

# *Wines 101 - Grape Growing, Making, & Pairing*

**By Bob Stevens**

**Relief Forman – Grape Harvest**

**Winemaker - Award Wining**

**Wine Judge – Wine Competitions**

**Certified Sommelier (Certified Wine Steward)**

**Engineering Executive – Bechtel Corporation (Retired)**

***No Differential Equations will be harmed in this presentation.***



Follow me  
I KNOW WHERE THE WINE IS

# Heat Units – Where to Grow What Grape

- Developed by **University of California – Davis**
  - **Median** Daytime Temperature **minus 50 deg F** for 1 day
  - For Example – Median 70 deg F counts for 20 Degree Days (70-50)
- **Region I** - < 2,500 Deg Days – Riesling, Pinot Gris (Pinot Grigio), Pinot Noir
- **Region II** – 2,500 – 3,000 Deg Days – Cabernet Sauvignon, Merlot, Malbec, Cabernet Franc, Carmenerere
- **Region III** – 3,000 – 3,500 Deg Days – Syrah (Shiraz), Grenache, Cinsault, Counoise, Mourvedre, Viognier, Marsanne, Roussanne
- **Region IV** – 3,500 – 4,000 Deg Days – Table Grapes for Eating
- **Region V** – > 4,000 Deg Days – Jug Wine (Flabby & Cheap), Raisins

# Europe – Where Vitis Vinifera Grapes Started (Actually Started in What is Now Iran – 7,000 years ago)

## France

- Bordeaux
  - Left Bank (South)
    - Cabernet Sauvignon BACKBONE, Merlot, Malbec, Petit Verdot, & Cab Franc
  - Right Bank (North)
    - Merlot BACKBONE, Cabernet Sauvignon, Malbec, Petit Verdot, & Cab Franc
- Burgundy
  - Pinot Noir BACKBONE (Red)
  - Chardonnay BACKBONE (White)
- Rhone River Valley – Cotes du Rhone Hills / Villages
  - Syrah (Shiraz), BACKBONE – Grenache, Cinsault, Counoise, Mourvedre (Red)
  - Viognier, Marsanne, Roussanne (White)
- Champagne
  - Champagne <sup>TM</sup> - Chardonnay, Pinot Noir, Pinot Meunier (Last 2 are Red)





# Europe (con't)

- **Italy**
  - 500+ Grape Varietals
  - Tuscany
    - Sangiovese
      - Super Tuscan Blend
  - Chianti
  - Barolo
  - Barbera
  - Dolcetto
- **Germany**
  - Rhein River and Tributaries
    - Riesling
      - High Acid Content – Zesty, Bright
      - 7 – 9% EtOH vs 11 -15% - Rest of the World

# Europe (con't)

## ➤ **Spain**

- Rioja

  - Tempranillo

## ➤ **Portugal**

- Porto

- Madeira

- Cork – 90%

  - Oak Tree Bark – 5% Faults

# Wine Faults / Disasters

## ➤ **Faults – “Corked”**

- TCA – Wet Newspaper
- “Brett” – Brettanomyces – Band-Aid – Bacterial Infection
- Ethyl Mercaptan – Onion / Garlic

## ➤ **Cork vs. Quality Screw Caps**

## ➤ **Phylloxera – “That D\*mn Louse”**

- 1863 London Royal Academy of Sciences
- Vitis Labrusca – Newfoundland
- 1863 until 1890s – Boot of Italy
  - Killed almost every Grape in Europe

# Africa

## ➤ South Africa

- Cape Town – Southwest and Western
- Cabernet Sauvignon
- Shiraz (Syrah)
  - Brand - Goats Do Roam





# Australia & New Zealand

## ➤ Australia

- New South Wales, Victoria, Tasmania, South Australia, Western Australia
- Shiraz (Syrah)

## ➤ New Zealand

- North Island – Warmer
  - Montana Region
    - Cabernet Sauvignon
- South Island – Cooler
  - Marlborough – North Tip
    - Sauvignon Blanc (Kim Crawford Brand)  
Dominant/Recessive Gene – Jalapeno  
Pepper on Finish - Unique



# South America

- Argentina
  - Malbec – Mendoza Region
  
- Chile
  - Cabernet Sauvignon
  - Merlot
  - Carmenere – Rediscovered - 1990s

# Canada

- British Columbia – Okanogan Valley –
  - Sauvignon Blanc

# California – United States

- Areas – AVA (American Viticulture Areas)
  - ✓ Napa Valley – Warm
  - ✓ Russian River
  - ✓ Sonoma – Cooler – Pacific
  - ✓ Mendocino – Coolest – Pacific
  - ✓ San Luis Obispo – Warmer – Pacific
  - ✓ Paso Robles – Warmer – Inland
  - ✓ Central Valley - Hot

# California – United States

- Varietals –
  - ✓ Cab is King
  - ✓ Merlot
  - ✓ Pinot Noir
  - ✓ Zinfandel – Red, Rose White
  - ✓ Chardonnay
  - ✓ Sauvignon Blanc
    - ✓ Fume Blanc – Robert Mondavi
  - ✓ Sparkling Wine
- The 1976 Paris Wine Competition
  - ✓ “The Shot Heard Round the World”

# Other States – United States

- *Winemaking all 50 states*
- New York
  - Finger Lakes
- Oregon
  - Pinot Noir
- Virginia / Kentucky / Missouri / Arkansas
  - Norton
    - Doctor
    - Virginia
    - Revolutionary War Era
    - Native Americans Growing
    - Anthocyanins
    - Finish – 45 minutes

# Washington State – United States

- Second Largest – 15% of California
- **“In 20 years Washington State will be known for better wines than Napa is today. I’m from Italy, I don’t have a dog in this hunt.”**
  - **Angelo Tavernaro**
    - First Master Sommelier –Las Vegas
    - 20 years - Chief Wine Steward at Caesar's Palace
    - First non-European Wine at a Major Hotel - Las Vegas
      - Mondovi – Napa
- Last 7 years
  - **Highest Percentage Wine Spectator 90+ of any – Napa - France**

# Washington State (con't)

- 26 varieties
- Balance - 3 legged stool
  - Alcohol
  - Fruit Development
  - Underlying Acids
- Soil
- Native Root Stock
- Weather
  - Hot Days
  - Cool Nights
  - 6" Rain per YEAR - Irrigation



# Pruning and Preparing

- During the Winter - February



## Bud Break - April

- Only New Shoots Produce Grapes
- Frost Protection – Fans, Water Sprays, and Heaters



# Growing Grapes

- Growing
  - Pest Control
  - Weed Control
  - Canopy Management
  - Thinning for Yield / Intensity Management – Tons of Grapes per Acre
  - Water Management – Good Vintages / Poor Vintages
- Ripening
  - Correct Harvest Time – Sugar – Degrees Brix
  - Extend A Day™
  - Water Management



# Harvesting

- Machine vs. Hand Harvesting
- Day vs. Night Harvest



# Harvesting

- Machine Harvest
  - U-Shaped Bars
  - Back and Forth
  - Higher Mass Clusters Break
  - Blower – Leaves
  - Magnet - Tramp Metal
  - Some - Desteam



# Wine Making

- Crush
  - Juice – White
  - Juice and Skins – Red
- Destem
  - Reds



# Wine Making

- Fermentation
  - Reds - 3-4 weeks
    - On Skins
      - Flavor
      - Color
    - Punch Downs
    - Pump Arounds
  - Whites – 2-3 weeks
    - Just Juice
  - Rose – 2-3 weeks
    - Red Grapes
    - On Skins – Few Hours
    - Sangiovese –  
Strawberry – First  
Extraction



# Wine Making

- Exothermic Reaction
  - Glycol Jackets

Fructose + Yeast (Catalyst) →  
 $C_2H_6 + CO_2$

- Secondary Fermentation
  - Some Wines
  - Bacteria
  - Malic Acid to Lactic Acid Compounds
  - Creamier, Round Mouth





# Barrel Program

- No Barrel - Most Whites and Roses
  - Exception – Chardonnay
    - 4 – 6 Months
    - Except Unoaked / “Naked”
- Barrel – Reds
  - 8 – 24 months
  - 1<sup>st</sup> (100%), 2<sup>nd</sup> (65%), 3<sup>rd</sup> (15%), after that – Neutral
  - Toast – Light, Med, Heavy
  - Imparts Tannins and Complexity



# Bottling

- Filtering
  - 0.5 Micro
  - Filters Out Dead Bacteria
  - Nothing Survives
    - Alcohol
    - Acid – pH
- Bottling
  - Bottle Shock
    - 1 Month



# Wine Pairing – Rules of Thumb

- “Like Dissolves Like”
- Like Pairs with Like
- Whites – Fish and Chicken
- Reds – Red Meats – Beef and Pork
- How do you fix the dish?
  - Beef Curry – Sauv Blanc vs. Cab Sauv
- Serving Temperature
  - Reds – 65 deg F
  - Whites – 50 deg F
  - Champaign – 40 deg F
- Decanting – Open Up Tight – Keeping Sediment out – Old wines



# Wine Pairings - Rules of Thumb

- Bitter (Tannins) pairs with Red Meat Fats
  - Cabernet Sauvignon with Steak
- Savory pairs with Barbeque
  - Syrah (Shiraz) with Something on the BBQ (with or without sause)
- Acid pairs with Acid
  - Sangiovese with Tomato Based Pastas
- Apparently Semi-Sweet pairs with Salty + Sweet and Sour
  - Riesling and Pinot Gris with Asian
- Acids and Sweet pairs with Sweet
  - Late Harvest or Ice Wine “Dessert Wines” Riesling with Deserts

# In Vino Veritas

- **“In Wine There is Truth”**

- A Cautionary Latin Saying
- It warns you, you will be speaking the Truth after the 3<sup>rd</sup> Glass of Wine
- Akin to Solving the World’s Problems after a half a dozen beers