

Presentation by:

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Orchard Manager

WHY DO WE MEASURE AND RECORD DATA?

- I'm a big believer in having a measuring stick
- If we don't measure, what do we compare to?
- Data gives you an accurate history to make solid decisions!
This has to be far better than going by what you may or may not remember e.g. good or bad year
- You can start to see trends or problem areas, and rectify them before it's too late e.g. over crop, fruit size
- Ability to confidently communicate with the pack house or supplier's with accurate data e.g. estimated production and fruit size

WHAT THINGS DO WE MEASURE?

- Basically everything you can think off!
- Crop Loads e.g. buds, flower, fruit clusters, fruit
- Fruit measurements
- Shoot measurements
- Growing degrees days
- Costs e.g. picking, pruning, thinning, spraying, fertilizer, machinery costs

CROP LOADING AND MEASURING:

- Our Farms consist of just over 200 ha of orchard land. Over the production area of 160 ha we have 65 different blocks. 50 ha of this production area is under 4 year old.
- We count and measure every block on the farm, starting at pruning time and continuing right through to harvest.
- We employ one person who basically measures and count's for 6 months of the year!
- They record this information on our work data base which i access and make decision of on a daily basis. A lot of the things you notice are very small and would be to late to actually visually pick them up on so many blocks to look at.
- The next slide shows an example of some data we collect for each block. This helps with our decision making, and highlights what is needed from block to block.

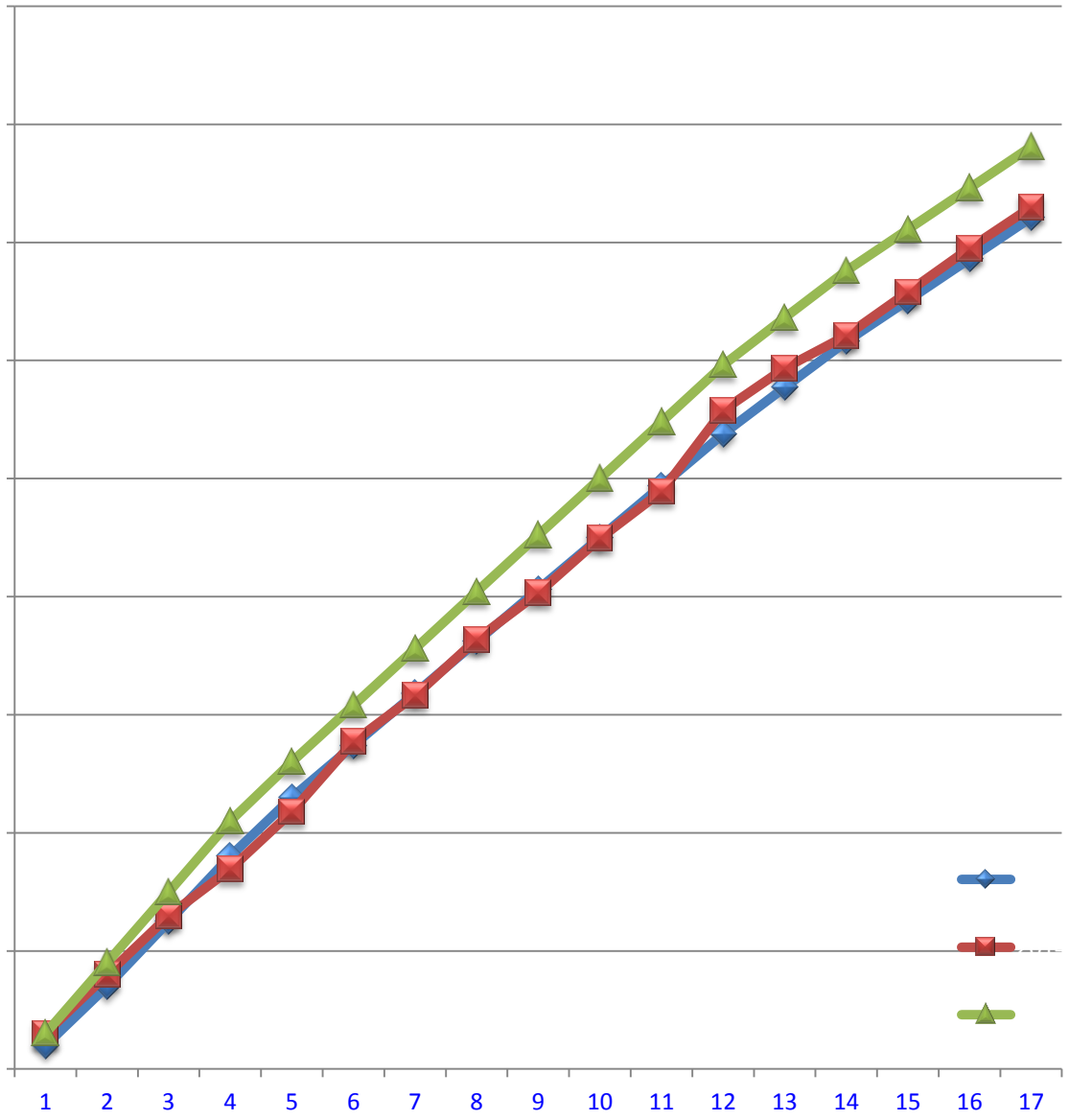
Tree No	Row	Branches	Flowers	Fruit Cluster	Pre Fruit	Post Fruit
1	R 5	1	294	175	420	163
2		1	340	194	476	156
3		1	318	189	360	142
4		1	341	192	480	183
5		1	248	142	280	127
6	R 15	1	380	157	327	140
7		1	285	177	355	173
8		1	295	151	285	131
9		1	358	197	456	137
10		1	259	114	210	131
11	R 25	1	165	134	256	140
12		1	192	145	290	129
13		1	196	135	310	116
14		1	243	141	402	123
15		1	189	110	297	103
AVGERAGE			274	159	327	140

Estimated						
Blk	KG/ Ha	Tree/ Ha	Kg/ tree	Fruit/ Weight	Fruit/ tree	Buds/ tree
B25	45000	2242	20	0.17	130	162

Actual							
Block	Fruit/ tree	Fruit Weight	Kg/ tree	Tree/ ha	Tonne/ ha	Tonne/ block	Bins
B25	140	0.17	22	2242	49	150	386

Growth Rates

Week	Min	2014	Max
1	2.00	3.00	3.00
2	7.00	8.00	9.00
3	12.50	13.00	15.00
4	18.00	16.91	21.00
5	23.00	21.78	26.00
6	27.40	27.72	30.80
7	31.80	31.63	35.60
8	36.20	36.37	40.40
9	40.60	40.30	45.20
10	45.00	44.93	50.00
11	49.40	48.90	54.80
12	53.80	55.78	59.60
13	57.70	59.34	63.60
14	61.60	62.10	67.60
15	65.10	65.80	71.10
16	68.60	69.50	74.60
17	72.10	73.00	78.10
18	0.00	0.00	0.00
19	0.00	0.00	0.00



100 Fruit Counts:

Collecting data:

- 4 weeks out from harvest we collect 100 fruit off a standard tree to get a indication of size profile not just average.
- This helps us decide what percentage of the crop will be size for first and second pick.
- Also whether the fruit could need retain to hold back if fruit size isn't good.

Size 30/12/13	< 67	64-67	60-64	57-60	53-57	53 >
1	69.90	66.00	63.40	59.75	56.40	52.70
2	67.50	65.90	63.40	59.75	56.25	52.60
3	67.25	65.60	63.25	59.75	56.25	52.30
4		65.50	63.00	59.00	56.00	52.20
5		65.40	63.00	58.75	56.00	51.90
6		65.00	62.50	58.75	56.00	50.80
7		65.00	62.40	58.75	56.00	50.50
8		64.75	62.10	58.60	55.90	50.20
9		64.30	61.75	58.60	55.75	50.00
10		64.10	61.50	58.60	55.75	49.80
11		64.00	61.50	58.50	55.75	49.80
12			61.50	58.25	55.60	49.60
13			61.25	57.90	55.40	49.50
14			61.00	57.50	55.10	49.00
15			60.75	57.50	55.00	48.60
16			60.50	57.10	55.00	48.84
17			60.50	57.10	54.75	48.00
18			60.25	57.00	54.60	46.50
19			60.25	57.00	54.60	
20					54.60	
21					54.50	
22					54.50	
23					54.50	
24					54.40	
25					54.25	
26					54.00	
27					54.00	
28					53.75	
29					53.25	
30					53.10	
Predicted Size						
Size 24/1/14	80 >	78-80	74-77	71-73	67-70	< 67
size 4/2/14	84 >	80-84	77-80	74-77	71-73	67-70
Percentage	3%	11%	19%	19%	30%	18%

BLOCK COSTING AND FINANCIAL DATA:

- We use Grow Data, which is a database software program, to enter all our costing and raw data in.
- Data can be entered for each individual block, variety groups or by farms.
- I can then pull the data back out of the database and use this to see how blocks are going financially.
- The data is also entered into a block financial sheet & whole farm sheet.
- To follow are example's of what I do for block costing and the financial record sheet.

BUDGET – Costing B25

Ha	3.12	3.12	3.12	3.12	3.12	3.12	3.12
Year	2008	2009	2010	2011	2012	2012	2013

Pruning	Block	9029.00	6934.00	6946.00	13604.00	14636.00	25894.00	10763.00
	Ha	2893.91	2222.44	2226.28	4360.26	4691.03	8299.36	3449.68
	Bin	49.88	47.17	24.03	44.31	41.46	104.41	30.06
Picking	Block	6521.00	10649.00	18987.00	15099.00	20060.00	19090.00	25630.00
	Ha	2090.06	3413.14	6085.58	4839.42	6429.49	6118.59	8214.74
	Bin	36.03	72.44	65.70	49.18	56.83	76.98	71.59
Ganging	Block	0.00	0.00	774.00	550.00	0.00	0.00	0.00
	Ha	0.00	0.00	248.08	176.28	0.00	0.00	0.00
	Bin	0.00	0.00	2.68	1.79	0.00	0.00	0.00
Thinning	Block	6595.00	4330.00	5081.00	5291.00	9575.00	7680.00	20864.00
	Ha	2113.78	1387.82	1628.53	1695.83	3068.91	2461.54	6687.18
	Bin	36.44	29.46	17.58	17.23	27.12	30.97	58.28
Fertiliser	Block	2001.00	4590.00	4138.00	3249.00	3929.00	2973.00	3129.00
	Ha	641.35	1471.15	1326.28	1041.35	1259.29	952.88	1002.88
	Bin	11.06	31.22	14.32	10.58	11.13	11.99	8.74
Spraying	Block	6220.00	4789.00	8834.00	8859.00	6877.00	10196.00	7763.00
	Ha	1993.59	1534.94	2831.41	2839.42	2204.17	3267.95	2488.14
	Bin	34.36	32.58	30.57	28.86	19.48	41.11	21.68
Other	Block	6285.00	18015.00	17029.00	13167.00	16414.00	12615.00	11390.00
	Ha	2014.42	5774.04	5458.01	4220.19	5260.90	4043.27	3650.64
	Bin	34.72	122.55	58.92	42.89	46.50	50.87	31.82
Total	Block	36651.00	49307.00	61789.00	59819.00	71491.00	78448.00	79539.00
	Ha	11747.12	15803.53	19804.17	19172.76	22913.78	25143.59	25493.27
	Bin	202.49	335.42	213.80	194.85	202.52	316.32	222.18
Overheads	Block	24180.00	24180.00	24180.00	24180.00	24180.00	24180.00	24180.00
	Ha	7750.00	7750.00	7750.00	7750.00	7750.00	7750.00	7750.00
	Bin	133.59	164.49	83.67	78.76	68.50	97.50	67.54
Total Bins		181.00	147.00	289.00	307.00	353.00	248.00	358.00
Cost per Bin		336.08	499.91	297.47	273.61	271.02	413.82	289.72
Bin Return		420.00	450.00	275.00	760.00	430.00	378.00	325.00

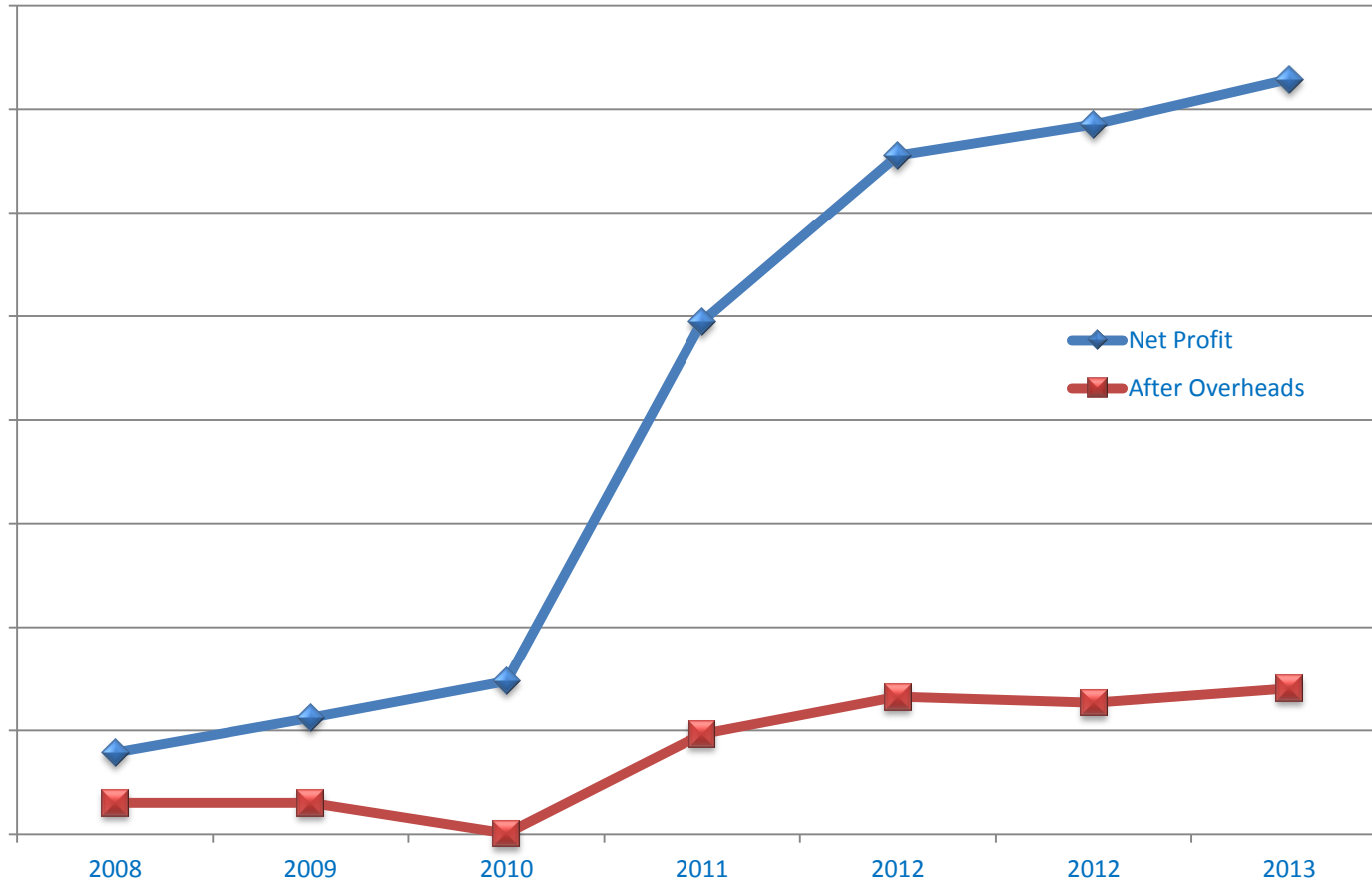
Profitability Breakdown

Block Return	Block	76020.00	66150.00	79475.00	233320.00	151790.00	93744.00	116350.00
	Ha	24365.38	21201.92	25472.76	74782.05	48650.64	30046.15	37291.67
	Bin	420.00	450.00	275.00	760.00	430.00	378.00	325.00
Net Profit	Block	39369.00	16843.00	17686.00	173501.00	80299.00	15296.00	36811.00
	Ha	12618.27	5398.40	5668.59	55609.29	25736.86	4902.56	11798.40
	Bin	217.51	114.58	61.20	565.15	227.48	61.68	102.82
After Overhead	Block	15189.00	-7337.00	-6494.00	149321.00	56119.00	-8884.00	12631.00
	Ha	4868.27	-2351.60	-2081.41	47859.29	17986.86	-2847.44	4048.40
	Bin	83.92	-49.91	-22.47	486.39	158.98	-35.82	35.28

B25 Profitability

Net Profit	Block	\$ 39,369	\$ 56,212	\$ 73,898	\$ 247,399	\$ 327,698	\$ 342,994	\$ 364,509
	Ha	\$ 12,618	\$ 18,017	\$ 23,685	\$ 79,295	\$ 105,031	\$ 109,934	\$ 116,830

After Overheads	Block	\$ 15,189	\$ 7,852	\$ 1,358	\$ 150,679	\$ 206,798	\$ 197,914	\$ 219,429
	Ha	\$ 4,868	\$ 2,517	\$ 435	\$ 48,295	\$ 66,281	\$ 63,434	\$ 70,330



DO I NEED DATA FOR INDIVIDUAL BLOCKS?

- I believe the answer to this question is yes!
- A lot of farmers know what they spent for the year and how much money they get back, however...
- I have found over the last few years that the best 20% of the orchard make up probably 80% of the farms profit!
- An important factor that is often over looked is the averaging of our returns. For example, if we get \$250 per bin on average for a variety, is it fair to allocate this across all 5 blocks of that variety?
- Was all the fruit of equal standard and quality, or are some blocks making others blocks look better than they are?
- To follow is an example of 1 of our farms that show 2 different blocks of Packham's...

Packham Costs – All Blocks

	Ha	3.37	3.37	3.37	3.37
	Year	2010	2011	2012	2013
Pruning	Block	12400.00	12837.00	14657.00	14373.00
	Ha	3679.53	3809.20	4349.26	4264.99
	Bin	64.92	26.52	52.72	40.15
Picking	Block	7258.00	19469.00	13946.00	18421.00
	Ha	2153.71	5777.15	4138.28	5466.17
	Bin	38.00	40.23	50.17	51.46
Fertiliser	Block	2661.00	2910.00	2639.00	2800.00
	Ha	789.61	863.50	783.09	830.86
	Bin	13.93	6.01	9.49	7.82
Spraying	Block	4572.00	8100.00	5308.00	5088.00
	Ha	1356.68	2403.56	1575.07	1509.79
	Bin	23.94	16.74	19.09	14.21
Other	Block	5018.00	6997.00	9071.00	8552.00
	Ha	1489.02	2076.26	2691.69	2537.69
	Bin	26.27	14.46	32.63	23.89
Total	Block	31909.00	52757.00	45621.00	50424.00
	Ha	9468.55	15654.90	13537.39	14962.61
	Bin	167.06	109.00	164.10	140.85
Total Bins		191.00	484.00	278.00	358.00
Bin Cost		167.06	109.00	164.10	140.85

RUNNING TOTAL

Year		2010	2011	2012	2013
Bin Return		132	128	170	174
Block Return	Block	25300.00	61800.00	47320.00	62274.00
	Ha	7507.42	18338.28	14041.54	18478.93
	Bin	132.46	127.69	170.22	173.95
Net Profit	Block	-6609.00	9043.00	1699.00	11850.00
	Ha	-1961.13	2683.38	504.15	3516.32
	Bin	-34.60	18.68	6.11	33.10

Net Block Profit		2010	2011	2012	2013
Block		-\$6,609.00	\$2,434.00	\$4,133.00	\$15,983.00
Ha		-\$1,961.13	\$2,683.38	\$ 504.15	\$ 3,516.32

**Now let's take a
look at 2 individual
blocks to see what
those "averages" are
hiding...**

Individual Costing B02A

		Ha	1.66	1.66	1.66	1.66
		Year	2010	2011	2012	2011
Pruning	Block		7200.00	5363.00	8232.00	8473.00
	Ha		4337.35	3230.72	4959.04	5104.22
	Bin		65.45	17.64	58.80	38.17
Picking	Block		4180.00	12001.00	7772.00	12321.00
	Ha		2518.07	7229.52	4681.93	7422.29
	Bin		38.00	39.48	55.51	55.50
Fertiliser	Block		1334.00	1435.00	1498.00	1400.00
	Ha		803.61	864.46	902.41	843.37
	Bin		12.13	4.72	10.70	6.31
Spraying	Block		2301.00	3995.00	2793.00	2523.00
	Ha		1386.14	2406.63	1682.53	1519.88
	Bin		20.92	13.14	19.95	11.36
Other	Block		2759.00	4806.00	4473.00	4212.00
	Ha		1662.05	2895.18	2694.58	2537.35
	Bin		25.08	15.81	31.95	18.97
Total	Block		17774.00	28805.00	24768.00	29719.00
	Ha		10707.23	17352.41	14920.48	17903.01
	Bin		161.58	94.75	176.91	133.87
		Bins	110.00	304.00	140.00	222.00
		Bin Cost	161.58	94.75	176.91	133.87

Individual Costing B08

		Ha	1.71	1.71	1.71	1.71
		Year	2010	2011	2012	2011
Pruning	Block		5200.00	7474.00	6425.00	5900.00
	Ha		3040.94	4370.76	3757.31	3450.29
	Bin		64.20	41.52	46.56	43.38
Picking	Block		3078.00	7468.00	6174.00	6100.00
	Ha		1800.00	4367.25	3610.53	3567.25
	Bin		38.00	41.49	44.74	44.85
Fertiliser	Block		1327.00	1475.00	1141.00	1400.00
	Ha		776.02	862.57	667.25	818.71
	Bin		16.38	8.19	8.27	10.29
Spraying	Block		2271.00	4105.00	2515.00	2565.00
	Ha		1328.07	2400.58	1470.76	1500.00
	Bin		28.04	22.81	18.22	18.86
Other	Block		2259.00	2191.00	4598.00	4340.00
	Ha		1321.05	1281.29	2688.89	2538.01
	Bin		27.89	12.17	33.32	31.91
Total	Block		14135.00	23952.00	20853.00	20705.00
	Ha		8266.08	14007.02	12194.74	12108.19
	Bin		174.51	133.07	151.11	152.24
		Bins	81.00	180.00	138.00	136.00
		Bin Cost	174.51	133.07	151.11	152.24

Yearly Returns B02A

Bin Return		230.00	150.00	200.00	207.00
Block Return	Block	25300.00	45600.00	28000.00	45954.00
	Ha	15240.96	27469.88	16867.47	27683.13
	Bin	230.00	150.00	200.00	207.00
Net Profit	Block	7526.00	16795.00	3232.00	16235.00
	Ha	4533.73	10117.47	1946.99	9780.12
	Bin	68.42	55.25	23.09	73.13

Yearly Returns B08

Bin Return		170.00	90.00	140.00	120.00
Block Return	Block	13770.00	16200.00	19320.00	16320.00
	Ha	8052.63	9473.68	11298.25	9543.86
	Bin	170.00	90.00	140.00	120.00
Net Profit	Block	-365.00	-7752.00	-1533.00	-4385.00
	Ha	-213.45	-4533.33	-896.49	-2564.33
	Bin	-4.51	-43.07	-11.11	-32.24

Running Total B02A

Block Profit		2010	2011	2012	2013
Net Profit	Block	7526.00	24321.00	27553.00	43788.00
	Ha	4533.73	14651.20	16598.19	26378.31

Running Total B08

Block Profit		2010	2011	2012	2013
Net Profit	Block	-365.00	-8117.00	-9650.00	-14035.00
	Ha	-213.45	-4746.78	-5643.27	-8207.60

I hope you can all see the benefit of collecting individual block data on your property.

Thank you for your time today and interest in getting out more from the future!!!

**If you have any questions,
please feel free to ask 😊**

Just in case you think of something else down the track you can call me on 0417 385 725 or email: jason@plunkettorchards.com.au