Recommended Winegrape Varieties for Diverse Regions of Maryland

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Grape Varieties

The Wine is Made in the Vineyard!
Grape Varieties

General considerations

- Climate/Variety interaction critical
- Consistent production at your site
- Consistently high quality at your site
  - Cold Hardiness
  - Disease and pest pressure
  - Temperature during ripening (cool nights)
  - Ripe all or most years!!
- Demand by existing wineries
  - Potential for future
- Demand by consuming public (own winery)
- Crop value consistently exceeds cost of production
Grape Varieties

“Ripe grapes”
Grape Varieties

Pest Resistant Varieties

Disease tolerant hybrids
## Grape Prices per Ton

### New York 2006
- Cab Sauvignon: $1813
- Cabernet Franc: $1657
- Pinot Noir: $1654
- Chardonnay: $1332
- Riesling: $1582
- Vidal blanc: $650
- Traminette: $1049
- Chambourcin: $875

### Virginia 2005
- Cab Sauvignon: $1437
- Cabernet Franc: $1447
- Merlot: $1567
- Chardonnay: $1372
- Viognier: $1639
- Vidal blanc: $837
- Traminette: $940
- Norton: $1485
Grape Varieties

“Preferred” conditions for producing high quality grapes:

- Moderate winters and limited frosts
  - Preferably minimums >0°F
- Well drained, low fertility soil
- Warm sunny days during ripening
  - Preferably maximums <90°F
- Cool nights during ripening
  - Preferably <65°F
- Limited precipitation
  - Veraison to harvest
Grape Varieties

Variety choices:

Know your site!
-Cold!
-Growing season
Grape Varieties

Relative variety ripening

Grapevine Climate/Maturity Groupings

<table>
<thead>
<tr>
<th></th>
<th>Cool</th>
<th>Intermediate</th>
<th>Warm</th>
<th>Hot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Growing Season Temperature (NH Apr-Oct; SH Oct-Apr)</td>
<td>55 - 59°F</td>
<td>60 - 63°F</td>
<td>63 - 66°F</td>
<td>66-72°F</td>
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<tr>
<td>Muller-Thurgau</td>
<td>Riesling</td>
<td>Pinot Noir</td>
<td>Chardonnay</td>
<td>Sauvignon Blanc</td>
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<td>Pinot Gris</td>
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<td>Gewurztraminer</td>
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<tr>
<td>Cabernet Franc</td>
<td>Tempranillo</td>
<td>Dolcetto</td>
<td>Merlot</td>
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<tr>
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<td>Syrah</td>
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<tr>
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<td>Malbec</td>
<td>Viognier</td>
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<tr>
<td></td>
<td>Cabernet Sauvignon</td>
<td>Sangiovese</td>
<td>Grenache</td>
<td>Carignane</td>
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<tr>
<td></td>
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<td>Grenache</td>
<td>Carignane</td>
<td>Zinfandel</td>
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<tr>
<td></td>
<td>Grenache</td>
<td>Carignane</td>
<td>Zinfandel</td>
<td>Nebbiolo</td>
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<tr>
<td></td>
<td>Carignane</td>
<td>Zinfandel</td>
<td>Nebbiolo</td>
<td>Raisins</td>
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</tbody>
</table>

Length of rectangle indicates the estimated span of ripening for that varietal.
Grape Varieties

General consideration of vinifera relative to other species/hybrids

- Vinifera must be grafted to pest-tolerant rootstock
- As a group, vinifera are more susceptible to fungal and certain other pathogens
- Vinifera are more susceptible to cold injury
  - Native American spp > hybrids > V. vinifera
- Vinifera grape prices are roughly twice that of hybrid or American spp. of grape.
Grape Varieties

Vinifera vs. species/hybrids

• Must be grafted to pest tolerant rootstock
  – C3309
  – 101-14

Phyloxera
Grape Varieties

Rootstock Selection

- Phyloxera resistant
- Vigor management (RG)
  - Depth of rooting
- Fit to specific soil types
  - Tolerate drought (110R)
  - Tolerate wet soils (RG; Clay=110R)
- Nematode resistant (SO4, 5BB, 1616)
- Crown gall resistant
- 3309, 101-14, RG
Grape Varieties

Cayuga White (hybrid)

• **Strengths:**
  – Very good cold hardiness
  – Very high yields
  – Excellent disease resistance
  – Versatile

• **Weaknesses:**
  – Over-cropping
  – Labrusca character
  – Name!
Grape Varieties

Vidal Blanc (hybrid)

• **Strengths:**
  – Good cold hardiness
  – High yields
  – High quality – versatile
  – High demand
  – Late bud break
  – Good bunch rot resistance

• **Weaknesses:**
  – Over cropping
  – Susceptible to tomato & tobacco ringspot viruses
Seyval Blanc (hybrid)

- **Strengths:**
  - Good cold hardiness
  - Good yields
  - Versatile
  - Demand

- **Weaknesses:**
  - Over cropping
  - Establishment
  - Ripe rots
Grape Varieties

Chardonel
(Seyval Blanc x Chardonnay hybrid)

• **Strengths:**
  – Good heat tolerance
  – Good cold hardiness
  – Good yields
  – Versatile

• **Weaknesses:**
  – Over cropping?
  – Ripe rots?
  – Limited local testing
Grape Varieties

Traminette (hybrid)

• **Strengths:**
  – Good yields
  – Excellent fruit quality
  – Excellent cold hardiness
  – Good disease resistance
  – High demand

• **Weaknesses:**
  – Limited commercial experience
  – Quality in heat?
Grape Varieties

Hardy Russian Varieties

- **Strengths:**
  - Excellent cold hardiness
  - Good disease resistance
  - Good wine quality
    - Aromatic
    - Germanic
    - Great mouth feel
  - Quality in heat
    - WyeREC

- **Weaknesses:**
  - Limited commercial experience
  - Names
Grape Varieties

Pinot Gris/Grigio (*vinifera*)

- **Strengths:**
  - Adaptable cultivar
  - Fair cold hardiness
  - Early harvest
  - Consumer recognition

- **Weaknesses:**
  - Susceptible to botrytis
  - Ripen in heat?
Grape Varieties

Chardonnay (*vinifera*)

**Strengths:**
- Adaptable cultivar
- High fruit quality
- Good Yields (4 t/a)
- Fair cold hardiness
- Clones available

**Weaknesses:**
- Early bud break - frost
- Susceptible to botrytis, PM and GY
Grape Varieties

Sauvignon Blanc

• **Strengths:**
  – Hardiness?
  – Good yields
  – High quality
  – Early ripening
  – Demand

• **Weaknesses:**
  – Variable by site
  – Early ripening
  – Over-cropping
  – Tight clusters
    • Susceptible bunch rots???
Grape Varieties

‘Linae’

- **Strengths:**
  - Adaptable cultivar
  - Better in cool “climate”
  - Good pest resistance
  - Good cold hardiness
  - Early and range of harvest
  - Aromatics

- **Weaknesses:**
  - Fruit gets soft quickly
  - Brix accumulation?
  - Ripen in heat?
  - Consumer recognition
Chambourcin (hybrid)

**Strengths:**
- Widely adapted
- High quality
  - versatile
- Good cold hardiness
- Disease resistant

**Weaknesses:**
- Demand?
- Name
Norton (red American spp.)

**Strengths:**
- Cold hardy
- Good disease resistance
- 2X NJ GC winner
- Increasing local interest
- Very fruity character - blend

**Weaknesses:**
- Low yields
- Uncertain demand
- High pH and high TA
- Training system?
Grape Varieties

Merlot (red vinifera)

• **Strengths:**
  – High demand
  – Excellent fruit quality
  – Ripens early

• **Weaknesses:**
  – Cold tender
  – Highly susceptible to bunch rot

Only best sites in North!!!!
Grape Varieties

Barbera (*vinifera*)

- **Strengths:**
  - High yields – needs management
  - Greater cold hardiness than CabSauv?
  - Ripens with Cab Franc
  - High quality fruit, little rot
  - Good quality wine
    - Color, softness
  - Clones – too early

- **Weaknesses:**
  - High yields – needs management
  - Dis-synchronous ripening
  - High acid
  - Demand uncertain
Grape Varieties

Petit Verdot (*vinifera*)

**Strengths:**
- High yields (at Winchester)
- Good for blending
  - Color, intensity
- Greater cold hardiness than Cabernet Sauvignon?
- Ripens with Cabernet Franc
- High quality fruit, little rot

**Weaknesses:**
- High acid and pH in some years
- Susceptible to Phomopsis?
- Demand uncertain
  - But rising?
Grape Varieties

Cabernet Franc (*vinifera*)

- **Strengths:**
  - Good demand
  - Good rot resistance
  - Cold hardiness
    - > Cabernet Sauvignon
  - Clones #1 and #214
  - Ripens earlier than CS
  - Softer tannins

- **Weaknesses:**
  - Occasionally poor fruit set
  - High incidence of leafroll virus
  - Herbaceous when under-ripe
Grape Varieties

Cabernet Sauvignon *(vinifera)*

- **Strengths:**
  - Good demand
  - Yields?
  - Late bud break
  - Good rot resistance

- **Weaknesses:**
  - Variable ripening
    - Consistent ripening
  - Cold-tender - establishment
  - Bunch stem necrosis

Only best sites!!!!!
Grape Varieties

Very Cold Hardy Varieties

- LaCrescent
- Frontenac
- St. Croix
- LaCrosse
- Frontenac Gris
- Marechal Foch
<table>
<thead>
<tr>
<th>Variety</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>Riesling</td>
<td>High demand; Cool site; Rot sensitive;</td>
</tr>
<tr>
<td>Viognier</td>
<td>Gaining rec; Ripen consistent?</td>
</tr>
<tr>
<td>Gewürztraminer</td>
<td>Demand?; Cool site; Rot sensitive?;</td>
</tr>
<tr>
<td>Albariño</td>
<td>Spanish – Rot resistant? Gaining;</td>
</tr>
<tr>
<td>Muscats</td>
<td>Fastest growing in popularity</td>
</tr>
<tr>
<td>Noiret</td>
<td>NY hybrid; cold hardy; good color; ripe</td>
</tr>
<tr>
<td>Pinot Noir</td>
<td>Early season; Rot sensitive;</td>
</tr>
<tr>
<td>Syrah</td>
<td>Inconsistent; Heat tolerance? DM?</td>
</tr>
<tr>
<td>Tannat, Touriga</td>
<td>Good color; ripens each year</td>
</tr>
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<td>Tintos</td>
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**Other varieties = S&E**

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<td>Spanish – Rot resistant?</td>
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<tr>
<td>Viognier</td>
<td>Gaining rec; Ripen consistent?</td>
</tr>
<tr>
<td>Petite Manseng</td>
<td>Late; high acid</td>
</tr>
<tr>
<td>Valvin Muscat</td>
<td>NY62; good in heat</td>
</tr>
<tr>
<td>Villard Noir</td>
<td>Hybrid; wine like PN; long season</td>
</tr>
<tr>
<td>Malbec</td>
<td>Early; Potential but cold tender?</td>
</tr>
<tr>
<td>Negro Amaro</td>
<td>Promising but cold tender?</td>
</tr>
<tr>
<td>Tannat; Touriga; Tinto</td>
<td>Good color; mid season?</td>
</tr>
<tr>
<td>Sangiovese</td>
<td>Inconsistent; Management?</td>
</tr>
<tr>
<td>Syrah</td>
<td>Inconsistent; Heat tolerance? DM?</td>
</tr>
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</table>
Wine Marketing: Know your clientele
“Wine was given by God, not that we might be drunken, but that we might be sober. It is the best medicine when it has moderation to direct it. Wine was given to restore the body’s weakness, not to overturn the soul’s strength.”

St. John Chrysostum
(4th Century preacher)
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