



Benchmarking of Maritime Blueberry Farms For years 2009 and 2010

Quick summary

April 2013



EXECUTIVE SUMMARY

The purpose of this study was to develop and analyze economic benchmarks for the Maritime blueberry industry. First, a review of existing benchmark studies in blueberries and similar products was conducted. Second, a survey was designed to capture the cost, return, and agronomic information necessary to compare financial results. Third, primary data was collected from growers using the survey. Finally, the data were collated and analyzed, and interpreted in the context of key management variables.

The results showed the following. The sample of 57 blueberry growers from New Brunswick, Prince Edward Island, and Nova Scotia was quite diverse. This survey represents 9230 acres in various stages of production of the three provinces. Of that 5760 acres was considered to be mature and in full harvest, 2591 acres was considered to be developing but being harvested and 878 acres was considered to be developing but not yet being harvested. While the sample of growers were generally over the age of 40 with some much older than this, there was a range of educational backgrounds of participants. There was a range of other farm enterprises on blueberry farms; particularly maple syrup and horticultural crops. Farm sizes ranged widely, with a mix of full- and part-time farms.

The data was collected for the 2009 and 2010 years. This is important to note as those years had some particular challenges that could have had an impact on revenues. In 2009, yields in NS and NB were, on average, below normal levels due to various factors. Also, the 2009 average farm gate prices were very low, coming in around the \$0.35/lb level.

The results showed a broad range in economic cost and returns per acre in blueberry production when the sample was sorted according to contribution margin per acre. For the top group, contribution margins averaged \$230/acre, or \$23,372 (whole farm). The low group experienced a contribution margin loss of \$496/acre or about \$45,800 (whole farm). The median contribution margin was a loss of \$50/acre, or just over \$8,300 (whole farm).

These results do not lend themselves to simple explanations. **Revenue per acre** was the key differentiator between the top and median farms; this was linked to yields. The major factor differentiating the low farms from the median was expenses, especially labour costs. There was significant variation within each of the top, median, and low groups. This variation did not diminish the above generalizations, but it did underscore the diversity of farms in the groups.

Farm size, based on total blueberry acreage, appeared to have no significant impact on contribution margins, or on yields or revenue or labour costs per acre. Farms with land in development but not harvested had somewhat lower contribution margins and higher labour costs than farms without land in development, but the differences appeared to be minor and not unequivocal, as the ranges underlying the two groups had significant overlap.

Definitions

Contribution Margin

Calculated as a difference between the Blueberry Enterprise Revenue and Variable costs on a per acre basis. (it does not include fixed costs)

Fixed Costs

- Interest on land/building/machine loans
- Interest on establishment loans (e.g. land leveling, drainage, brush raking, etc.)
- Land rental
- Other insurance premiums
- Taxes
- Other fixed cash (not included before)

Variable Costs

All items include in variable cost are listed in Tables 1 and 2

Non-cash Costs

- Amortization (establishment costs)
- Depreciation (machine/building)
- Other non-cash costs (not included before)

Revenue

Blueberry Sales

Understanding the Numbers

The data in the tables below are whole farm data collected from 57 farms across the three Maritime Provinces. So each item in Table 1 is an average cost per acre on a whole farm level. Table 2 has the average whole farm costs.

Interesting trends:

Bottom group

- Highest variable costs
- Highest fixed costs
- Lowest yields
- Typically the most diverse farms (lowest proportion of revenue coming from blueberry)
- Had similar acreage distribution to the top group (developing and mature)

Notes: this group may be over-capitalized (land loans, equipment loans), not able to focus on blueberry product because of diversity of farm, timing or types of treatments may not be correct (input costs without yield benefits), perhaps dealing with challenging pests which reduce yields and add costs (fescue?). **This group should focus on better usage of inputs for yield improvement.**

Median group

- Similar variable costs to the top group
- Lower yields
- Almost 60% of the land is in some phase of development on average in this group

Notes: This group has a very high proportion of land in development, which brings down yields per acre on average. They are managing their inputs well, but are vulnerable to price fluctuations because of the limited yield potential in development years. **Growers should be cautious about having too much land in development at any one time.**

Top group

- Highest yields per acre
- Low variable costs
- Highest proportion of farm revenue comes from the blueberry enterprise
- Very few farms require an operating loan

Notes: This group is managing inputs very well, they are managing cash flow well (indicator of overall farm financial health)

Self-analysis (for table 1): (comparing your 2009-2010 years with industry averages)

It is important for you to use data from 2009 and 2010, because this data would not accurately represent costs and revenues from other years. For example, the use of fungicides has increased significantly across the industry in the last three years. There has also been a significant increase in pollinator usage over the past two years.

If farms wish, they can add their own numbers into the “Your farm” column and compare their operation with the industry averages. To do this you must collect all the variable costs for both the 2009 and 2010 years for each line item and add them together. This includes all costs on both cropping cycles (i.e all your herbicide costs for both years). Once the number are added up divide by your total number of blueberry acres (this is both mature and developing land).

Important points to consider when inputting your data:

- 1) Only include costs that are attributed to your blueberry operation (ie. If you use your tractor for more than blueberry production, estimate the % of fuel costs, maintenance and repair that can be attributed to the blueberry operation)
- 2) Unpaid labour – If there are people who are not paid in the operation, an estimation of hours worked per a two year period is made. This is multiplied by \$12 per hour (arbitrary value established to estimate replacement cost of labour) and then divided by the total number of acres.
- 3) Pesticide costs (herbicide, fungicide and insecticide) are just the price of the products. If you applied the products yourself, application costs are reflected in maintenance/repair and fuel costs. Machinery payments would also be reflected in fixed costs at the bottom of the table. If someone else does the work, the application fees would be recorded in the pesticide rows as well.
- 4) Revenue should be calculated by adding the blueberry revenue from the two years together and dividing by the total # of acres on the farm (Mature and developing).
- 5) To calculate your reference margin, add up your variable costs and subtract it from your revenue. If it is negative, it was not a good year. A positive number indicates the amount of money each acre generated in order service the fixed costs and to contribute towards profits. Farms with a high debt loads need to have a larger reference margin in order to be profitable.

Table 1: Blueberry Farm Costs and Returns¹

Per acre of harvestable blueberry land	Your Farm	Bottom² 25%	Median² 50%	Top² 25%	Overall Average²
Revenue (\$/acre)					
Total Blueberry Enterprise Revenue		481	453	746	532
Variable Cash Costs (\$/acre)					
Unpaid owner labour and management		223	92	102	126
Hired labour		229	98	95	129
Fertilizers		27	22	26	24
Fungicides		28	20	26	24
Insecticides		10	8	12	10
Herbicides		90	55	61	65
Bee rental		54	48	53	50
Custom harvesting		96	74	104	86
Machine repair/maintenance		94	48	49	60
Fuel		81	33	31	44
Crop Insurance premiums		17	14	25	18
Transportation		40	40	26	37
Mowing (custom)		NA	22	NA	28
Burning (custom)		NA	NA	NA	32
Marketing and association fees		6	6	9	7
Interest on operating capital		34	10	NA	22
Land Improvements		91	56	NA	71
Other variable		81	47	48	59
<i>Consolidated Total Variable Cash Costs</i>		977	504	517	623
Other costs (\$/acre)					
Total fixed cash costs		259	69	96	122
Total non-cash costs		328	164	236	225
Contribution margin					
BB enterprise (\$/acre)		(496)	(50)	230	(91)

¹Bottom, Median and Top selection was based on contribution margin per acre

²Average values for Bottom 25%, Median 50%, Top 25% and Overall sample exclude non-reports. Thus, numbers within columns do not add up. For example, for specific line items where participants did not report any values, these participants were not included in the average calculation of that line item.

Table 2: Blueberry Farm Costs and Returns at the whole farm basis¹

Per acre of harvestable blueberry land	Your Farm	Bottom² 25%	Median² 50%	Top² 25%	Overall Average²
Revenue					
Blueberries		61,507	73,566	74,776	70,901
Other farm products		54,902	49,769	21,266	45,960
<i>Total Revenue</i>		<i>116,409</i>	<i>106,173</i>	<i>86,928</i>	<i>103,960</i>
Variable Cash Costs					
Unpaid owner labour and management		13,158	7,778	8,370	9,207
Hired labour		42,447	20,698	9,605	23,434
Fertilizers		2,043	3,641	2,855	2,981
Fungicides		3,432	3,481	2,884	3,329
Insecticides		1,039	846	1,281	1,029
Herbicides		7,863	7,477	7,204	7,510
Bee rental		7,928	9,582	5,327	8,168
Custom harvesting		12,728	10,058	10,125	10,928
Machine repair/maintenance		9,659	7,930	4,550	7,525
Fuel		9,965	4,963	2,872	5,613
Crop Insurance premiums		2,748	1,861	1,817	2,107
Transportation		4,664	8,251	2,208	5,699
Mowing (custom)		NA	4,583	NA	3,883
Burning (custom)		NA	NA	NA	4,728
Marketing and association fees		797	933	922	896
Interest on operating capital		2,185	3,239	NA	2,625
Land Improvements		5,438	10,550	NA	8,724
Other variable		7,442	8,519	6,901	7,905
<i>Consolidated Total Variable Cash Costs</i>		<i>107,307</i>	<i>81,881</i>	<i>51,404</i>	<i>80,641</i>
Other costs					
Total fixed cash costs		13,719	13,376	8,669	12,304
Total non-cash costs		21,815	18,067	19,888	19,509
Contribution margin					
BB enterprise		(45,800)	(8,316)	23,372	(9,739)

¹Bottom, Median and Top selection was based on contribution margin per acre

²Average values for Bottom 25%, Median 50%, Top 25% and Overall sample exclude non-reports. Thus, numbers within columns do not add up. For example, for specific line items where participants did not report any values, these participants were not included in the average calculation of that line item.

Table 3: Grower Supporting Data, based on Contribution Margin per acre¹

	Your Farm	Bottom² 25%	Median² 50%	Top² 25%	Overall Average²
Supporting parameters					
BB revenue/farm revenue (Participant %)		54%	82%	89%	77%
BB land (Participant %)		38%	57%	42%	48%
Total land		509	394	323	405
BB land		123	176	114	148
BB land Harvestable		104	159	105	132
BB land Mature		90	111	83	99
BB land Developing & being harvested		23	91	32	55
BB land Developing and not harvested		24	38	25	31
No. of years of BB growing		25	26	23	25
Total production of BB (lb/year)		92,478	127,682	110,747	114,876
Fresh BB (lb/year)		NA	1,036	NA	9,688
Fresh frozen BB (lb/year)		NA	NA	NA	NA
Processing BB (lb/year)		92,103	127,341	108,842	114,536
Other BB (lb/year)		NA	NA	NA	NA
Yield per harvestable acre (lb/acre)		1,518	1,629	2,200	1,742
Full time farming (%)		23%	33%	64%	40%

¹Bottom, Median and Top selection was based on contribution margin per acre

²Average values for Bottom 25%, Median 50%, Top 25% and Overall sample exclude non-reports.

Thus, numbers within columns do not add up. For example, for specific line items where participants did not report any values, these participants were not included in the average calculation of that line item.