

BUSINESS PLAN FOR JOHNSTON VINEYARDS INCORPORATED 2014

DIRECTORS - DON JOHNSTON, JAMES JOHNSTON AND SHARON MULVAGH

1. INTRODUCTON

Nova Scotia is rapidly developing into an internationally recognized wine destination. White wine, in particular the Tidal Bay appellation, reflects the terroir of the region. Good wine requires good grapes. It is the goal of Johnston Vineyards to grow cold hardy and vinifera grapes to sell to the surrounding wineries for the production of high quality Nova Scotia wine. This business plan lays out the features of the land already purchased for the vineyard, the selection and planting of the vines, and care of the vineyard until commercially productive. A breakeven analysis will be presented. Not all of the money required for the development of the vineyard is currently available. A bank loan of as much as \$300,000 may be sought in the second year of development. The vines will be planted in the spring of 2015 and the first harvest will be 3 years later in 2018. It is anticipated that the use of blue grow tubes will advance the harvest by one year. An effort will be made to partner with a nearby winery prior to 2018. Such a relationship will enhance the quality of grape production and wine making as well add some financial stability to the venture.

2. OBJECTIVES

The goal of Johnston Vineyards is to establish a vineyard on an already purchased 44 acre lot of agriculturally zoned land in Falmouth. The vineyard will be dedicated to growing high quality grapes to be sold to nearby wineries for the production of wine. Falmouth was chosen because it lies within the Annapolis Valley yet is reasonably close to our permanent residence in Lunenburg. The Annapolis Valley provides a proven climate for wine grapes and contains the largest number of wineries. Seventy percent of vineyard will be planted in cold hardy grapes that have been shown to produce quality wine in Nova Scotia. White grape varieties include Vidal and New York Muscat. Red wine grapes will include Marquette and 2 new varieties, Cabernet Foch and Petit Pearl. Vinifera grapes will include Chardonnay and Riesling. Equipment necessary for the care of a vineyard will be purchased, and a consultant will be hired to advise on vineyard development, assist in planting the vines and putting in the trellis system. Fourteen acres of vineyard will be planted in 2015. If additional funding can be obtained more will be planted at the lower levels of the 44 acre plot in 2016. Johnston vineyards will aim to be affiliated with a winery prior to planting in 2016. Grape selection will be partly dependent of the needs of the winery. This relationship would likely be as a contracted grower.

3. OVERVIEW OF VINEYARD ESTABLISHMENT

a. Land acquisition.

Forty four acres of agriculturally zoned land has been purchased from Charles Stock, (952 Sangster Bridge Rd, Falmouth) and is located immediately to the south of St. Famille Winery in Falmouth. The land is located on a slope of about 10 degrees facing southeast. There is a 1 acre lake bordering the northwestern portion. The land has been planted in hay and corn for the past – years. It is farmed by Bob Wilson of Bovidae Dairy Farms, Falmouth. It is anticipated that Mr. Wilson will continue to provide agricultural services in preparation of the land for vine planting and to farm the remaining land that is not planted in vines. Drainage tile was placed in the top 14 acres in 2014. There is a well next to an existing 30x60 foot 2 story structure located on the property that was previously served as the Upper Falmouth Town Hall. A deed transfer to Johnston Vineyards is presently being sought. A cistern will be constructed to provide an available source of water. The Town Hall will be remodeled to serve as a storage shed. The building was built in 1908 and an effort will be made to preserve its original character.

b. Climate considerations

St. Famille Winery has about 30 acres planted in cold hardy grapes. The climate at St. Famille Winery has been studied in detail (John Lewis, An Introduction to Grape Growing in Nova Scotia) as part of a study of the Annapolis Valley from 2004-2008. The average frost free period for all Nova Scotia vineyards was 177 days (good suitable for wine grape production), the average growing degree days (GDD) above 10 degrees C was 984-1007 (fair for wine grape production) and the average minimum temperature was -20.6 degrees C (good for wine grape production). St Famille was below average at 167 frost free days, well above average at 1055 GDD and above average at -19.2 degrees C minimum temperature giving it an overall rating of good for wine grape production. A study of weather normals of 14 sites in Nova Scotia from 1971-2000 showed Windsor Martock (2 miles from Johnston Vineyards) to have an average temperature of 7.4 C and 1061 GDD, both the highest measured for any site in Nova Scotia (Environment Canada. Canadian Climate Normals 1971-2000). By comparison, Niagara, Ontario had an average temperature of 9 C and GDD of 1471 allowing wineries in Ontario to successfully grow vinifera grapes on a consistent basis.

c. Preparation of land for planting

The portion of the land that will be planted in 2015 will be seeded in a cover crop this year after tiling, leveling, harrowing and liming (2014). Fourteen acres of vineyard will be staked out in the spring of 2015 and the rows ripped to loosen the soil. Rows will be oriented to follow the contour of the hill (southeast). Room will be made for a future winery or tasting room (speculative) in the northwest sector of the middle portion of the 44 acres. This location

provides a view of the Avon River and Martock. There is an access road from Falmouth Dyke Road to the property at the location of the old Upper Falmouth Town Hall. The Town Hall could potentially be modified to serve as a storage shed. There is a well on this location which potentially could be used. A cistern would need to be erected.

d. Grape varieties and anticipated planting schedule

Cold hybrid grape varieties to be planted include New York Muscat and Vidal (white varieties), and Cabernet Foch, Petit Pearl and Marquette (red varieties). Viniferas include Riesling and Chardonnay. These grapes will be planted on 14 acres (approximately 1000 vines/acre in 109 rows) in June 2015 (stage 1). Vines will be ordered this spring (2014) and will be planted using a transplanter operated by a contractor (Shemogue Custom and Trellis Inc – Klaus Sudbrack). All grape varieties will be located on the 14 acres at the top of the hill to limit the effects of frost and winter weather. Further planting (stage 2, 3 etc) will depend on the ability to establish contracts with local wineries, funding, and the overall success of Johnston Vineyards.

e. Trellis system

The standard trellis system used in Nova Scotia is the VSP (vertical shoot positioning). It is a medium height trellis generally involving a single heavy gauge (9-12 gauge), high tensile galvanized steel bottom wire that is placed between 30 and 60 cm of the ground and lighter (12-16 gauge) catch wires attached in pairs at 30 cm intervals above this. Two to three pairs of these catch wires are typically employed. Steel end posts will be used to anchor the trellis.

4. COST OF PRODUCTION ASSUMPTIONS

a. The following cost assumptions are made based on 14 acres of vines.

- i. A tractor, hedger, sprayer and other equipment will be required. All expenses except the storage garage will be paid for with available funds. It is anticipated that some of this equipment will be obtained on loan from a contracted winery.

- ii. The vineyard design will be 109 rows 500 feet in length with vines at 4 foot spacings and a row spacing of 9 feet. The trellis system is described above (3e). Prices were obtained from Shemogue Custom & Trellis Inc. 70 Oyster Beach Little Shemogue NB E4M 0A1 t: 1 (506) 538-1065 m: 1 (506) 533-4301 shemogue.grape@gmail.com.
- iii. The price assumption for grapes is \$1800/ton for cold hardy hybrid grapes and \$3000/ton for vinifera grapes.

b. Initial Cost: Primary Purchases

Item	One Time Cost
Tractor	\$47000
Loader	\$4,500
Trailer	
Ranger	\$8000
Round Up Sprayer	\$1,250
Fungicide Sprayer	\$1,250
Total Cost	\$62000 (+HST \$9300)

c. Year 1: Pre planting costs

Variable Costs	Cost Per 14 Acres
Tile Drainage	\$60,000
Land Preparation	\$5,000
Soil Amendments/Testing	\$4,370
Cover Crop	
Tractor Expense	
Variable Costs Total	\$69,370
Fixed Costs	
Taxes	\$280
Machinery Depreciation	\$2,960
Fixed Cost Total	\$3,240
Total (Variable and fixed)	\$72,610 (+HST \$10,400)

In the year prior to planting the vineyard the selected location will require preparation for the planting of the vines. The site may require tiling for drainage. If tiling is necessary then 14 acres would be tiled prior to planting. This would provide tiling for stage 1 of planting. Lime will likely

be needed to alkalize the soil, and fertilizer and nutrients may be required based on soil testing. Once the land is prepared a cover crop should be planted for the winter to prevent erosion.

d. Year 2: Planting of the Vines

Variable Costs	Cost Per 14 Acres
Labour	\$10,000
Vines	14500 vines@2.50=\$36,250 Planting .72/vine x 14,500 vines x \$35/row x 109 rows = \$14,255 Total \$50,505 (+HST \$7,575)
Trellis Supplies	
Total trellis materials	\$67,000 (+HST \$10,000)
Trellis installation	\$43,000 (+HST \$6,400)
Grow Tubes	\$1.00 /tube x 14500 tubes = \$14,500 (+HST \$2,175)
Pesticides	\$2,500
Soil Amendments/Testing	\$4,370
Cover Crop	\$320
Tractor Expenses	\$1,000

Shed restoration	10,000
Total Variable Costs	\$203,195
Fixed Costs	
Taxes	\$280
Machinery Depreciation	\$2,960
Total Fixed Costs	\$3,240
Total Costs	\$203,435 (+HST \$27,650)

Labor accounts for a large portion on the vineyard costs. It may be possible to reduce this cost by employing family members, including the 3 owners of Johnston Vineyards, James and Don Johnston and Sharon Mulvagh. Costs are high in the planting year due to cost of vines, trellis and their installation (labor costs).

e. Year 3: Development Year for Vines

Variable Costs	Cost Per 14 Acres
Labour	\$20,000
Vines 1% Replacement	\$240
Trellis Supplies	
Wire	\$1,670

Tying Material	\$200
Pesticides	\$2,500
Soil Amendment/Testing	\$4,370
Tractor Expenses	\$1,000
Total Variable Costs	\$29,980
Fixed Costs	
Taxes	\$280
Machinery Depreciation	\$2,960
Total Fixed Costs	\$3,240
Total Costs	\$33,220

f. Year 4 and Post Vine Maturity: Fruiting Years

Variable Costs	Cost Per 14 Acres
Labour	\$30,000
Vines	\$240
Trellis Supplies (Tying Material)	\$200
Pesticides	\$2,500
Soil Amendments/Testing	\$4,370
Tractor Expenses	\$1,000

Harvesting Supplies	\$3,000
Bird netting	\$15,000
Total Variable Cost	\$56,312
Fixed Costs	
Taxes	\$280
Machinery Depreciation	\$2,960
Total Fixed Costs	\$3,240
Total Costs	\$59,552
Total Costs excluding one time bird netting	44,552/14 acres; 3,182/acre

The use of blue grow tubes will result in some crop in the third year. The yield will depend on variety and production management and will be 1-2 tons/acre. Brix is expected to be between 18-22. The higher brix will generate a higher price/ton.

Treatment of Establishment Cost

One hundred thousand dollars will be borrowed to establish the first 14 acres of vineyard. The money will be borrowed in the second year. The monthly payments spread over 10 years will be ? (need input from John Swain).

5. REVENUE FROM GRAPES

a. Revenue estimate

Return on the investment will begin in the fourth year. A fully productive vineyard is expected in the 5th year (2019). Average yield of hybrid grapes is 3 tons/acre. The price received for the grapes depends on the brix (sugar content). Brix in Nova Scotia is usually between 18-22 with the average being 19. Revenue from Vinifera grapes is about double that of hybrid grapes but hybrid grape yield is higher and brix is usually

higher. The price paid for cold hardy grapes in 2008 (Nova Scotia Department of Agriculture-Business Development and Economics Fall 2008) was about 1,200.00/ton at 16 brix with a 15% bonus for each brix about 16.

b. Estimates based on current pricing (2014)

Year 4 yield (2018): 1 ton/acre = 4 tons vinifera @ 3000/ton = \$12,000. 10 tons cold hardy @ 1800/ton = \$18,000; Total income from year 3 = \$30,000.

Year 5 (2019) and all subsequent years yield: 2 tons/acre = 8 tons vinifera @ 3000/ton = \$24,000. 30 tons cold hardy @ \$1800/ton = \$54,000; Total income from year 4 and all subsequent years = \$78,000 or \$5,571/acre.

Direct expenses total \$3,182.00/acre. Contribution margin is 2,089.00/acre or \$29,246/14 acres. Contribution margin for the 3rd year would likely be about half or \$14,623/14 acres.

c. Breakeven Analysis

Breakeven analysis chart from Swain Accountants, Bridgewater, NS.

JOHNSTON VINEYARDS INCORPORATED
BREAK EVEN ANALYSIS - START UP PER 14 ACRES
27-Aug-14

Year	Revenue	Variable Costs	Fixed Costs	Total Costs	Net Cash flow	Accumulated Cash flow
0	0	0	62,280	62,280	-62,280	-62,280
1-pre-plant	0	69,370	280	69,650	-69,650	-131,930
2 - Plant	0	103,195	14,212	117,407	-117,407	-249,337
3	0	29,980	14,212	44,192	-44,192	-293,529
4	30,000	56,312	14,212	70,524	-40,524	-334,053
5	78,000	41,312	14,212	55,524	22,476	-311,577
6	78,000	41,312	14,212	55,524	22,476	-289,101
7	78,000	41,312	14,212	55,524	22,476	-266,625
8	78,000	41,312	14,212	55,524	22,476	-244,149
9	78,000	41,312	14,212	55,524	22,476	-221,673
10	78,000	41,312	14,212	55,524	22,476	-199,197
11	78,000	41,312	14,212	55,524	22,476	-176,721
12	78,000	41,312	280	41,592	36,408	-140,313

13	78,000	41,312	280	41,592	36,408	-103,905
14	78,000	41,312	280	41,592	36,408	-67,497
15	78,000	41,312	280	41,592	36,408	-31,089
16	78,000	41,312	280	41,592	36,408	5,319
17	78,000	41,312	280	41,592	36,408	41,727
18	78,000	41,312	280	41,592	36,408	78,135
19	78,000	41,312	280	41,592	36,408	114,543
20	78,000	41,312	280	41,592	36,408	150,951

NOTES:

1. Initial equipment investment
2. \$100,000 loan taken in year 2, 10 yr term at 7%. Int and principal payments are 1161/month.
3. Break even should occur in year 16.
4. Income taxes have not been considered in the above analysis. Corporate small business rate in Nova Scotia is 14% on the first \$500,000 of taxable income, therefore, taxes likely will not have a material effect on breakeven analysis above.
5. Cash flow related to HST was not considered in the above analysis as the cash flow from HST would be neutral.

6. CONSLUSION

The goal of Johnston Vineyards is to produce a quality product that is in demand and to realize a small profit within 5 years of planting. Good agricultural practices will enhance grape yield and brix. Once the initial 10 acres are planted in hybrid grapes, profits could be enhanced if vinifera grapes can be successfully grown. An effort will be made to establish a relationship with a winery interested in using vinifera grapes for the production of champagne. Financial pressure is lessened by the need to only borrow money to build a storage/apartment dwelling. The property is large enough at 44 acres so that a winery with public access could be built. Alternatively, the vineyard could be sold for subsequent development into a winery by another owner. Johnston Vineyards is immediately adjacent to the St. Famille Winery and once developed into a productive vineyard could be incorporated into this winery.

NOTES

12/30/14. The total cost of getting the vineyard to year 4 is 430,817 (the land is paid for). I have spent 138,000 so far of the required 430,817. I have 160,000 left in my account. I need an additional 292,817 to get the vineyard to year 4 and full productivity.

The Falmouth town hall remodel will cost 90,000. I don't have that expense in the budget.

I would like to tile the middle field which is 8 acres. The cost would be about 35000 minus about 10000 subsidy from the NS government. Land preparation would be about 4000. Planting and trellising would be about 110,000. Total would be 139,000.