



Blending as Process

The Case for Scientific Artistry

Chris Lawlor, Winemaker
Galena Cellars
Galena, IL

and

Stephen Menke, Assoc. Prof. of Enology
Horticulture and Landscape Architecture
Colorado State University Enology Program





REASONS FOR BLENDING

- Complexity – Few wines stand alone
- Consistency
 - Variance in Growing Conditions
- Better Balance – More attractive than the original.
 - Adjust Flavors ,Acid, Tannins, Sweetness, Bitters, etc.
- To “improve” the color of a wine.
- Raise or lower the alcohol level.
- Raise or lower the acidity/pH of a wine.
- To enhance body
- To fit a wine into your winery program
- Improve Aroma
- Minimize Flavors and Tastes



WAYS TO BLEND WINE

- Different Varieties
- Different Vineyards
- Different Vintages
- Different Vinification Methods
 - Sur Lie
- Different Tanks & Barrels



RULES OF BLENDING

- Blend only sound wines.
- Test blends on a small scale first.
- Blend with a goal in mind.
- Never blend a bad wine with a good one.
- Filter after blending is complete and retest.
- Test several blending strategies.



MORE RULES OF BLENDING

- Keep detailed tasting notes.
- No more ingredients than necessary.
- Blend in a well lit room without aromas.
- Re-taste blend after several days
- When test blend is decided upon, make tank blend with $\frac{1}{2}$ of calculated elements and taste
- If necessary adjust and re-taste, then finish blending of final amount
- **The ending product should be better than the individual parts used to create it!**



WHEN TO BLEND WINES

- Usually not at harvest
 - Timing with varieties and fermentation
- 1st of the New Year following the Harvest
 - Sooner after the fermentation the better.
 - Before Bulk Aging for components to marry
- Note: Flavor will change in a few days so set aside and re-taste.



TTB REGULATIONS

- Sweetening
 - When Juice or concentrated juice is added, the solids content of the finished wine may not exceed 21% by weight. When liquid sugar or invert sugar syrup is used, the resulting volume may not exceed the volume which would result from the maximum use of pure dry sugar only. (Sec. 201, Pub. L. 85-859, 72 Stat. 1383, as amended, 1384, as amended, 1385, as amended 1386, as amended (26 U.S.C. 5382, 5383, 5384, 5385))
 - Only Sugar, as defined in section 24.10, may be used in the production of standard wine. The quantity of sugar used will be determined either by measuring the increase in volume or by considering that each 13.5 pounds of pure dry sugar results in a volumetric increase of one gallon(Sec. 201, Pub. L. 85-859, 72 Stat. 1383, as amended, 1384, as amended, 1385, as amended 1387, as amended (26 U.S.C. 5382, 5383, 5384, 5392))



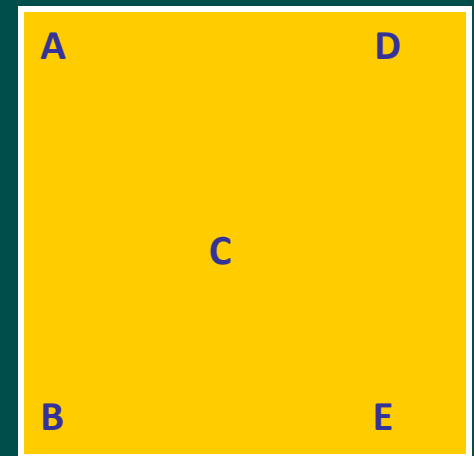
TTB REGULATIONS

- Acid Additions
 - To stabilize wine other than citrus wine:
 - The amount of citric acid shall not exceed 5.8 lbs/1000gals. (0.7 g/L). *27 CFR 24.244. 21 CFR 182.1033 (GRAS).*
- Labels
 - Understand your legal label requirements

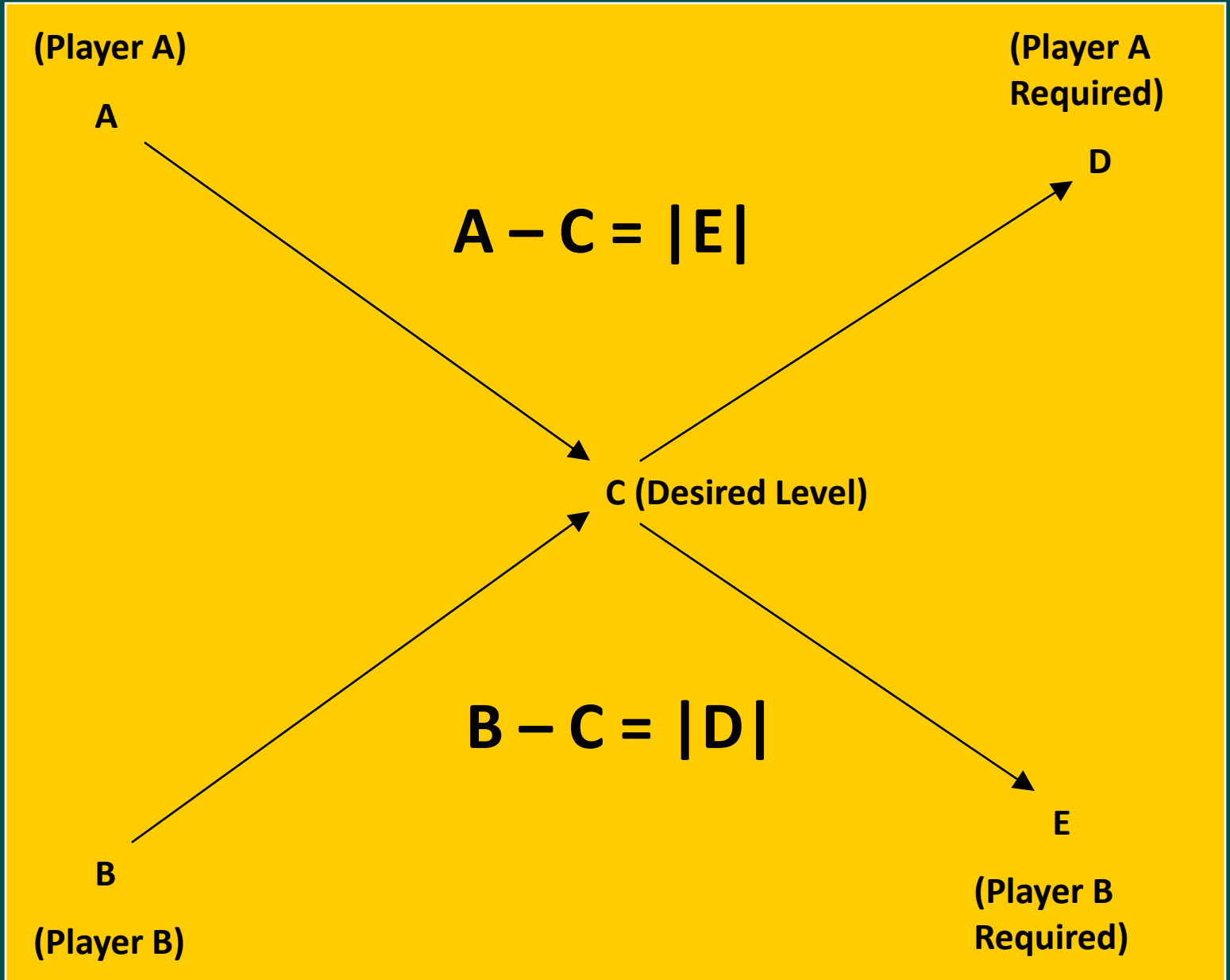


BLENDING METHODS

- **Organoleptic Approach**
 - Based on sensory perception.
- **Scientific Approach:**
 - Balances elements such as: T.A., R.S., Alcohol to achieve a desired outcome.
 - PEARSON SQUARE

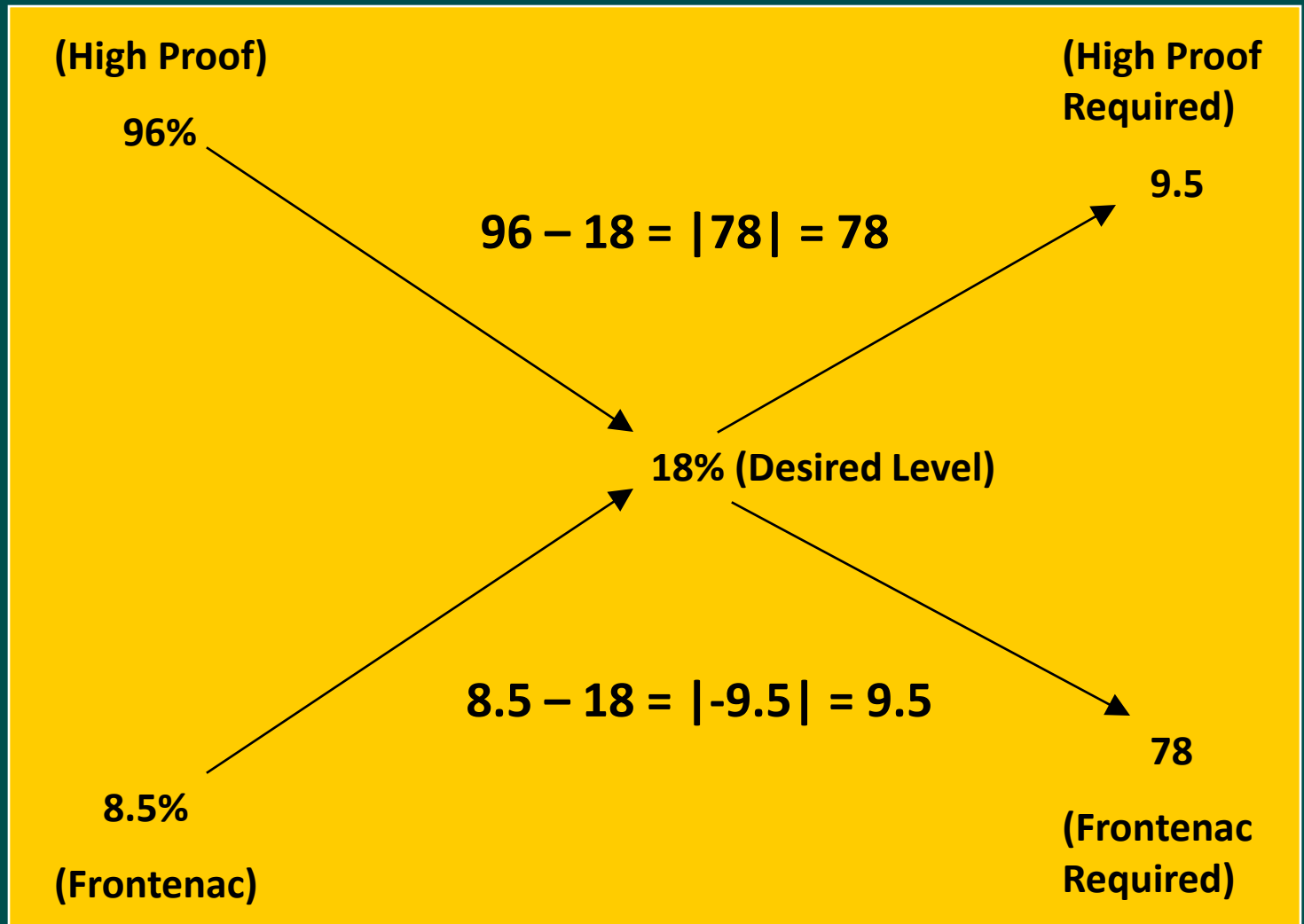


C= Desired Level A/B= Players D= Parts to use of A E= Parts to use of B



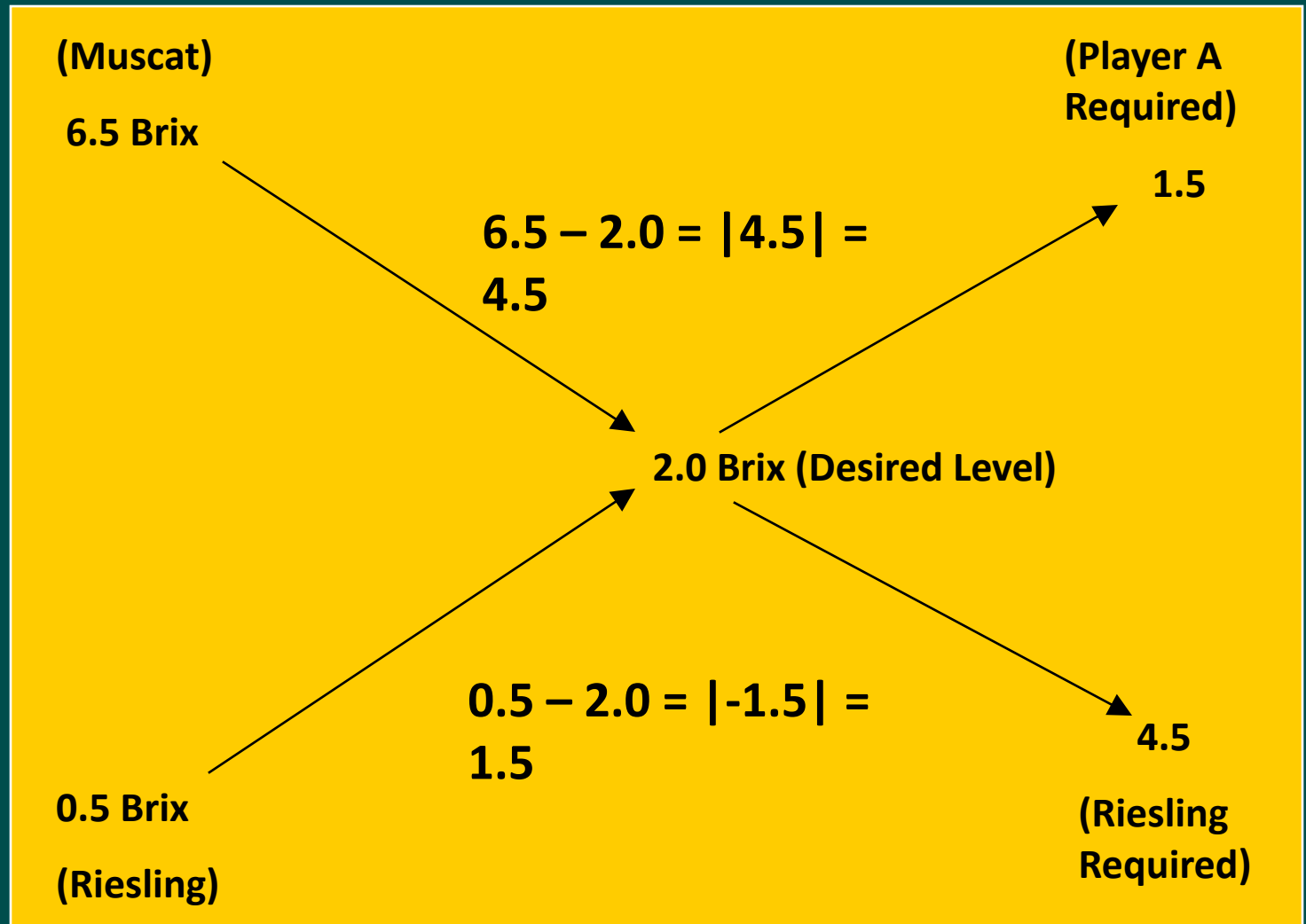


Example: % Alcohol on a Port



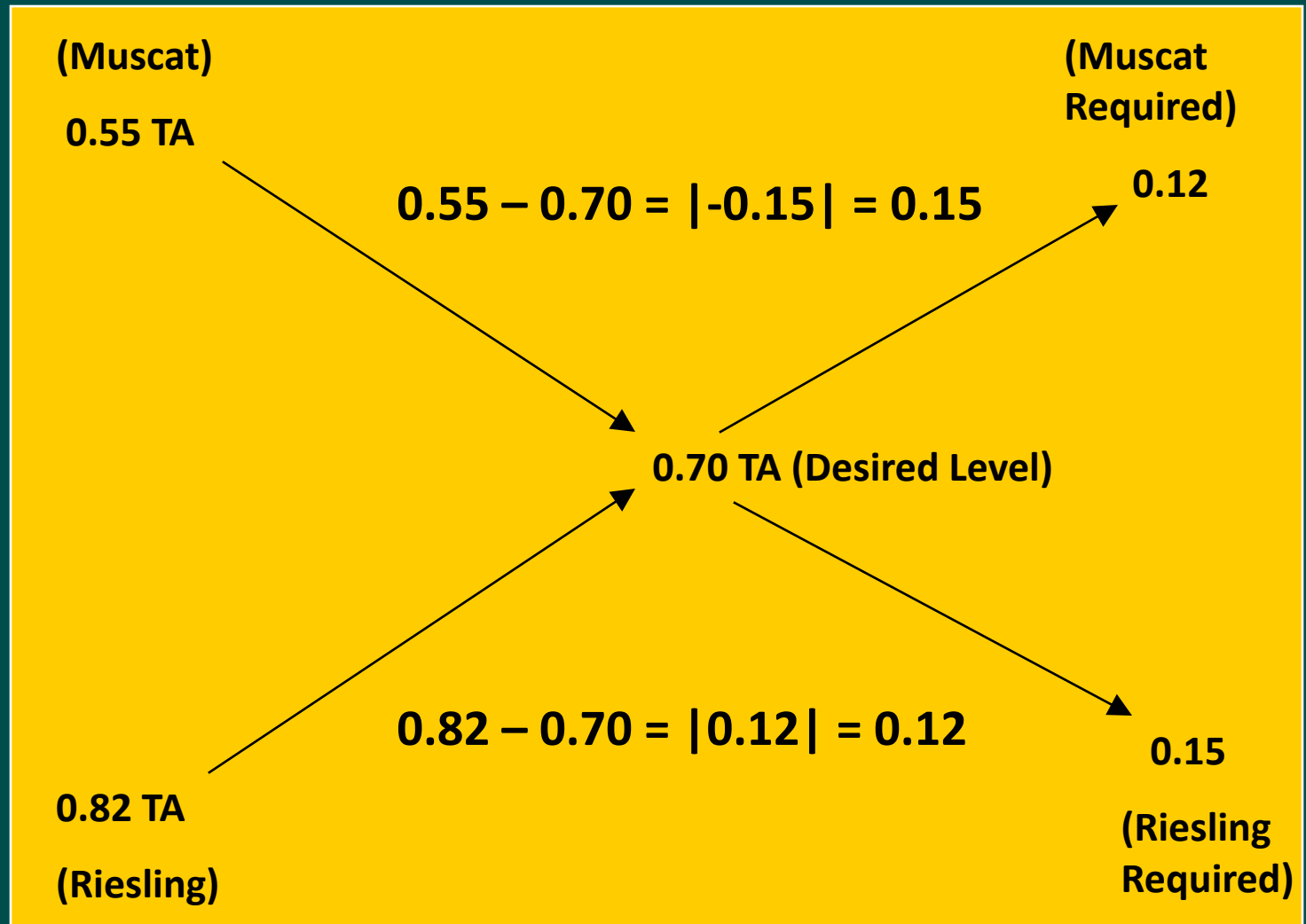


Example: Sweetness (Brix)





Example: Acidity (TA)





Blending Elements

Wine	Descriptors
Valvin muscat	
NY 76.0844.24	
NY 81.0315.17	
Traminette*	



Blending Wine Analysis

Wine	pH	T.A.	R.S.
Valvin muscat	3.40	0.87	dry
NY 76.0844.24	3.41	7.70	dry
NY 81.0315.17	3.30	7.74	dry
Traminette	3.39	7.63	dry



BLENDING EXCERSISE

Wine	Blend 1	Blend 2	Blend 3
Valvin muscat			
NY 76.0844.24			
NY 81.0315.17			
Traminette			