Prof. Karen Goodlad, CSW
Wine & Beverage Management
HMGT 2402
Spring 2017
Viticulture & Vinification

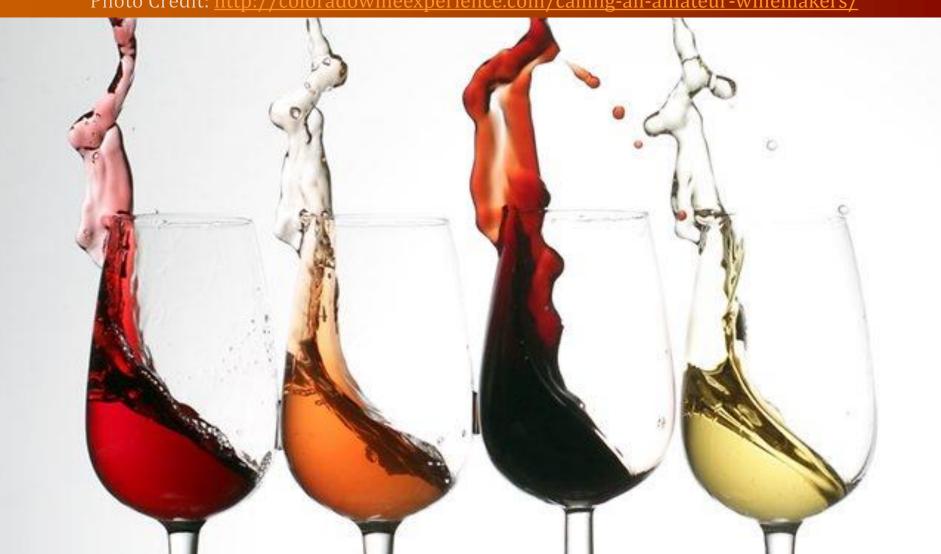


Overview

- Attendance
- Questions about OpenLab
- Lecture Topic
 - Vinification

What Factors Affect the Taste of Wine?

Photo Credit: http://coloradowineexperience.com/calling-all-amateur-winemakers/





What questions do you have about viticulture?

The Climate & The Weather

- Continental vs.Maritime
- Average temperature over a year
- Likeliness of Fog During a Season
- Average % of Sunlight

- Actual Temperature
- Actual Rain Fall
- Actual Fog/Cloud Cover/Sunlight

What is Phylloxera?



- Grape Louse that feeds on the roots of vitis vinifera and injects its waste into the roots
- Thought to be Resistant to Rootstock AxR1
- Did it Destroyed Wine Industry????
 - 70% of French Vineyards in 1860's-1870's
 - New Zealand in 1970's
 - Napa Valley in 1983
 - West Coast of US by 1995
- Various vitis labrusca root stocks now used

Oenology:

The scientific study of wine & winemaking

- Vinification: the process of making wine
 - Harvest → Sorting
 - Fermentation
 - Yeast stains, oak vs. stainless steal, arrest fermentation
 - Blending
 - Mixing of various grape varieties of different lots
 - Fining & Filtering
 - Aging
 - On wood, in bottle, how long

White Wine Production

Grapes

• White, Pink, Purple, Black

Crush/Destem

Press

- Separate from skin
- Consider: Chilling, Clarification, Barrel, Inert Vessel

Ferment

• Consider: Chilling, Barrel, Inert Vessel, Lees Stirring

Age

• Optional, Consider: Racking, Barrel, Inert Vessel,

Blend

• Optional: Grapes, Vintages, Vineyards, Aging environment

Red Wine Production

Grapes

• Purple, Black

Crush/Destem

Ferment

• Consider: Chilling, Barrel, Inert Vessel

Free Run or Press Wine

Age

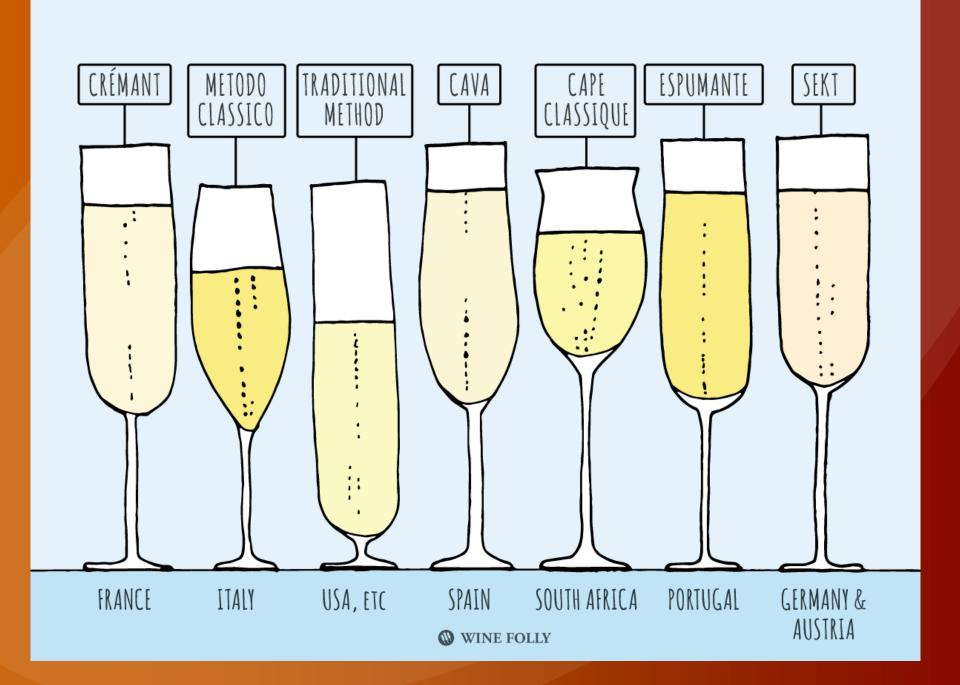
• Consider: Barrel, Inert Vessel

Blend

• Optional: Grapes, Vintages, Vineyards, Aging environment

CARBONATION **TRANSFER TANK** CLASSIC **METHOD METHOD** METHOD **METHOD** BASE WINE (a wine typically made with barely ripe grapes to preserve high acidity) ADD SUGAR & YEAST (called 'liqueur de tirage') 2ND 2ND **FERMENTATION FERMENTATION** (in 750 ml bottles) (in Autoclave tank) CLARIFICATION **Bottle Aging** & COOLING (on 'lees') (in Autoclave tank) RTDDI ING (rotating 'lees' HOW SPARKLING towards bottle neck) WINE IS MADE DISGORGEMENT (freeze and remove 'lees' in bottleneck) CONSOLIDATE IN TANK (pressurized tank) CARBONATE DOSAGE **DOSAGE IN TANK** (optional) (using CO2 IN BOTTLE (aka 'liqueur d'expédition') carbonator) (optional) Bottle Aging -FILL & CORK CORK FILL & CORK BOTTLES FROM PRESSURIZED TANK **BOTTLES** BOTTLE WineFolly

Sparkling Wine Production



Carbonic Maceration (Whole Berry Fermentation)

Add Whole Clusters of Grapes to a Container

• White, Pink, Purple, Black

Ferment

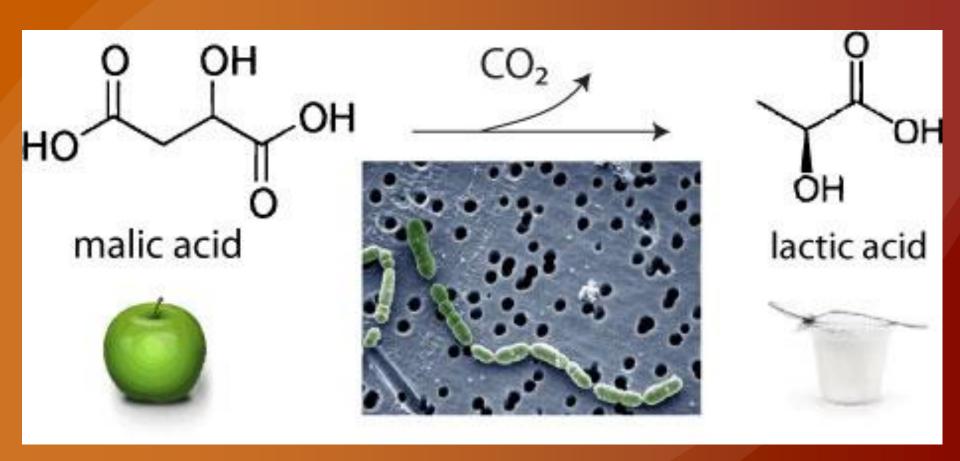
• Grapes at bottom are crushed by weight

Press

Filter

Bottle

Malolactic Fermentation



Harvest: Mechanical



Harvest: Manual



What is the Formula for Fermentation?



Wine Casks



Wine Casks



Gallo Wine Production Facility



What Considerations do Enologists Make in Regard to Fermentation?



Thinking about the world of wine: Common Regulations & Laws

- Appellations
- Grape Variety
- Minimum Alcohol
- Maximum Yield
- Methods of Viticulture
- Methods of Vinification

Terms to Know

- Viticulture
- Oenology (alt. spelling Enology)
- Wine Maker, Vitner, Vineyard Manager, Grape Grower
- Botrytis Cinerea (Noble Rot)
- Must
- Chaptalization
- Acidification
- Brix and Beaume
- Carbonic Maceration
- Fining and Filtration

- Racking
- Malolactic Fermentation
- Vintage
- Phylloxera
- Appellation
- Yield
- Formula for fermentation
- Cap, punching down the cap
- Barrique
- Vitis vinifera/labrusca
- Grafting
- Root stock/bud wood

Until we meet again

- Join the OpenLab and our course site.
- Read: MacNeil, Pages 665-672 and 743-780 and 927-928