

Prospective Vineyard Owner's Worksheet

*A Three-Year Estimate For Establishing Your Own Vineyard
Utilizing A Vineyard Management Company*



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Compliments of the Upper Shore Regional Council
Serving Cecil, Kent and Queen Anne's Counties, Maryland

WELCOME

The Upper Shore Regional Council in conjunction with the Economic Development and Agriculture Offices of our three Council Member Counties (Cecil County, Kent County and Queen Anne's County, Maryland), the Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO) and with the assistance of the Maryland Grape Growers Association and the Maryland Wineries Association have developed this resource to encourage the development of vineyards and the practice of viticulture on the upper shore region of Maryland's Eastern Shore.

Historically, a diverse agriculture industry has been the leading economic entity in the upper shore region. This industry has maintained our rural heritage and preserved our rural lands providing beautiful landscapes bordered by the Chesapeake Bay and its many bountiful tributaries.

In recent times, a successful wine industry has begun to develop throughout the State of Maryland and local wine products receiving national and international awards have created a demand for Maryland grown grapes.

To meet this demand and to encourage the sustainability of our valuable agriculture industry and preservation of our rural land, we commissioned the research and development of this resource to familiarize farmers and landowners in the various factors related to the development of a vineyard and the potential costs and profits of operating the vineyard.

In addition, the Upper Shore Regional Council has developed a website that provides additional information on viticulture and provides a number of links where experts on growing grapes can be contacted for specific questions and answers. See: www.shoreVines.com



Growing grapes on Maryland's Upper Eastern Shore

Vineyard Business Plan – Years 1 through 4

The following income and expense worksheets are part of a report prepared by Mr. Stephen D. Mudd, Vice-President, Mudd Vineyards, Ltd., Southold, L.I., New York, a nationally recognized Vineyard Development and Management/Consulting firm. Mr. Mudd prepared this report under a consulting agreement with the Maryland Upper Shore Regional Council (USRC), representing Queen Anne's County, Kent County, and Cecil County, and the Maryland Agricultural and Resource-Based Industry Development Corporation (MARBIDCO). An additional note of recognition and thanks is also given for the assistance and support provided by the Maryland Wineries Association (MWA) and the Maryland Grape Growers Association (MGGA).

This project was designed to determine if a greatly expanded number of wine-quality vineyard operations could be established in the USRC area by using a Vineyard Management Company (VMC) concept. The need for additional grape growing capacity in Maryland is real and growing with each new winery licensed in the state. While traditional row-crop farmers can usually plant a crop and know if they have made or lost money at the end of that growing season, a wine-quality grape grower must wait at least three years to recognize any return, and then wait up to seven to ten years before crop production matures and their initial investments can be recouped. Although a vineyard typically does not begin to show a return immediately, over time a well-managed operation will provide income opportunities in addition to the beauty and pride provided by the vineyard itself. Given the amount of time and effort required to maintain a quality vineyard, a VMC provides potential new vineyard owners with the opportunity to do some or all of the work involved, while contracting out the balance to the VMC.

By way of brief background, a VMC is a company which establishes, operates, and/or consults for owners of new or existing vineyards. A VMC's services could be as extensive as the complete establishment and operation of a vineyard for an individual who has the land, the financial resources, and the interests in grape growing, but not the inclination or interest to do the work themselves. It could involve offering only consulting services to an established vineyard. It could also offer selected services to those owners who wish to do some of the work themselves. A VMC offers a cafeteria-style menu of services that the owner picks and chooses to fit their needs, and provides these services without the need for a land owner to have a substantial personal investment in machinery and equipment.

Since the Upper Shore Regional Council began this project to encourage the development of vineyards, two Vineyard Management Companies have begun operation in the region and are available to assist vineyard developers.



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As a VMC is recognized as critical to an aggressive expansion of vineyards, the USRC wanted to encourage potential vineyard owners to consider utilizing the services of a VMC in their analysis of how to establish and operate a vineyard. To that end, Mr. Mudd prepared a worksheet designed to help you analyze the potential for utilizing such a company. This worksheet is provided free by the Upper Shore Regional Council to anyone interested in establishing and/or operating a vineyard in the region. The report is also available in an Excel format to allow modifying data and creating “what if” scenarios for purposes of business plan creation and analysis. Although the projections indicate a positive cash flow after the fourth year, and a probable recovery of initial investment by year fifteen, the projections are designed to be a tool, and not an absolute answer, to assist in your analysis. We suggest that anyone interested in establishing a new vineyard speak with other vineyard owners, consult with the Maryland Grape Growers Association and the Maryland Wineries Association, and consult with their financial and legal advisors beforehand.

For additional information, see:

www.shorevines.com/

www.marylandgrapes.org

www.marylandwine.com

www.grapesandfruit.umd.edu/Grapes/Starting.htm

The financial estimates provided in these worksheets are just that...estimates. However the worksheet provides a reasonable initial overview of probable income and expense information. The projected expense figures are based upon historical costs experienced in the North Fork of Long Island vineyard region, where Mr. Mudd’s operations are located. Actual expenses charged by a yet-to-be established VMC in the USRC area of Maryland, may be different. The projected income figures are based on current prices paid to vineyard owners in the upper shore region.

VINEYARD MANAGEMENT PROPOSAL MISCELLANEOUS NOTES

The following Vineyard Management Proposal for First, Second and Third Year On is based on 10' X 6' spacing with a minimum of 5 acres planted and having the VMC perform all vineyard tasks. If less than 5 acres the VMC would have to determine what additional charges there should be depending on the acreage and number of tasks are required. Depending on the need of the new or existing vineyard, you would have to extract the tasks the client want the VMC to perform to determine the dollar amount of the Vineyard Management Proposal, on an individual basis.

This Vineyard Management Proposal is based on the cultural practices followed on Long Island, NY known as "Fussy Viticulture". Trellis Systems are all VSP (vertical shoot positioning).

Fruit sale prices on Long Island, NY range from \$2,000 to \$2,500 per ton. There are also blocks sold by the acre for up to \$10,000 per acre, with yields on these blocks are determined by purchaser. However, because the Maryland Upper Shore Vineyard Region is not yet matured, current price ranges of \$800 to \$1,800 per ton, and average yields of 4 tons/acre were used in these projections.

All Vineyard Management Proposals are based on average 600 feet row lengths. If row lengths were significantly different you would need to consider extra time needed to perform all tractor work due to extra end posts and additional time for tractor to perform tasks.

Below are percent increases over 10' X 6' Vineyard Management Proposal for clients who want to plant on closer row and/or vine spacing

| <u>Row & Vine Spacing</u> | | <u>% increase (over 10'X6')</u> | |
|-------------------------------|-----|---------------------------------|------------------|
| 9' X 6' | add | +11.25% | to all vine work |
| 9' X 5' | add | + 33.4% | to all vine work |
| 9' X 4' | add | + 66.7% | to all vine work |
| 8' X 6' | add | + 25.1% | to all vine work |
| 8' X 5' | add | + 50 % | to all vine work |
| 8' X 4' | add | + 87.6% | to all vine work |
| 7' X 6' | add | + 43 % | to all vine work |
| 7' X 5' | add | + 71.5% | to all vine work |
| 7' X 4' | add | + 114.4% | to all vine work |
| 9' row spacing | add | + 11.6% | to all row work |
| 8' row spacing | add | + 25.4% | to all row work |
| 7' row spacing | add | + 43.25% | to all row work |

NOTE:

- 1 Vine work described as labor: used to tend to each vine i.e.: plant, prune, tie, sucker, disbud, handpick, etc.
- 2 Row work described as tractor: is work i.e.: spray, mow, cultivate, fertilize, nets installed & removed, etc.
- 3 Labor to work on trellis i.e.: install and tighten wires, lift wires, etc.

**VINEYARD MANAGEMENT PROPOSAL
FIRST YEAR PLANTINGS - PER ACRE
10' X 6' SPACING**

| <u>DESCRIPTION</u> | <u>PER ACRE</u> | <u>MONTH BILLED</u> |
|--|-----------------|------------------------|
| Plowing & Clod Busting | \$150.00 | May |
| Layout & Mark | \$150.00 | May |
| Paratill | \$160.00 | May |
| Plants - 726 plants per acre on 10' X 6' spacing @ \$5.00 per plant (freight NOT included) includes cold storage & preplant root hormone dip | \$3,630.00 | May |
| Laser Planting - 726 plants per acre on 10' X 6' spacing @ \$.85/plant | \$617.10 | May |
| Vine Stakes - installed - 726 vinestakes per acre on 10' X 6' spacing | \$622.20 | May |
| Hilling Up | \$88.00 | July |
| Herbicide Spraying - based on 2 times | \$380.00 | March 50% - & June 50% |
| Disease & Insect Control Spray | \$992.32 | June 50% - July 50% |
| Line Posts 3 1/2" X 8' CCA Treated (180 per acre) | \$1,395.00 | May |
| End Posts 4-5" X 8' CCA treated (16 per acre) | \$235.52 | May |
| Fruit Wire - 12 1/2 ga. High tensil & staples installed | \$260.80 | May |
| Trellis Posts - Installation | \$1,440.00 | May |

| | | |
|--|--------------------|-------------------|
| Guide Wires - 10 ga. Installed | \$81.60 | May |
| Anchors - installed | \$489.58 | August |
| Catch Wires (1st set) - 12 1/2 ga. High tensil & nails installed | \$484.00 | May |
| Management Fee | \$350.00 | \$35./mos Mar-Dec |
| TOTAL | \$11,526.12 | **see note |

****NOTE:** The following in addition to above to be billed out on a per use/job basis

1. Portable toilet rental as required by OSHA @ \$100./month
2. Soil samples @ \$100./sample - soil amendments to be made based on soil sample results and billed accordingly

Management proposals are based on 600 feet average row lengths

**VINEYARD MANAGEMENT PROPOSAL
SECOND YEAR PLANTINGS - PER ACRE
10' X 6' SPACING**

| <u>DESCRIPTION</u> | <u>PER ACRE</u> | <u>MONTH BILLED</u> |
|---|-------------------|------------------------|
| Pruning, Tie, Sucker (clean bottoms), Disbud | \$1,076.00 | Feb.45%-Mar.45%-May10% |
| Chop Brush | \$85.00 | February |
| Catch Wires (2nd set) - 12 1/2 ga. High tensile & nails installed | \$484.00 | March |
| Herbicide Spraying - 2 times | \$380.00 | March 50% - June 50% |
| Disease & Insect Control Spray | \$1,488.00 | 1/3 May-June&July |
| Management Fee | \$350.00 | \$35./mos Mar-Dec |
| SUBTOTAL | \$3,863.00 | **see note |

NOTE:

the following will be billed out by the hour since the frequency of these jobs varies depending on the growing season

| | |
|---|-------------------|
| 1. Leaf pull by hand & tuck shoots into catch wires to be billed @ \$19./hour (estimate 18 hours/acre) = \$342.00/acre | \$342.00 |
| 2. Portable toilet rental as required by OSHA @ \$100./month | |
| TOTAL | \$4,205.00 |

Management Proposals are based on 600 feet average row lengths

VINEYARD MANAGEMENT PROPOSAL
THIRD PLUS YEARS PLANTINGS – PER ACRE 10' X 6' SPACING

| <u>DESCRIPTION</u> | <u>PER ACRE</u> | <u>MONTH BILLED</u> |
|---|-------------------|-------------------------|
| Prune, Tie, Sucker (clean bottoms) & Disbud | \$1,273.00 | Feb 45%-Mar 45%-May 10% |
| Chop Brush | \$85.00 | Feb |
| Misc. Tying Materials - plastic ties | \$75.00 | February |
| Herbicide Spraying | \$380.00 | March 50% - June 50% |
| Disease & Insect Control Spray | \$1,488.00 | 1/3 May-June&July |
| Management Fee | \$350.00 | \$35./mos Mar-Dec |
| SUBTOTAL | \$3,651.00 | **see note |

NOTE:

the following will be billed out by the hour since the frequency of these jobs varies depending on the growing season

- | | |
|---|----------|
| 1. Leaf pull by hand & tuck shoots into catch wires @ \$19./hour (estimate 18 hours/acre) = \$342.00/acre | \$342.00 |
| 2. Hedge with machine to be billed @ \$150./hour depending on growing season (estimate 1 hour/acre each time) = \$150.00/acre | \$150.00 |
| 3. Handpicking approx. \$600. to \$1000. per acre depending on varieties and yields | \$600.00 |

4. Portable toilet rental as required by OSHA @ \$100./month

TOTAL

\$4,743.00

600 Ft. avg. row

**Projected Four-Year Grape Sales Income and Expenses Per Acre
Utilizing a Vineyard Management Company for Entire Operation**

INCOME:

Price ranges \$800 to \$1,800/ton; analysis uses 4 tons/acre yield at \$1,500 per ton = \$6,000.00 gross income per acre

EXPENSES:

First Year Vineyard Management (done entirely by the VMC = \$11,526.00
as stated on the Vineyard Management Proposal)

Second Year Vineyard Management (done entirely by the VMC = \$4,205.00
as stated on the Vineyard Management Proposal)

Third Year Vineyard Management (done entirely by the VMC = \$4,743.00
as stated on the Vineyard Management Proposal)

Forth Year Vineyard Management (done entirely by the VMC = \$4,743.00
as stated on the Vineyard Management Proposal)

Notes:

- 1 There is no income for the first and second years, resulting in a total "investment" of \$15,731/acre.
- 2 Beginning in the Third Year, projections show a positive income of \$1,257 per acre (\$6,000-\$4,743).
- 3 Costs and income are assumed constant beginning in Third Year.
- 4 Costs and income will only change only if price/ton, yield/acre, or expenses change.
- 5 Initial investment, based on projections, would be recouped by approximately Year 15.
- 6 The worksheet projections do not include additional specialized services such as bird netting, deer fencing, or irrigation. Although these are not always required, if they are required, these or any other additional services would affect the financial projections.
- 7 The projections provided are for analytical purposes and are not an absolute guarantee of eventual income, expenses, or likely profit.
- 8 These estimates were compiled as of June 2008.

Vineyard Consultant Stephen Mudd's Summary and Comments

My visit to the Upper Shore Region of Maryland (Kent-Cecil-Queen Anne's Counties) was beyond my expectations. I had not envisioned the massive amount of farmland that was still being farmed in the area.

On my first day, we met at Queen Anne's County Offices with many folks to gather information on regional, demographic, market data and labor availability in the area.

Those present to supply information were Joe Fiola, Viticultural Specialist, Maryland Cooperative Extension – Kevin Atticks, Executive Director, Maryland Wineries Association – Jennifer Schmidt, President, Maryland Grape Growers Association – JoAnne Richart-Young, Agricultural Coordinator for Cecil County – Donna Landis-Smith, Queen Anne's County – Dan McDermott, Upper Shore Workforce Investment Board – Denise Bently, Human Resources Manager, Angelica Nurseries – John Hall, Extension Educator, Kent County – Wen-Fei Uva, Ag Economic Development Specialist, Caroline County – Along with folks from County Housing Planning Offices. All of these people were very helpful in answering the many questions I had.

I have a concern about the labor available in the area to perform the many necessary tasks a VMC Company needs to do in a timely fashion. Particularly so if the amount of acreage of future planting that the land owners claimed they wanted to plant becomes a reality, based on the fact-finding sheet response from the 60+ prospective VMC clients.

Denise Bentley with Angelica Nurseries shared their success with the H2A Labor Program they utilize. More information needs to be obtained and evaluated to explore the viability of this programs use by a VMC.

There were a couple of discussions that went around the table that day. I felt that some of the regulations in the State of Maryland created real barriers for the industry. The first was brought up by Kevin Atticks pertaining to some of the laws that the Maryland Liquor Authority has. This law limits the wineries in Maryland from any Direct Sales. I feel this is a major negative problem for the success of the wineries. I was told by many that "You have no idea the power the State Liquor Authority has." I am not challenging that thought. In New York, the NY State Liquor Authority is a powerful entity as well. What is the incentive for Distributors to promote "Local" Maryland wine? Maryland Wineries should be able to sell their products directly to Restaurants especially as this is where their profit margin is greater, and Liquor Stores so as to promote more of the Local Products. I can only suggest that all players involved in the industry, wine producers and grape growers, join the state Farm Bureau (if not already members) and find a "Farm Friendly" elected official to lobby for some of these unfair laws to be changed, as we have done in NY.

The State needs to understand that in order to promote Maryland wines and help in creating a State Wine Tourism Industry that many other businesses in your Region will benefit from, laws need to be changed.

The other item that was discussed was Agricultural Preservation. Donna Landis-Smith of Queen Anne's County spoke of some Bonds being voted on for funding for the purchase of Development Rights. New York and Long Island, in particular, have had similar Bonds up for public vote to help preserve our rural community. In Southold Town, where Mudd Vineyards is located, we have also passed a 2% Real Estate Transfer Tax on any land sold for over \$100,000. This tax goes into the Land Preservation Fund. This has been a huge resource in purchasing land for preservation.

Jack Steinmetz, Kent County Economic Development Director, and I visited five different vineyards/wineries in the three counties the next day, Cassinelli Winery, Dove Valley Vineyard & Winery, Schmidt Farms, Wick Dudley and Piney Grove Vineyard. I was surprised to see the row lengths as long as they were on a few of these vineyards. I asked if the labor doing the hand work ever complained. A couple of growers said "yes."

There was a study done at Cornell University several years ago regarding the psychological effect on hand laborers in vineyards where the individual spends the better part, if not all, of the day in the same row performing his/her tasks. The productivity of that person was reduced dramatically. There is also a lot of additional unnecessary walking time when it's time for breaks, lunch or end of the day and they have to walk to the end of the row without performing any work and return to the same row at a later time. This creates additional unproductive time and adds to the cost of labor. Another negative of longer rows is the size of the end posts needed to support the trellis. Not only are the end posts more expensive but the time to install them is also increased. Rows 600' to 800' in length seems to work the best. In my opinion, I think it's wise to have wider row widths in your area to increase air circulation and help dry the vines off from the dew in the morning. Also, keep in mind that the closer the row widths and vine spacing the more your labor costs and tractor work increases.

I suggested to growers to make better (cleaner) pruning cuts, not to leave a lot of "dead" spurs on the cordon. These are "harboring" areas for all kinds of diseases to be stored throughout the growing season, either by wind or rain splashing distributing spores into the canopy, making disease pressure that much worse. I also suggested to some growers that I felt they were trying to push too much out of the vines. There needs to be an understanding by the growers as to what the balance of the vines are. "Balance" is defined as not over or under pruning the vine. I would also try to develop the trunks of the vines to be as straight as possible to eliminate tractor and equipment damage in the future.

There should be a provision to irrigate if necessary, regardless of the water holding capacity of the soil that the vines are planted on. This gets back to my comments at the seminar pertaining to making sure you do the best job of soil preparation prior to planting, not just to add nutrients but organic matter as well. I stressed this concern of low organic matter prior to planting everywhere I visited. Low organic matter reduces the water holding capacity and doesn't allow herbicides or fertilizers to perform properly.

I also noticed a lot of wires being used on trellis' that were not hi-tensile (hardened).

This is another item that should be changed on future plantings, making the wire tension less of a problem. I suggest that trellis systems should be a Vertical Shoot Positioning (VSP) system. In this type of system the catch wires are positioned in pairs along the line posts. These catch wires are movable and are moved throughout the growing season to keep the shoots in a vertical position. There are nails on each side of each line post to hold the catch wires in place. While we use three sets of movable catch wires on Long Island, your area can get by with two sets if you want to save money. Long Island started with Umbrella Kniffin trellis systems, but after about 10 years converted to VSP to create a band of fruit as opposed to scattered fruit on the vine for better sun exposure, spray coverage and easier harvesting.

Leaf removal around the fruit zone should also be considered and done as early as possible so new leaves can grow to protect the acid levels in the fruit. Another option is to remove the leaves on the East side only of the canopy. These cultural practices should all be coordinated between the winemaker and vineyard manager to bring the best possible fruit to the crush pad.

Please understand that the above observations and suggestions are not meant to be critical, just suggestions to better improve the quality of your vineyards. These are some of the many improvements we made on Long Island years ago.

What a fantastic turnout for the grower's seminar at the Lieber Farm, Piney Grove Vineyards. There were 60+ land owners and prospective grape growers in attendance. This number of interested people should send a positive message to all involved. I believe at this time the focus should shift to the Maryland Wineries Association to get their input on what varieties would be in demand and could successfully be grown in the Upper Shore Region. My feeling is that white varieties would possibly be more successful than the red varieties because of the additional constant heat night and day as compared to the Western part of the state where there is more elevation. I'm referring to Vinifera in particular.

A most important message I would like to leave everyone with is that buying grape plants and putting them in the ground is the easy part. Doing your due diligence prior to planting to improve your soil and create the best growing environment for your vines, can only be done once, before the vines go in the ground.