

Creating consistent yields

Through structured decision points

Mark Wakefield

- Mr Apple Orchard Manager 15+ years
- Clive Orchard – 90-hectare apple orchard, Hawke's Bay, NZ
- 25+years' experience in management across apples, stone fruit & processing crops

MrAPPLE^{NZ}



Mr Apple NZ Ltd

Mr Apple is NZ's largest fully integrated apple business, owned by Scales Corporation Limited, which was founded in 1897.

Based in Hawke's Bay, Mr Apple operates 14 orchards across approximately 1,100 hectares, producing around 200,000 bins each year and exporting approximately 5 million cartons annually.

The business employs around 400 permanent team members and up to 1,500 seasonal staff during peak periods.

14

orchards

1,100

Hectares

200k

bins per
year

5m

export
cartons



Understanding the block to plan for the season

Build the orchard picture and develop a clear plan

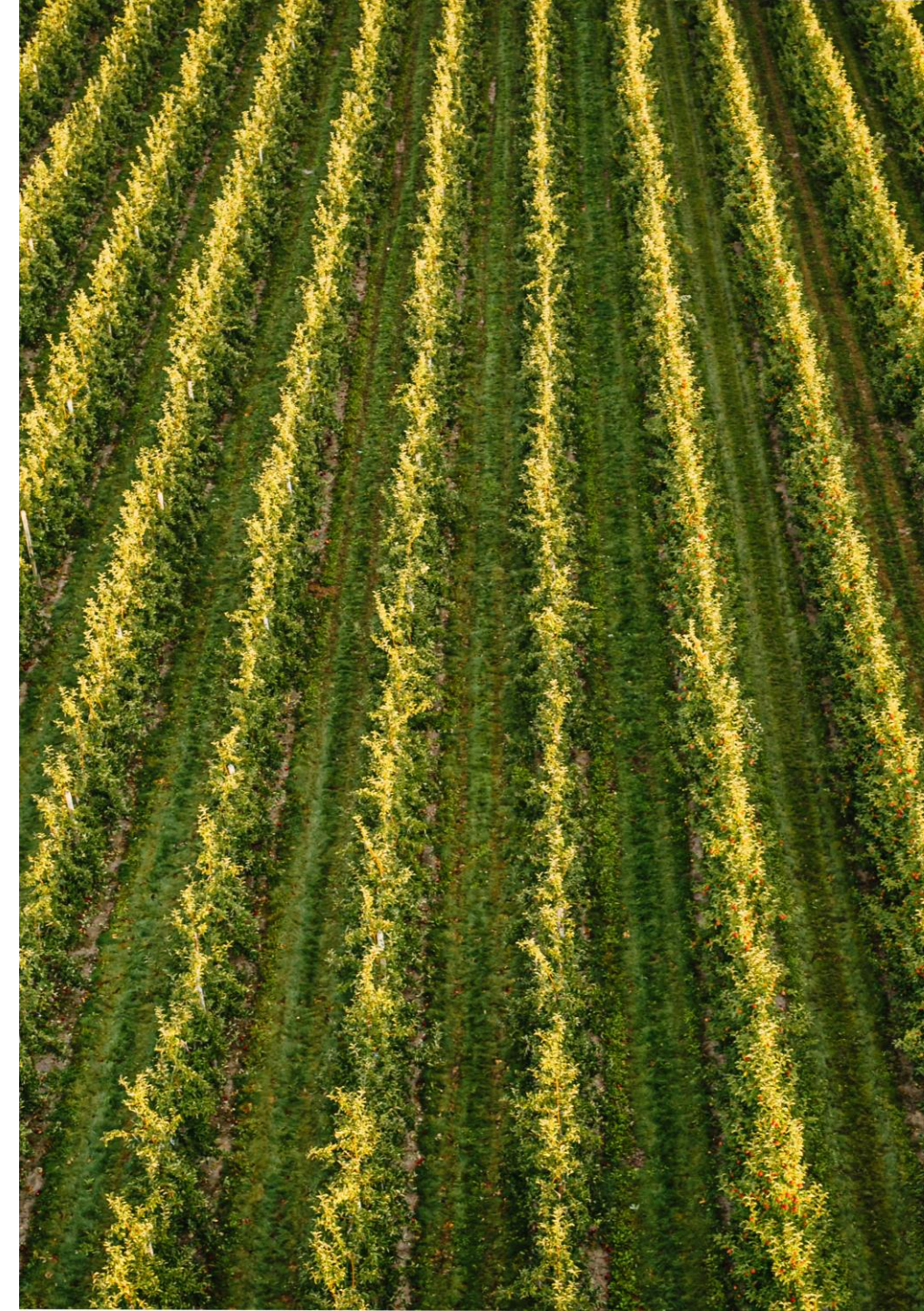
Billy introduction

Block profile

- M9 Galaxy (3.5m x 1.5m)
- 1904 trees/ha

What to review

- Yield and fruit size
- packhouse data (since 2012)
- Yield improvement



River galaxy Billy sheet example

Bay Search 															Bay Stats				
RPin: R2599				Variety: 068 - Galaxy					Bay: RB				Sub: A - RB/RB						
Trees: 2037			Hectares: 1.06			Tree Spacing: 1.50			Planted: 2007			Thinning \$/Tree: \$4.50							
Rows: 8		Row width: 3.50			Rootstock: M.9			Grafted:											
	Season	TCE/HA		TCE/Tree		Exp Size		Fruit Yield		Pack Out	Bin Size	Orchard Process	Not Picked	Thinning		Ref Tree			
		Actual	Target	Actual	Target	Actual	Target	Actual	Target					Actual	Target	Avg			
Year	2012	3,722		1.97		123		242		94%	126	1%	5%		254				
Year	2013	3,968		2.10		119		250		88%	116	0%	5%		263				
Year	2014	3,950	4,200	2.09		115	115	240	255	95%	118	0%	5%		252	267	286		
Year	2015	3,283	4,200	1.74		116	118	202	261	88%	111	0%	5%		212	274	271		
Year	2016	5,214	5,000	2.76		110	118	304	312	86%	108	0%	5%		319	327	392		
Year	2017	4,459	5,000	2.36		112	118	264	312	90%	111	0%	5%		277	327	255		
Year	2018	6,777	5,000	3.58		106	118	379	312	83%	105	0%	5%		398	327	446		
Year	2019	6,532	6,000	3.43		121	118	415	371	86%	123	0%	5%		436	389	531		
Year	2020	6,973	6,000	3.66		106	118	388	371	77%	116	0%	5%		407	389	417		
Year	2021	5,902	6,000	3.10		127	111	394	349	90%	125	0%	5%		414	366	450		
Year	2022	5,523	6,000	2.90		123	115	357	362	82%	119	0%	5%		375	380	349		
Year	2023	5,733	5,500	3.01		125	115	376	332	77%	125	0%	5%		395	348	407		
Year	2024	5,745	6,000	2.99		128	115	383	359	77%	136	0%	5%		402	376	446		
Year	2025	4,092		2.13		106	110	226		85%	111	0%	5%		237		302		
Target	2026		4,500	2.34			110		257				5%			269			

River galaxy Billy sheet example

Build the orchard picture and develop a clear plan

2024 Notes

- No chemical thinning in 2024 (Cyclone Gabrielle impact)
- Excessive crop load
- Reduced fruit size
- Root systems still recovering from cyclone stress

2025 Notes

- Jazz block reworked to Posy (2024)
- Limited pollen
- Strong bloom
- Chemical thinning (minimal)
- Heavy fruit drop – below yield target

Season		Actual
Year	2012	3,722
Year	2013	3,968
Year	2014	3,950
Year	2015	3,283
Year	2016	5,214
Year	2017	4,459
Year	2018	6,777
Year	2019	6,532
Year	2020	6,973
Year	2021	5,902
Year	2022	5,523
Year	2023	5,733
Year	2024	5,745
Year	2025	4,092
Target	2026	

Creating consistent yields

Start by understanding what the orchard is carrying into the season, then set up even bloom and pollination.

1. Orchard starting point

1. Previous season state

- Carbohydrate store
- Disease pressure
- What did last season leave behind?

2. Environment

- Soil moisture level
- Flooding risk
- Tree damage and recovery needs

3. Winter chill

- Chill units model
- Dormancy breaker options: yes/no
- Use model outputs alongside orchard observation

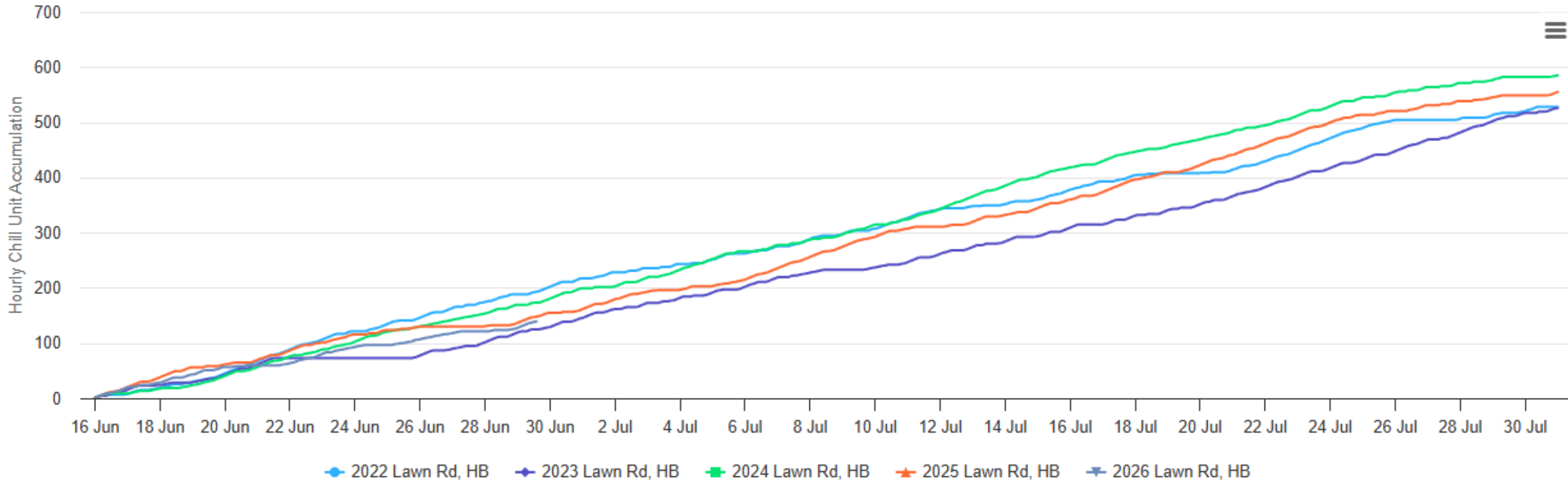
4. Pollination

- Hive number per hectare
- Hive quality and placement
- Weather window during pollination

Early decisions should reflect the orchard state, environmental pressure and likely bloom pattern.



Chill units model



Creating consistent yields

Chemical and hand thinning need to work together, not compete against each other.

2. Thinning decisions

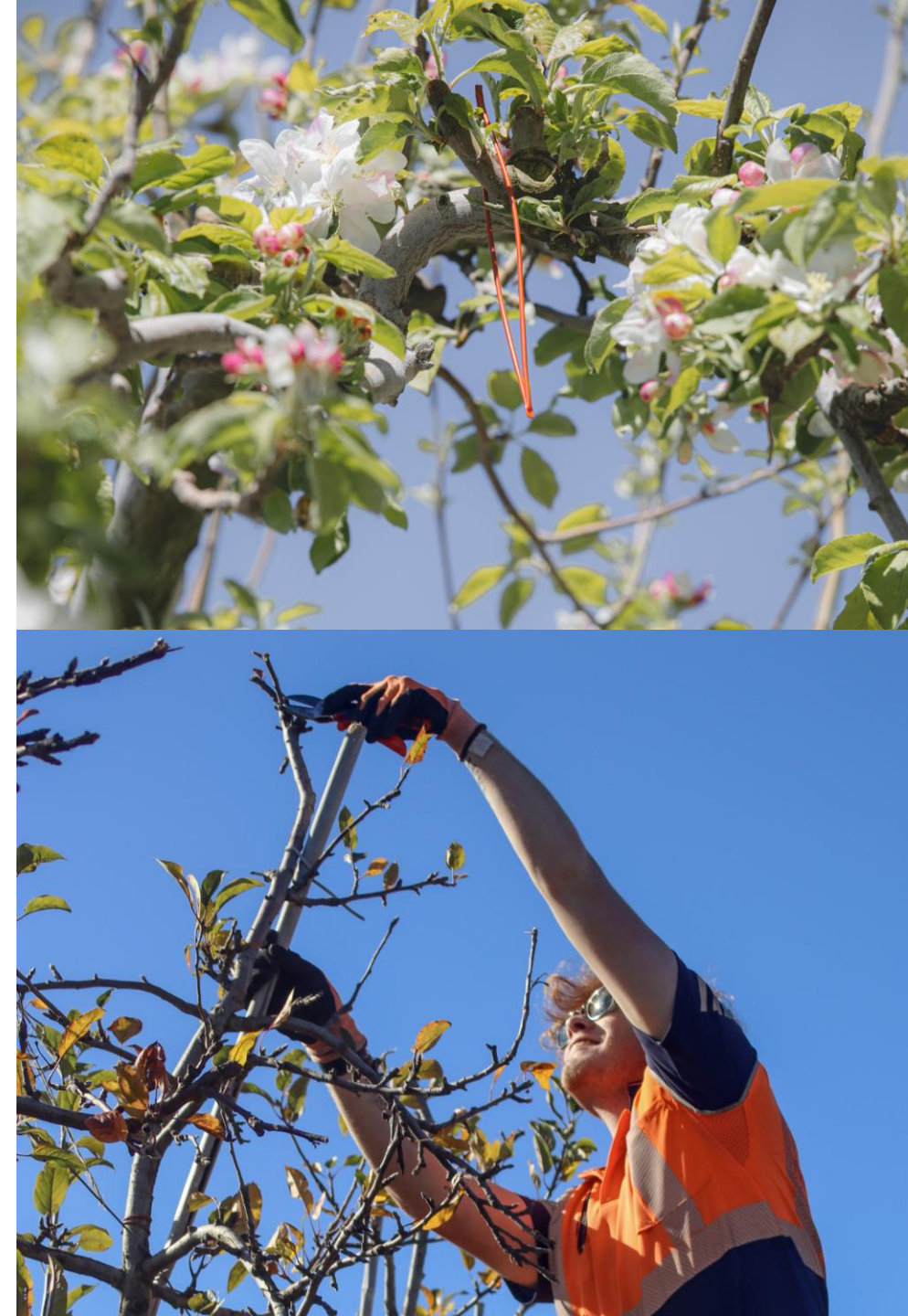
5. Chemical thinning

- Review the history of chemical thinning and outcomes
- Check whether bloom is compacted or mixed
- Are secondary applications a safer option
- Use past results to adjust timing and confidence

6. Hand thinning

- Set the target: fruit size, return bloom and market need
- Confirm labour is available in the critical post-bloom window
- Consider whether dormancy breakers or chemical thinners can spread this window
- Check the dollar allowance for the required intervention

Goal: hit the target crop load on time, with enough flexibility to respond to the season.



Creating consistent yields

Final decisions need to balance market target, harvest timing and the labour available to deliver the plan.

3. Crop load, PGR and labour

7. Croploading

- Use block history
- Match crop load to market target size
- Time checks early enough to adjust

8. PGR

- Be clear on why the PGR is being used
- Consider harvest timing impact
- Check labour implications before creating compression

9. Labour alignment

- Do we have enough labour in the critical window?
- Can earlier decisions spread the workload?
- Does the plan match the dollar allowance?

Consistent yield is built by making the right decision early, then checking and adapting as the season unfolds.



Lady in Red Billy sheet example

< Bay Search 															Bay Stats				
RPin: R1757					Variety: 057 - Lady in Red					Bay: CG					Sub: C - CG/CG				
Trees: 3978			Hectares: 1.67			Tree Spacing: 1.20			Planted: 2016			Thinning \$/Tree: \$3.00							
Rows: 15			Row width: 3.50			Rootstock: M.9			Grafted:										
	Season	TCE/HA		TCE/Tree		Exp Size		Fruit Yield		Pack Out	Bin Size	Orchard Process	Not Picked	Thinning		Ref Tree			
		Actual	Target		Actual	Target	Actual	Target						Actual	Target	Avg			
Year	2016	0		0.00	0		0		0%	0	0%		0%	0					
Year	2017	0		0.00	0	100	0		0%	0	0%		0%	0		822			
Year	2018	702	1,000	0.29	80	100	23	41	48%	78	0%		10%	25	45				
Year	2019	1,647	3,000	0.69	96	108	66	136	73%	94	0%		10%	73	149	83			
Year	2020	3,253	3,000	1.37	93	112	127	141	75%	96	14%		10%	140	155	161			
Year	2021	3,928	4,000	1.65	96	108	158	181	83%	97	5%		10%	174	199	180			
Year	2022	5,238	5,000	2.20	107	108	235	226	65%	104	0%		10%	259	248	197			
Year	2023	4,198	4,500	1.76	110	108	194	204	61%	106	0%		10%	213	224	278			
Year	2024	5,265	4,500	2.21	109	108	241	204	78%	112	0%		10%	265	224				
Year	2025	5,440		2.28	88	110	201		73%	89	0%		10%	221		278			
Target	2026		5,000	2.10		110		231					10%		254				

Lady in Red Billy sheet example

2023 Notes

Limiting inputs around pruning, thinning and aggressive chemical thinning to save cost resulted in low yield of the wrong size for market

Not noted in data was the fruit was in the wrong position on the tree so took extra picks to harvest resulting in high ESP / low pressure fruit

RPin: R1757

Trees: 3978

Hecta

Rows: 15

Row

Season		Actual
Year	2016	0
Year	2017	0
Year	2018	702
Year	2019	1,647
Year	2020	3,253
Year	2021	3,928
Year	2022	5,238
Year	2023	4,198
Year	2024	5,265
Year	2025	5,440
Target	2026	

ACTUAL BNS
PER WEEK
BNS

workflow sheet

[illegible]

WORKING A 5 DAY WEEK	4 BMS / DAY													
STAFF NEEDED	PER WEEK TOTAL	3	56	76	75	60	105	55	73	98	93	100	33	

STAFF NEEDED TO MOVE EXTENDAY
THAT WEEK

[illegible]

Closing the loop

Close the loop while the season is still fresh.

4. Harvest and post-harvest review

10. Harvest

- Correct labour in the correct variety
- It is a marathon, not a sprint
- Acknowledge good results
- Work the labour pinch points
- Limit surprises

11. Season review post harvest

- Cost management reports
- Block yields against pack-out
- Review while it is fresh
- Feed learnings into next season's
~~standing crop~~
Yield + pack-out

Consistent yields come from decisions made early, checked often and reviewed properly

Decide

Set target

Execute

Labour + timing

Measure

Review

Cost + learning

Season review feeds the first decision point of next season.



Thank you

MrAPPLE^{NZ}

