

Workshop Title: Considerations for Starting an Organic Vineyard

Speaker(s) & their title(s): Michael Lightfoot of Lightfoot & Wolfville Vineyards

Executive Summary:

Michael is a 7th generation farmer from Wolfville, Nova Scotia, who manages 35 acres of certified organic wine grapes. Lightfoot uses organically approved products and biodynamic methods to control disease issues, and maintain crop health. Michael's presentation outlines potential growth in the maritime wine industry, and considerations for starting an organic vineyard.

Detailed Notes:

When designing a vineyard, what is your end goal?

Do you want to grow and sell grapes to other winemakers, make juice, try value-adding, make wine yourself and sell to liquor stores, make grapeseed oil or Bio-Flav (made from skins, and grape seed extract)?

Things you should consider before getting started:

- Organic vs. conventional (pressure treated posts are not used in organic systems)
- Physical labour- vines need pruning, leaves trimmed, harvesting
- Do you need mechanization?
- Ability- personal knowledge, mentoring, consultants
- Financing- it can cost \$25,000-\$35,000 per acre to plant a vineyard.
- If you are planning to sell your grapes to a local winery it is important to determine which varieties they want to buy
- It is less risky to choose reliable, cold hardy, and high producing varieties to begin with, but when you are willing to take a risk try planting something different

Site selection for organic growing:

- Windy sites are recommended to dry leaves and prevent molds.
- Don't plant in low-lying areas to avoid cold air drainage and poor air circulation.
- Situate your vineyard on a hill/slope.
- Different grape varieties are chosen for different land types - an early leafing variety might be better on a north slope to avoid late spring frosts.
- Growing degree days –consult your local Department of Agriculture for charts
- Frost free days: 185 in the valley
- Coldest average winter temperature and killing frost: some hybrid vines will tolerate -35, you can plough soil up around graft union or use agrifabric to protect plants
- Ideally near large body of water: air exchange in vineyard with changing tides, and milder temperatures in the winter.

Growth in the Nova Scotia wine industry:

- Huge growth potential due to climate change and local terroir factor
- Future wine styles should focus on quality

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Climate change:

- In other areas of the world grape growers are picking their grapes 2-3 weeks earlier, and the Brix are not reaching their full potential
- However the Maritimes have been identified for its optimal growing conditions, less affected than growers in California for example.

The Terroir Factor:

- Tidal bay wines in Nova Scotia, for example
- Cool climate, higher acidity, crisp white, light red, ice wines (huge exportation potential), pairs well with seafood.
- However we will not grow grapes that produce deep bold reds in our terroir

Planting an organic vineyard:

Land prep and tile drainage:

- Soil test - adjust pH and micronutrients one year prior to planting
- Sub soil across rows before planting, to fracture and aerate root zone 36-40 inches deep
- Establish drainage- install 4" perforated drain pipes every 18 ft. (every other row), approximately 3 feet deep.
- Michael recommends hiring a professional for this job.

Acquiring plants:

- Locally \$2-\$2.50 per vine from nursery. For an extra cost (\$0.50 more) vines are heat treated for viruses, and planted out in field for 1 year. Professionally certified vines save time (1 year) and money in the long run.
- Order well in advance
- Vinotech Canada or Mori vines are recommended companies to order vines from

Vineyard layout:

- Row orientation north-south is best for optimal sunlight
- Lay out plants in neat rows
- Larger vineyards should hire a laser planter
- Plant 4-4.5 feet apart in rows, with 9-10 feet between rows. This roughly equals 1000 plants per acre
- Consider size of mechanical equipment before marking row width

Factors that affect your choice of trellis system:

- Climate
- Organic vs. conventional
- Skill level of employees
- Materials available
- Cost

Michael recommends:

- Buy the best that you can afford
- Hemlock posts

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- End posts at 60 degree angle

Organic vineyard inputs:

- Oil is sprayed early in spring to suppress and kill mites
- Horsetail /compost tea is sprayed for powdery mildew and has been extremely successful, with neighbouring conventional farmers also convinced by Michael's success
- Kumulus- used to prevent powdery mildew
- Copper 53w – for downy mildew – start with a low amount
- Serenade max – a beneficial fungus that is sprayed after flowering and prevents botrytis (grey mold) in fruit clusters
- Sea weed extract- is used up to 5 times each year to relieve plant stress
- Stinging nettle tea applied as a nutrient
- Solubor- supplies boron

“The best inputs are your own footprints”

Question:

How do you manage weeds, and how critical is this in an organic vineyard?

Answer:

It is very important, especially with small plants, or with tall weeds that bring downy mildew up into the canopy. Michael uses a mechanical weeder called a Clemens that cuts weed stalks just below the soil surface.

Question:

Do you harvest your grapes by hand or mechanically?

Answer:

90 tonnes of grapes were hand harvested this year.