



Icewine

Late Harvest & Port style wines.

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- *Schulze Vineyards & Winery*

ICEWINE

- HISTORY
 - 1794, Wurzburg, Franconia
 - 1829-30, Dromersheim(Rheinhessen)
 - 1960s, Dr. Hans Georg Ambrosi
 - 1973, Walter Hainle, Okanagan Valley

HISTORY

- 1983 ‘The Beginnings Of The Current Fascination’
 - Karl Kaiser (Inniskillin)
 - Ewald Reif (Reif Estates)
 - Andreas Gestaltner (Hillebrand)
 - Walter Strehn (Pele Island)
- 1989 VINEXPO Bordeaux
- 1991 VINEXPO Bordeaux
- 1989 Inniskillin Vidal Blanc Ice Wine wins the *Grand Prix d’Honneur’!!!*

REGULATIONS

- AUSTRIA
 - Pradikatswein
 - At least 25 KMW (Klosterneuberg Must Weight)
 - 29.58 Brix Minimum
 - 5% v/v Minimum
 - -7C (19.4F) at picking/pressing
 - No chaptalisation
 - Must be naturally frozen on the vine
 - Variety: Gruner Veltliner

REGULATIONS

○ GERMANY

- Qualitätswein mit Pradikat (QmP)
- Different must weights depending on region
 - Mosel 110 Oechsle (26.4 Brix)
 - Baden 128 Oechsle (29.58 Brix)
- Usually the same as the Beerenauslese requirements for the same region
 - Minimum 4.5% v/v
 - Minimum -7C (19.4F)
 - No chaptalization
 - Must be frozen naturally on the vine
- Typical Varieties: Riesling, Muscat Ottonel, Scheuerebe, Traminer, Weissburgunder, Blaufrankisch, Dornfelder

REGULATIONS

- 'VQA Canada-The Strictest Ice Wine Laws in the World!'
 - Minimum -8C at Harvest (17.6F)
 - Minimum 35 Brix at harvest
 - Residual Sugar must be at least 125g/L
- VQA Ontario Regulations
 - No picking before November 15th
 - Minimum 7% v/v
 - Can acidify up to 4g/L using several acids (NO Malic!) to finished wine to achieve balance
 - No chaptalisation
 - Frozen naturally on the vine
 - Typical Varieties: Vidal Blanc, Riesling, Cabernet Franc

OPTIMAL PARAMETERS

○ MARK

- 37-42 Brix
- Titratable Acidity of 10-12g/L
- pH 3.1-3.3
- 12hrs below 15F
- Time to process before temp. rises above 17F
- Prefers repeated freeze thaw cycles.
- 2nd week of December to 3rd week of January

○ JONATHAN

- 36-41Brix
- Titratable Acidity of 9-12g/L
- pH 3.0-3.3
- 4hrs at 13F
- Time to process before temp. rises above 17F
- Prefers repeated freeze thaw cycles.
- Hold off till January



FERMENTATION TACTICS

○ MARK

- Cold-settled for 2 weeks
Use MostRein PORE-TEC from Erbsloeh @ 200g/100L
- Racked and Sulfited
70ppm
- Allowed to warm up to about 65F

○ JONATHAN

- 60ppm KMS
- KS enzyme
- Cold-settled 3-4 days
- Racked and warmed to about 55F
- Heat exchanging plate and hot water.

FERMENTATION TACTICS

○ MARK

- Inoculate with cultured yeast strain (2008 Vidal Blanc was with EC1118)
- Success with R-HST, VIN13, Zymaflore ST once (troublesome), and K1-V1116

○ JONATHAN

- Inoculate with cultured yeast strain.
- Typically R2 or EC1118
- Low VA producing and cold tolerant

DOUBLE YOUR DOSAGE OF YEAST AND REHYDRATION NUTRIENT.

BUILD YOU CULTURE VERY SLOWLY.

FEED SMALL AMOUNTS OF JUICE ALL DAY LONG!

FERMENTATION TACTICS

○ MARK

- After 2-3 days, once healthy ferment, brought into Cold Room at 55F for remaining fermentation
- Usually takes 6-8 weeks
- Carefully monitored for VA production and stuck ferment
- Sometimes requires rousing of the yeast

○ JONATHAN

- Maintain 50-55F ferment
- Monitor daily for yeast viability, stress and VA production
- Track sugar depletion
- Ferment is 3-6 weeks
- Fermaid K at day 3-4 and again in week 3
- Sometimes warming and stirring is necessary

FERMENTATION TACTICS

○ MARK

- After the desired Residual Sugar was achieved (or the yeast decided it had enough) the wine is racked
- Usually fined with Bentonite at 1lb/100gL
- Sulfited @ 100ppm
- Cold-Stabilized @ 28F for 2-3 weeks
- Racked again and then stabilized with KMS to 60ppm FSO₂.
- Filtered and bottled ASAP with a FSO₂ at bottling of 70ppm

○ JONATHAN

- Arrest fermentation at balancing point based on taste (informed by chemistry)
- 100ppm KMS and 28F
- After 2-4 days, rack and fine with Silica and Gelatin
- Cold Stabilize 28F for 2 weeks
- Coarse filter off of lees
- Adjust SO₂ to 75ppm FSO₂
- Filter to bottle

EARLY TO BOTTLE! ICEWINE DOES NOT BENEFIT BY AGING IN TANK.

CASA LARGA

- '2008 Fiore della Stelle Vidal Blanc Ice Wine'
 - Residual Sugar 177g/L
 - pH 3.26
 - TA 13.4g/L
 - Alcohol 12%v/v
 - 180cs Produced
 - Awards:
 - Gold/Best of Class-Pacific Rim International Wine Competition
 - Gold-Florida State Fair
 - Double Gold-Finger lakes International Wine Competition
 - Double Gold-International Eastern Wine Competition
 - Gold-BTI World Championships
 - Silver/Outstanding-International Wine and Spirits Competition



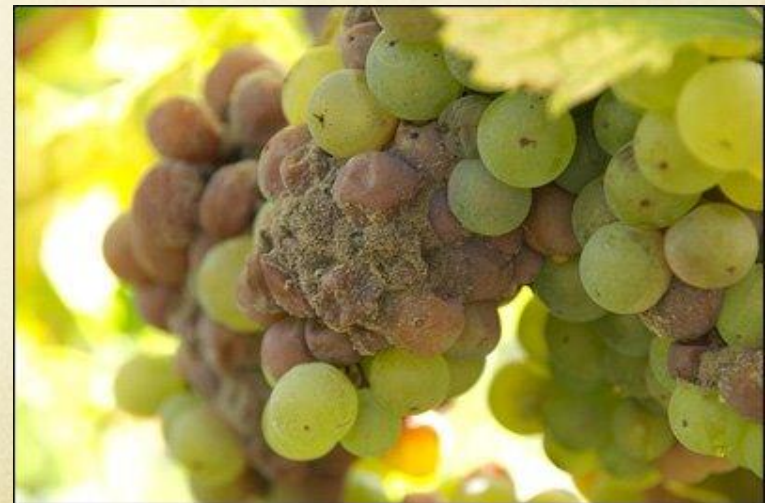


LATE HARVEST

- SWEET WINES HAVE HELD A PLACE SINCE ANCIENT EGYPT AND EARLY GREECE
- SHARED SOME FORM OF CONCENTRATION
 - BOILING AND ADDING SPICES AND HONEY
 - ALLOW TO OVER-RIPEN THEN HARVEST AND LEAVE IN THE SUN TO DRY
- IN WARMER REGIONS RIPEN TO HIGH BRUX WAS NOT A PROBLEM
- IN COOLER REGIONS THE FRUIT BEGAN TO ROT
- BOTRYTIS CINERA="NOBLE ROT"
- THE EVIDENCE FAVORS TOKAJI REGION OF HUNGARY AS THE START IN THE MID 1600'S

LATE HARVEST

- IN A 1666 COURT CASE, INVOLVING THE THEN OWNER OF CHATEAU D'YQUEM AND HIS TENENATS WHO WISHED TO PICK THEIR GRAPES TOO SOON, IT WAS NOTED THAT *"IT IS NOT CUSTOMARY IN SAUTERNES TO BEGIN PICKING BEFORE THE 15TH OF OCTOBER"*
- PRODUCTION IN GERMANY REPORTED TO HAVE BEGUN AT SCHLOSS JOHANISBERG 1750
- TODAY: PRODUCTION OF BOTRYTIS AFFECTED WINES ARE HEAVILY CONTAINED TO "OLD WORLD"
- PRODUCTION OF THIS STYLE HAS GAINED POPULARITY IN AREAS WHERE THE CLIMATE ALLOWS



LATE HARVEST

- AT ANY RATE: THE PROLONGED TIME ON THE VINE, WHETHER BOTRYTIS AFFECTED OR NOT, RESPIRES WATER CONTENT AND INCREASES BRUX.
- LATE HARVEST WINES ARE NATURALLY SWEETER
- NEVER SUGAR OR SWEET JUICE ADDED BACK

LATE HARVEST

- Auslesen (derived from specially selected whole cluster late harvest fruit)
- Beerenauslesen and Trockenbeerenauslese (Selected harvest of Dried Berries)
 - Highest sugar content of the Pradikatswein category
 - Grapes are invariably infected by Noble Rot-Botrytis Cinerea
 - 150-154 Oechsle (34-35 Brix) in Germany
 - 30 KMW (35 Brix) in Austria
 - Have a minimum of 150g/L R.S. to almost 300g/L!! (Tokaji Eszencia territory)

LATE HARVEST

- RELATING TO NORTH EASTERN US
- LENGTH OF SEASON AND COOLER CLIMATE MAKE US AN IDEAL LOCATION FOR LATE HARVEST STYLES
- TYPICAL VARIETIES USED IN NY:
 - RIESLING
 - VIGNOLES
 - VIDAL
 - GEWURZTRAMINER
- (BOTRYTIS AND NON-BOTRYTIS AFFECTD)

LATE HARVEST

- TYPICAL HARVEST PARAMETERS
 - 28-34 BRIX
 - 9-11g/L TITRATABLE ACIDITY
 - pH 3.2-3.4
- TYPICAL WINE PARAMETERS
 - 9-11% ALCOHOL
 - 9-11g/L TITRATABLE ACIDITY
 - pH 3.2-3.4
 - 70-125g/L RESIDUAL SUGAR

LATE HARVEST

- PRODUCTION METHODS
 - MIMIC THAT OF ICEWINE
 - SLOW BUILD UP OF YEAST CULTURE
 - DOUBLING DOSAGES MAY HELP TO INITIATE FERMENTATION FASTER
 - SELECT YEAST STRAINS FOR THEIR ABILITY TO PERFORM IN HIGH SUGAR ENVIRONMENTS
 - LOW VA PRODUCING YEAST STRAINS
 - ARRESTING OF FERMENTATION WITH COLD AND SO₂
 - STABILIZE PROTEINS AND TARTRATES
 - ELIMINATE YEAST QUICKLY AND BOTTLE QUICKLY UNLESS BARREL MATURATION IS DESIRED

LATE HARVEST

- LEONARD OAKES ESTATE WINERY
- 2009 LATE HARVEST
 - MADE FROM SECOND PRESSING OF ICEWINE
 - GAINING CONCENTRATION OF AROMATICS
 - REPRESENTATIVE FLAVORS OF ICEWINE WITH LESS THAN HALF THE SWEETNESS
 - SMALL QUANTITIES PRODUCED

LATE HARVEST



- HARVEST 1/29/10
- BRIX AT HARVEST 31.2
- pH: 3.46
- TITRATABLE ACIDITY: 11g/L
- ALC: 12.5%
- RESIDUAL SUGAR: 84.25g/L

PORT(STYLE)



PORT (STYLE)

- HISTORY
 - 17TH CENTURY -DUTCH COMMERCIALIZED DISTILLATION -FORTIFICATION BEGINS
 - 1754 ENGLISH MERCHANTS ANXIETY
 - 1775 PORT TOOK ITS PRESENT FORM
 - 1850 BECAME UNIFORM PRACTICE
 - DISTINGUISHING FEATURES
 - HIGHER SUGAR CONTENT
 - HIGHER ALCOHOL BY THE ADDITION OF BRANDY
 - RUBY/TAWNY/VINTAGE

VARIETAL SELECTION

- PRODUCES HIGH BRIX LEVEL
- TYPICALLY HIGHER ACID
- STRONG STABLE COLOR
- FRUITY AROMATICS
- OLD WORLD
 - TOURIGA NACIONAL
 - TINTA CAO ETC.
- NEW WORLD: NORTH EAST
 - FRONTENAC
 - FOCH
 - BACO
 - CHANCELLOR

PRODUCTION

- TRADITIONAL PORT
 - 28 RED AND 19 WHITE VARIETIES PERMITTED
 - HAND HARVEST
 - CRUSH -HOT YEAR =RACHIS TO TANK
COOL YEAR =DESTEM
 - FERMENT OPEN AIR 78F - 84F
 - SPIRITS ADDED BEFORE FERMENTATION CEASES
 - MATHEMATICAL TABLES OR WINEMAKERS INTUITION ON WHEN TO CEASE
 - @14.5 BRIX POMACE IS TYPICALLY SEPARATED
 - WHEN FORTIFICATION OCCURS IT IS TYPICAL TO SEE ANOTHER DROP OF ABOUT 2 BRIX
 - RUBY=CONSISTENT EARLY TO MARKET
 - TAWNY=LONG MATURATION IN NEUTRAL OAK
 - VINTAGE=SUPERIOR QUALITY AGED IN BOTTLE
 - LATE BOTTLE VINTAGE (LBV)=SINGLE VINTAGE, AGES FASTER

PRODUCTION

- NEW WORLD
 - SOUTH AFRICA
 - AUSTRALIA -SHIRAZ
 - UNITED STATES -ZINFANDEL
- PRODUCTION METHODS MAY VARY
 - FERMENT TO DRYNESS
 - FORTIFY WITH BRANDY
 - SWEETENED BACK

FORTIFICATION

80% Alc by vol. High proof

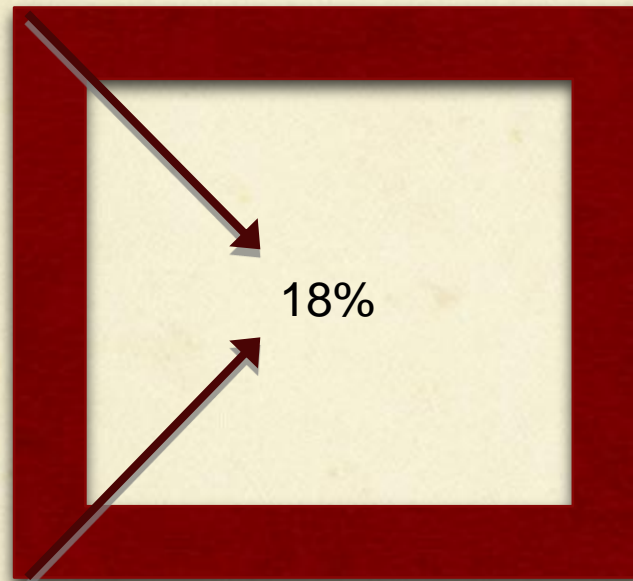
9

DIVIDE BY TOTAL

$9/71 = .1267 \times 100 =$
12.67% of final
blend is high proof

PEARSON SQUARE

SUBTRACT
ACROSS THE
MIDDLE



18%

9% Alc by vol. Wine

62

DIVIDE BY TOTAL

$62/71 = .8732 \times 100 =$
87.32% of final
blend is wine.

VINHO TESOURO

- VARIETAL: FRONTENAC
 - TYPICAL PROFILE:
 - 23-26 BRIX
 - 9-13g/L TITRATABLE ACIDITY
 - pH 3.5-3.7
 - CRUSH DE-STEM
 - COLOR X ENZYME
 - YEAST SELECTION: BM 4X4 (PROMOTES ENHANCED MOUTHFEEL AND COLOR STABILITY)

VINHO TESOURO

- FERMENT TO DRYNESS AND INITIATE MLF
- RACK AND SO₂ ONCE MLF IS COMPLETE
- COLD STABILIZE AND SETTLE
- RACK AND ADD HIGH PROOF
- SWEETNESS TRIALS FOR CONSISTENCY
- ENSURE STABILITY OF WINE
- SWEETEN BACK AND FILTER TO BOTTLE
- 50g/L RESIDUAL SUGAR
- 17.5% ALCOHOL

