

Cornell Cooperative Extension **Lake Ontario Fruit Program**

How Much Does it Cost to Grow a Bushel of Apples?

Analysis of the 2018 Fruit Farm Business Summary

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Objective

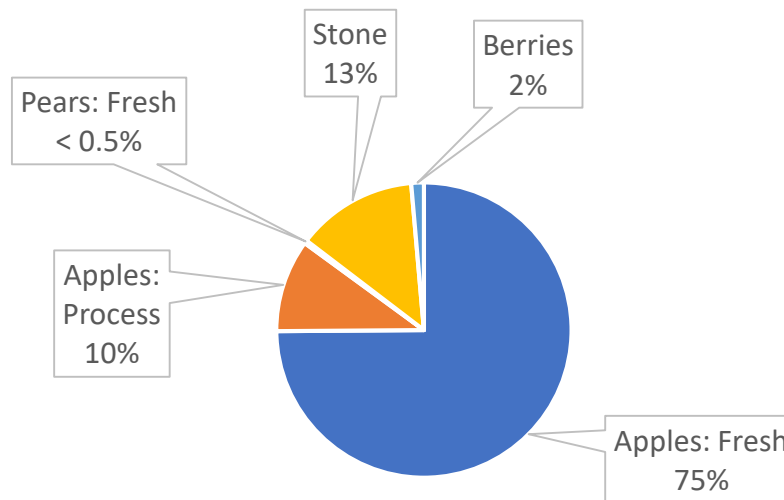
- What is the cost to grow a bushel of apples?
- Bait and Switch: The value of analyzing on a cost per acre basis.
- How to use this analysis for decision-making.

What is the Fruit Farm Business Summary?

- In its current format since 2002.
- Gives measures for industry performance.
- For participants, gives an enterprise analysis of their fruit farm.
 - Compares their performance against the benchmark.
 - Also, a complete financial picture of their farm, tailored to a fruit-growing enterprise.

Profile of the Benchmark

Figure 1. Crop Acreage of Participants



- *Average Farm Size 253 bearing acres of fruit*
- *75% of acres fresh apples, 10% process apples, 15% other fruit.*
- *91% of revenue from apples*
- *Primary market – wholesale to packers, processors*
- *Six growers in Niagara, Orleans, and Wayne Counties.*

Cost Per Bearing Acre

Cash Operating Expenses per Bearing Acre

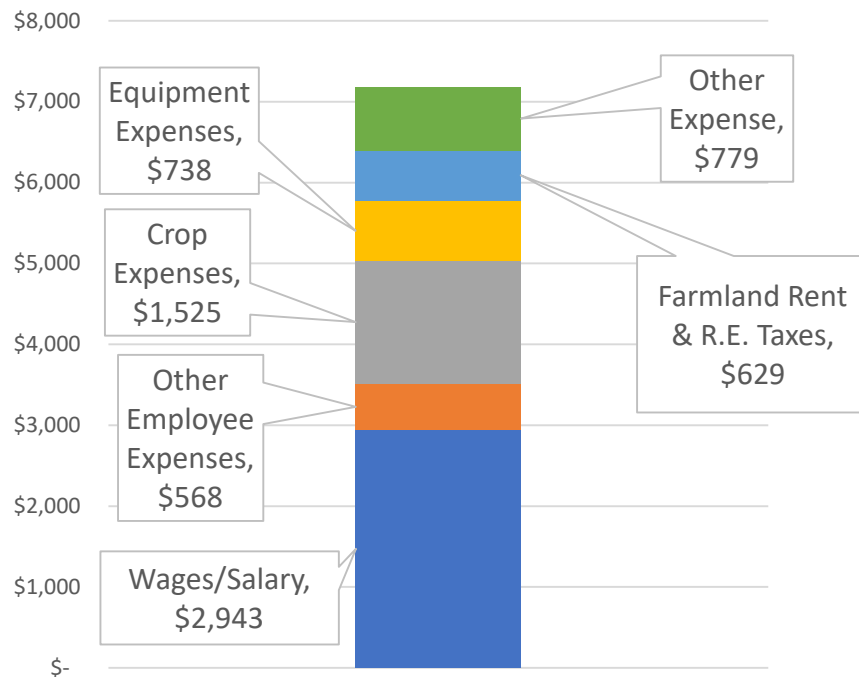
Total - \$7,183

All Employee Expenses - \$3,511

- 49% of expenses for labor

Crop Protection Expenses - \$1,081
(Chemicals, Sprays)

Figure 3. Expenses per Bearing Acre



Cost Per Bearing Acre

Cash Operating Expenses per Bearing Acre		
Expense	Expense per Bearing Acre	% of Total
Wages/Salary	\$ 2,943	41%
Other Employee Expenses	\$ 568	8%
Crop Expenses	\$ 1,525	21%
Equipment Expenses	\$ 738	10%
Farmland Rent & Real Estate Taxes	\$ 629	9%
Other Expense	\$ 779	11%
Total	\$ 7,183	

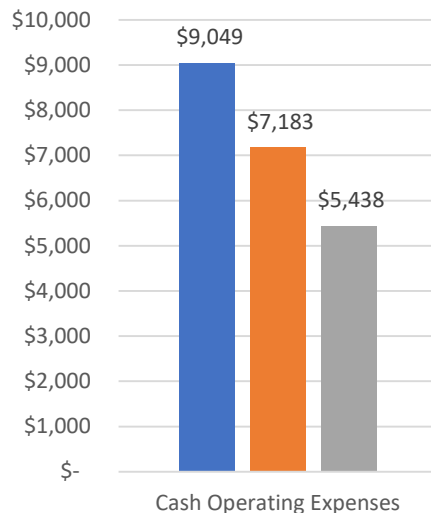
Caveats – What is included

- Includes fresh apples, processing apples, other fruit crops.
 - Higher or lower costs per acre for other crops will affect the average cost per acre.
- Does not include depreciation / capital expenditures
 - e.g. new orchard planting, on-farm nursery.
- Includes non-bearing acres.
 - Farm with non-bearing acres may indicate higher cost per acre
- Does not include owner draws.
 - If owner is doing significant portion of field work, that expense is not reflected in per acre labor expenses, so labor costs per acre may be low.

Caveats – Highs and Lows

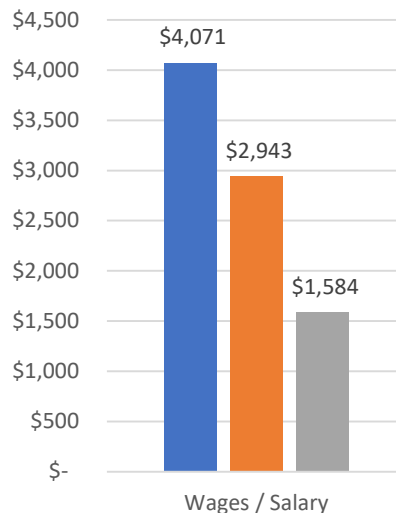
	High	Average	Low
Cash Operating Expenses	\$ 9,049	\$ 7,183	\$ 5,438
Wages / Salary	\$ 4,071	\$ 2,943	\$ 1,584
Crop Protection	\$ 1,362	\$ 1,081	\$ 690

Cash Operating Expenses per Acre



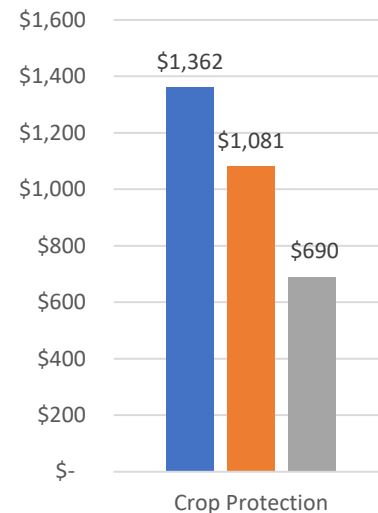
■ High ■ Average ■ Low

Wages / Salary per Acre



■ High ■ Average ■ Low

Crop Protection per Acre



■ High ■ Average ■ Low

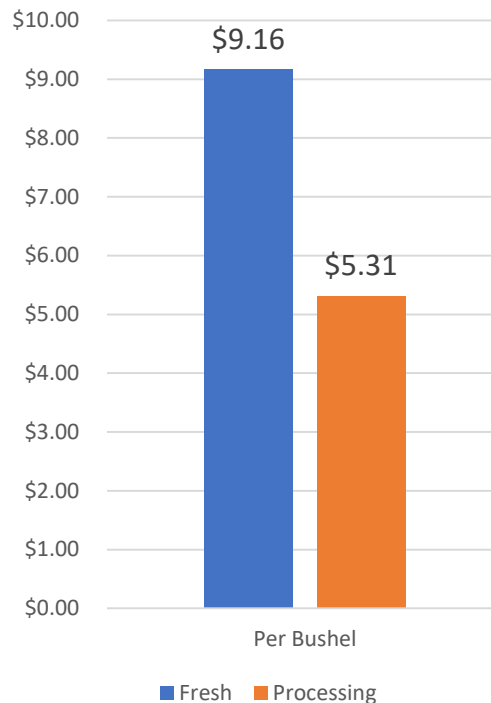
Cost per Bushel, Cost per Bin

2018 Benchmark Production Yields	
	Bushels per Acre
Apples: Fresh	784
Apples: Process	1,352

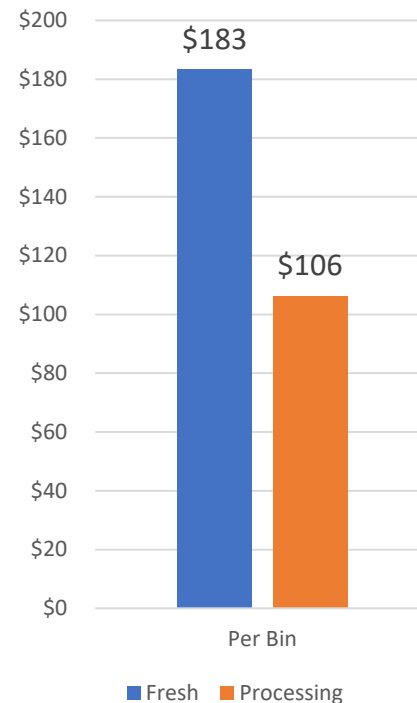
2018 Benchmark Cash Operating Expenses		
	Per Bushel	Per Bin
Fresh	\$9.16	\$183
Processing	\$5.31	\$106

***Assumption:** Cash Operating Expenses per acre are equal for fresh apples, processing apples, and other crops at \$7,183 per bearing acre.*

Cash Operating Expenses
per Bushel



Cash Operating
Expenses per Bin



Cost per Bushel or Cost per Acre?

- Is your production unit really a bushel of apples?
- Or is it for practical matters really an acre of apples?
- Expenses are much more stable on a per acre basis than a per bushel basis.
- Yields vary block to block, year to year, variety to variety, so cost per bushel varies widely.
- Use costs per acre to analyze profit block by block.

Block Analysis

Block	Variety	F/P	Acres	Average Yield	Gross/Acre	Cash Operating Expenses/Acre	Net/Acre
3	Honeycrisp	Fresh	4.0	900	\$ 22,500	\$ 7,183	\$ 15,317
3	Gala	Fresh	6.0	1,000	\$ 11,250	\$ 7,183	\$ 4,067
2	Gala	Fresh	13.0	1,100	\$ 9,900	\$ 7,183	\$ 2,717
1	Idared	Process	12.0	1,500	\$ 8,250	\$ 7,183	\$ 1,067
3	McIntosh	Fresh	7.0	1,200	\$ 7,800	\$ 7,183	\$ 617
1	Rome	Process	12.0	1,400	\$ 7,350	\$ 7,183	\$ 167
1	McIntosh	Process	15.0	1,400	\$ 7,000	\$ 7,183	\$ (183)
2	Empire	Process	10.0	1,000	\$ 7,000	\$ 7,183	\$ (183)

Matt Wells hypothetical orchard, 2020 Expo presentation, "Planning Orchard Investments in a Rapidly Changing Market Place", http://hort.cornell.edu/expo/2020_expo_proceedings.html

Block Analysis

Growing Season Decision Making

- Important to be aware of costs.
- We are all conscious of controlling expenses. We are spending because it is necessary to ensure a good crop.
- However, also look at the revenue side: think about spending to maximize revenue.
 - Perhaps **more** money / time / labor / attention should go into high-revenue blocks, to maximize revenue. Pruning, counting, thinning, leaf removal, reflective ground cover, PGRs, other operations.
- Focus on blocks that can generate significantly more revenue than the cost per acre.

Block Analysis

*Long-term orchard
investment decision-making*

- What is the performance and profit margin for each of your blocks?
- Where does it need to be to reach your long-term goals?
- Matt Wells's method for long-term planning:
"Planning Orchard Investments in a Rapidly Changing Market Place", Matt Wells, 2020 Expo presentation
http://hort.cornell.edu/expo/2020_expo_proceedings.html

Summary

Cash Operating Expenses:
\$7,183 per bearing acre

2018 Benchmark Cash Operating Expenses		
	Per Bushel	Per Bin
Fresh	\$9.16	\$183
Processing	\$5.31	\$106

- The Fruit Farm Business Summary benchmark gives an idea of the ballpark of cost per acre. What expense value are you trying to surpass in revenue in order to profit?
- It is valuable to make an estimate of costs per acre for your own farm.
- Conduct an analysis of farm on a block by block, cost and revenue per acre basis – for current growing season decision-making and long-term planning.



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