for cropload management for the upcoming season.

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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