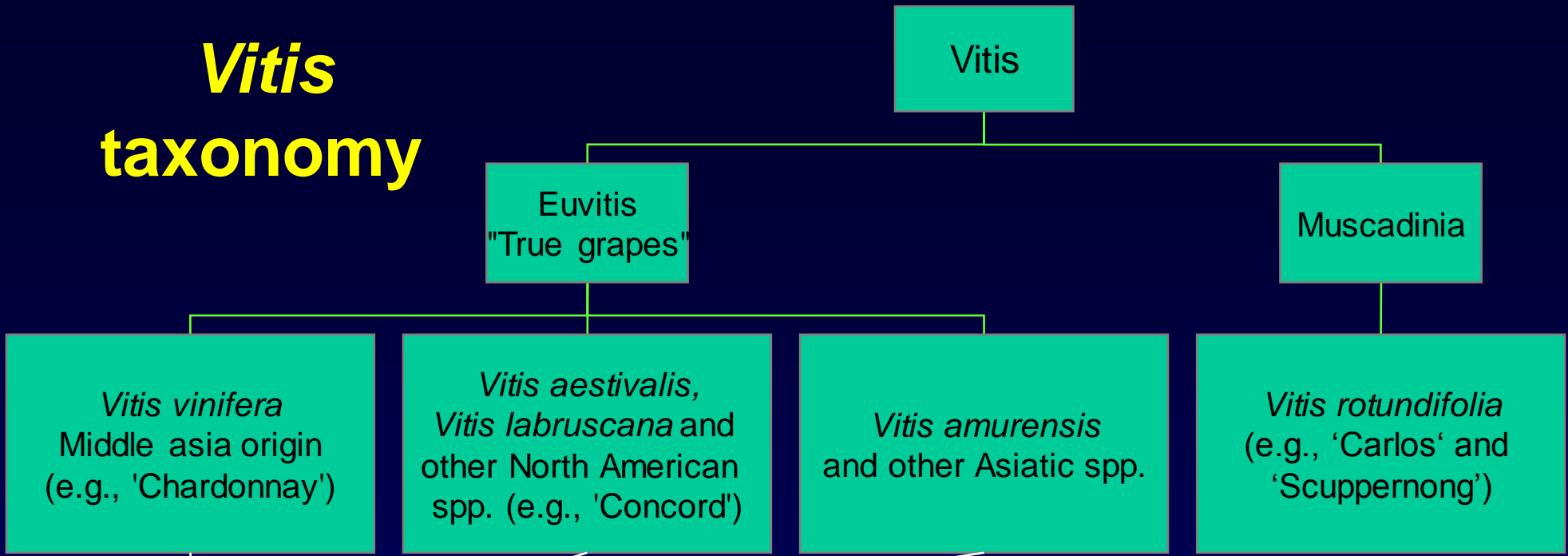


Grape Varieties and rootstocks

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Vitis taxonomy



Interspecific
Vitis hybrids
(e.g., 'Traminette')

Traminette



Carlos



Please note: These >>
are VARIETIES (noun)
not VARIETALS (adverb)

Price paid per variety over 3-year period

Variety	Average price paid (\$/ton)			
	2010	2011	2012	2013
Cabernet franc	\$1,576	\$1,639	\$1,702	\$1,845
Cabernet Sauvignon	\$1,771	\$1,894	\$1,894	\$1,959
Chambourcin	\$1,039	\$1,088	\$1,100	\$1,095
Chardonnay	\$1,578	\$1,639	\$1,648	\$1,851
Merlot	\$1,712	\$1,756	\$1,777	\$1,983
Norton	\$1,300	\$1,444	\$1,600	\$1,650
Petit Verdot	\$1,969	\$1,983	\$2,133	\$2,206
Traminette	\$1,087	\$1,060	\$1,147	\$1,187
Vidal blanc	20% ↑ \$1,063	\$1,042	\$1,166	\$1,278
Viognier	17% ↑ \$1,854	\$1,942	\$1,920	\$2,174

General consideration of varieties

- ◆ Is in demand by existing wineries or has potential for future demand, or client will use in his/her own winery (variety recommendations are difficult to make)
- ◆ Crop value (yield * value) consistently exceeds cost of production
- ◆ Does the variety “fit” the site (maturation season, hardiness, etc.) ?

General consideration of vinifera relative to other species/hybrids

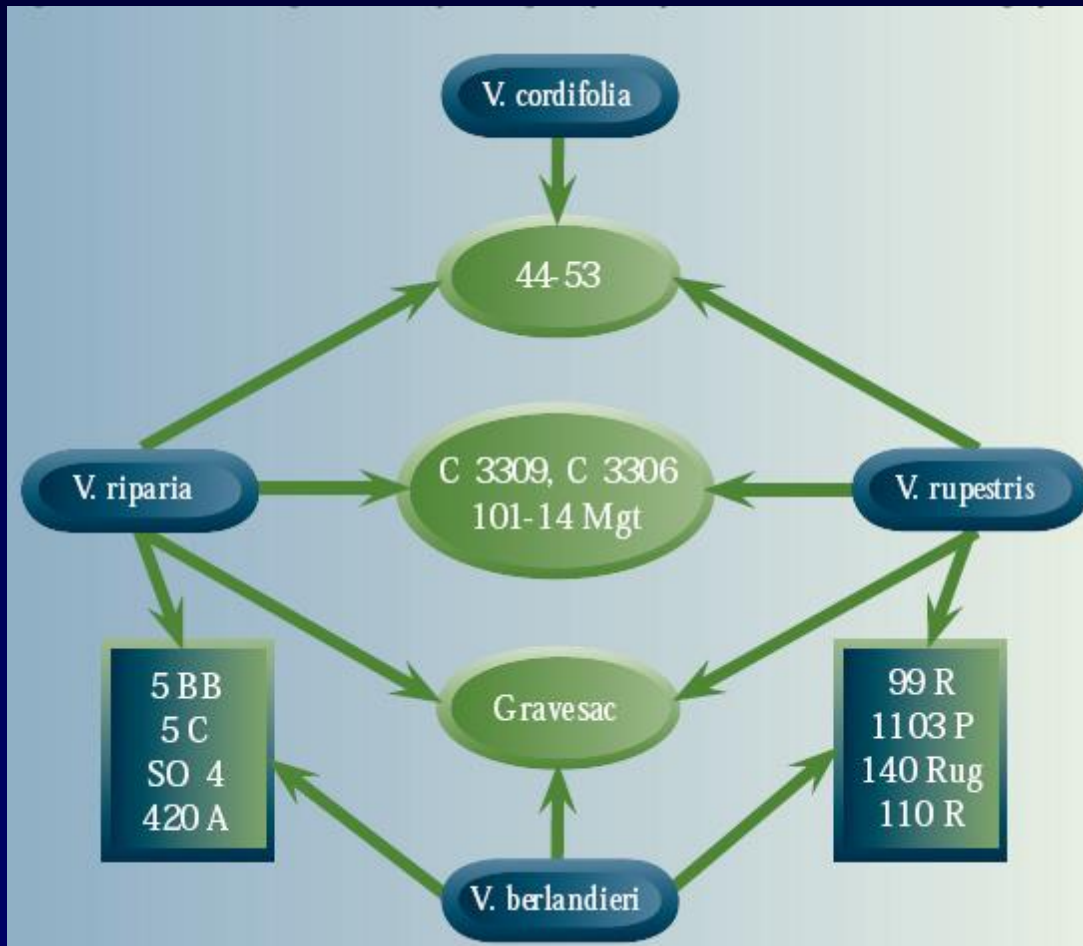
- ◆ Vinifera must be grafted to pest-tolerant rootstock
- ◆ As a group, vinifera are more susceptible to fungal and certain other pathogens
- ◆ vinifera are more susceptible to cold injury
 - ◆ Native American spp > hybrids > V. vinifera
- ◆ vinifera grape prices are about 70% greater than prices paid for hybrid or American grapes.

Vitis vinifera relative to other species/hybrids

- ◆ Must be grafted to pest tolerant rootstock



Rootstocks

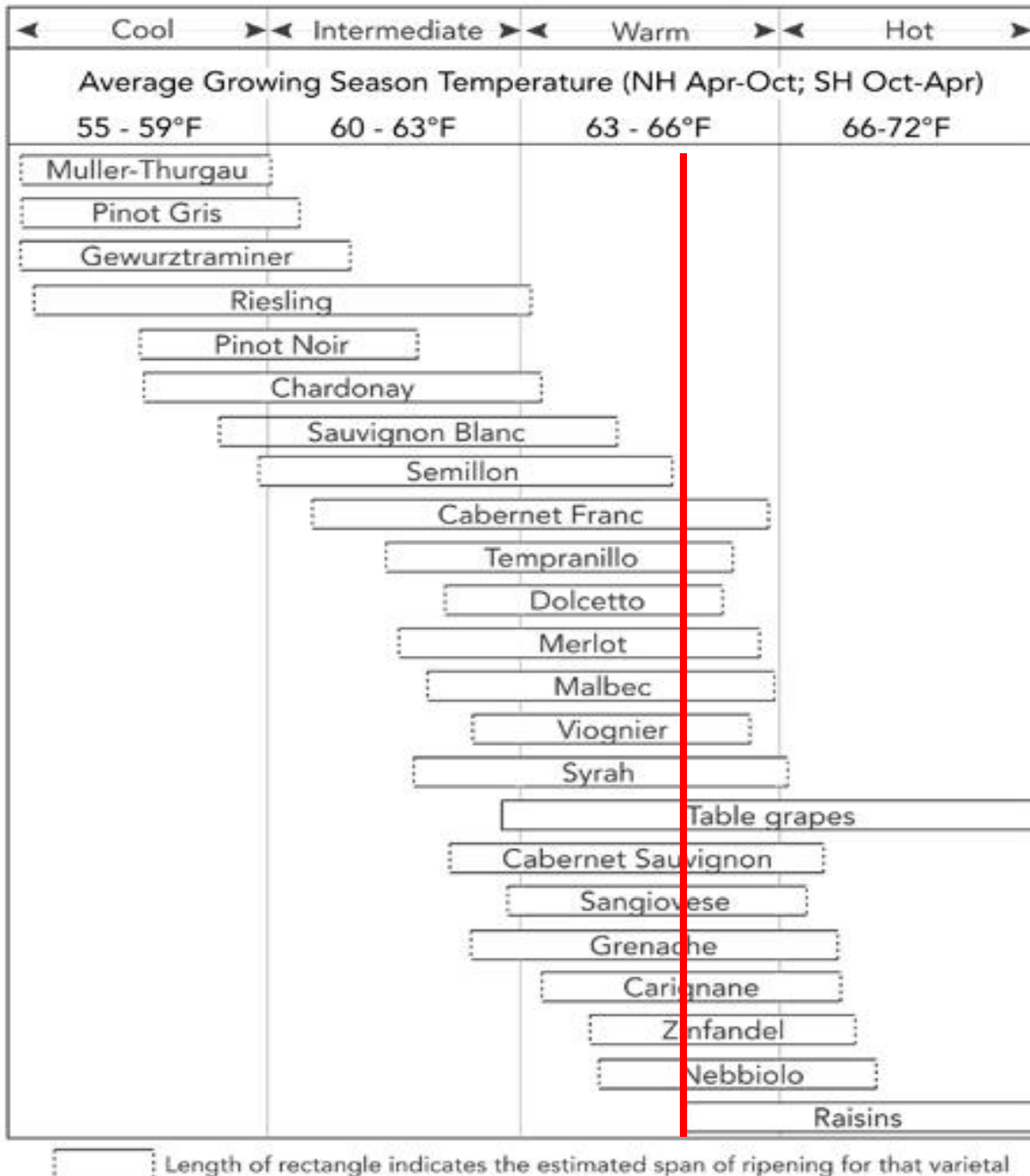


Decreasing vigor

- ◆ C-3309
- ◆ 101-14
- ◆ 420-A
- ◆ riparia Gloire



Grapevine Climate/Maturity Groupings



Climate/Maturity groupings of Greg Jones (Southern Oregon University). It is based on the average growing season (Apr-Oct) temperature. Winchester, VA is about 65°F

Insufficient heat:

- Unripe grapes; herbaceous character; elevated pyrazine levels, etc.

Excess heat:

- Cooked qualities; loss of aromatic flavor and aroma compounds, excessive alcohol, etc.

Common *Vinifera* varieties that have performed reasonably well in mid-Atlantic

Albariño	Cabernet Sauvignon
Chardonnay	Cabernet franc
Muscat Ottonel	Merlot
Petit Manseng	Petit Verdot
Sauvignon blanc (+/-)	
Viognier	

Of course, there are many others; but these 10 have generally done well under a wide range of conditions

Summary of varieties sought by wineries in 2012

- Tonnage sought but unavailable
- An additional 46 tons sought in addition to what is listed here
- These figures are similar to annual figures generated in previous years
- Data provided by Virginia Wine



Wineries would have bought the following varietals if available:	# of Total Responses	Tons
31 Total Varietals	148	860
Viognier	28	241
Chardonnay	14	135
Petit Verdot	18	68
Pinot Grigio/Gris	6	45
Cabernet Franc	10	44
Norton	2	35
Merlot	5	34
Petit Manseng	7	27
Vidal Blanc	6	25
Tannat	8	21
Cabernet Sauvignon	4	18
Muscat	3	18
Albarino	3	17
Chambourcin	5	16
Riesling	3	16
Syrah	2	15
Chardonel	2	14
Grenache	2	13
Traminette	4	12

Chardonnay (vinifera)

- ◆ **Strengths:**
 - ◆ High fruit quality, adaptable cultivar
 - ◆ Fair cold hardiness (MLTE -5F)
- ◆ **Weaknesses:**
 - ◆ Early bud break
 - ◆ Susceptible to botrytis, powdery mildew and grapevine yellows
- ◆ **Clones:**
 - ◆ FPS #5, 15 and many others;
 - ◆ ENTAV #95, #96, and others



Viognier (vinifera)

◆ Strengths:

- ◆ Good demand
- ◆ Excellent fruit quality
- ◆ Good resistance to bunch rot
- ◆ Fair cold hardiness (-11F)

◆ Weaknesses:

- ◆ Weak growth in some situations
- ◆ Bud necrosis can limit yields

◆ Clones:

- ◆ FPS 01 and ENTAV 642
are common



Cabernet Sauvignon (vinifera)

- ◆ **Strengths:**
 - ◆ Good demand for quality fruit
 - ◆ Late bud break
 - ◆ Good rot resistance
- ◆ **Weaknesses:**
 - ◆ Cold-tender (MLTE -7F); one of our most cold-sensitive varieties.
 - ◆ Fails to ripen with poor site!
- ◆ **Clones:**
 - ◆ #337, FPS #8, #338, #412



General characteristics of hybrid cultivars

- ◆ Many cultivars are direct-producers (no need for rootstock). Rootstocks generally recommended though in Virginia for multiple reasons.
- ◆ Susceptibility to fungal pathogens is variable, but many have some level of resistance
- ◆ Susceptibility to cold injury is variable, but generally greater than that of vinifera
- ◆ Wine name recognition often not as great as with vinifera

Chambourcin (hybrid)

- ◆ **Strengths:**
 - ◆ Excellent quality
 - ◆ Good cold hardiness
 - ◆ Good relative disease resistance
- ◆ **Weaknesses:**
 - ◆ Can have low vigor – watch the nutritional status



Vidal blanc (hybrid)

◆ Strengths:

- ◆ Good cold hardiness
- ◆ Late bud break
- ◆ Versatile variety (wine style)

◆ Weaknesses:

- ◆ Overcropping potential
- ◆ Susceptible to tomato & tobacco ringspot viruses
(need to graft)



General characteristics of American species

- ◆ Most cultivars are direct-producers (no need for rootstock).
- ◆ Susceptibility to fungal pathogens is variable, but many have excellent resistance
- ◆ Susceptibility to cold injury is variable; American spp. generally more cold hardy than hybrids or vinifera
- ◆ Name recognition not as great as with vinifera; price per ton reflects lower value

Norton (Vitis aestivalis)

◆ Strengths:

- ◆ Cold hardy
- ◆ Good disease resistance (limited spray program)
- ◆ Good for blending

◆ Weaknesses:

- ◆ Low yields
- ◆ Uncertain demand
- ◆ Can have very high acidity in fruit at harvest



Very cold-hardy varieties

- ◆ Frontenac, Saint Croix, GR7, NY73.0136.17 (reds)
- ◆ Lacrosse, Chardonel, LaCresent (white)

These cultivars generally have a fairly short maturation season (<155 days). Eastern experience is limited with the Minnesota cultivars

Other varieties.....???

Variety	Comments
Chardonel (hybrid)	Good – far superior to ‘Seyval’
Malvasia	Good, niche (floral, similar to muscat)
Nebbiolo	Cold tender, perhaps with good clone
Pinot gris	Good, tendency to rot in wet harvests
Pinot noir	Prone to rot
Riesling	Prone to rot
Sangiovese	Cold tender, perhaps with good clone
Sauvignon blanc	Prone to rot
Syrah	Cold tender, perhaps with good clone
Tannat	Cold tender, vigorous, tendency to overcrop

Alternative wine grape varieties

- ◆ Some may do well, but our experience is limited.
- ◆ Check with your state extension specialist or with other growers to determine who might be growing an obscure variety that you're interested in.
- ◆ Choose legal means of obtaining budwood or grafted vines to reduce the potential for importing pests and/or being fined.