

Basic Wine Making

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Fall Bright

The Winemakers Shoppe

www.fallbright.com

www.101winemaking.com

10110 Hyatt Hill

Dundee, NY 14837

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Near Wayne, NY

East side of Keuka Lake

Finger Lakes Wine Region



WHO ARE WE?

- Tom and Marcy Mitchell
- Pa'tridge Run Farms
(Vineyard 20 acres) 1977
- Fall Bright (juice plant, grapes and
wine making supplies 1978)

Finger Lakes Wine Region, NY

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Making Wine

Basic Needs

- ◆ AIRLOCK
- ◆ BUNG
- ◆ CARBOY
- ◆ FERMENTER
(FOOD GRADE)
- ◆ RACKING WAND
- ◆ TUBING
- ◆ SIPHONING



Making Wine

- ◆ AUTO SIPHON
- ◆ RACKING
- ◆ LEES, which are settled solids
- ◆ BASIC TEST:
- ◆ HYDROMETER
- ◆ ACID
- ◆ PH
- ◆ TEMPERATURE



BASIC TEST

- ◆ HYDROMETER
- ◆ STARTING BRIX OR INITIAL SUGAR
- ◆ 20-23 BRIX OR MORE
- ◆ ADJUST SUGAR
 - ◆ CALCULATIONS
 - ◆ CHART ON LINE

Chaptalization is the addition of sugar.

Corn sugar which is Dextrose: simple

Table sugar is Sucrose: complex

BASIC TEST

- ◆ TA: TOTAL ACID
- ◆ ACID TEST KIT
- ◆ BEST START:
- ◆ .70 TO 1.10
- ◆ ADJUST
- ◆ DEPENDING ON
 - ◆ WINE FINISH
 - ◆ DRY start with 0.70
 - ◆ SWEET HIGHER TA



BASIC TEST

- ◆ 'pH
- ◆ RIPE: 3.0 – 3.25
- ◆ PICK!
- ◆ OVER-RIPE:
3.4-3.6
- ◆ ADJUST ACID UP
- ◆ FINISHED WINE
 - ◆ 3.4 NICE FINISH pH
 - ◆ 3.5 MAX



pH

- ◆ 'pH ASK SUPPLIER
- ◆ 'pH TEST STRIPS ARE UNRELIABLE
- ◆ 'pH UNKNOWN MAY BE THE REASON FOR FAILURE, WHEN ALL IS DONE CORRECTLY



INGREDIENTS

- ◆ QUALITY FRUIT
- ◆ CORN SUGAR
- ◆ YEAST, CULTURED
- ◆ SO₂:
 - POTASSIUM
 - METABISULFITE,
 - CAMPDEN tablets
- ◆ YEAST NUTRIENTS
 - FOR YEAST GoFerm
 - FOR JUICE Fermaid



YEAST CHOICES

- ◆ CHOSE YOUR WINE FINISH
- ◆ THEN THE YEAST
 - ◆ Different alcohol tolerances
 - ◆ Aroma and finishing properties
 - ◆ Fermentation properties
- ◆ LALVIN 5 gram dry
- ◆ RED STAR 5 gram dry
- ◆ PACKED FOR 5-6 GALLON BATCHES

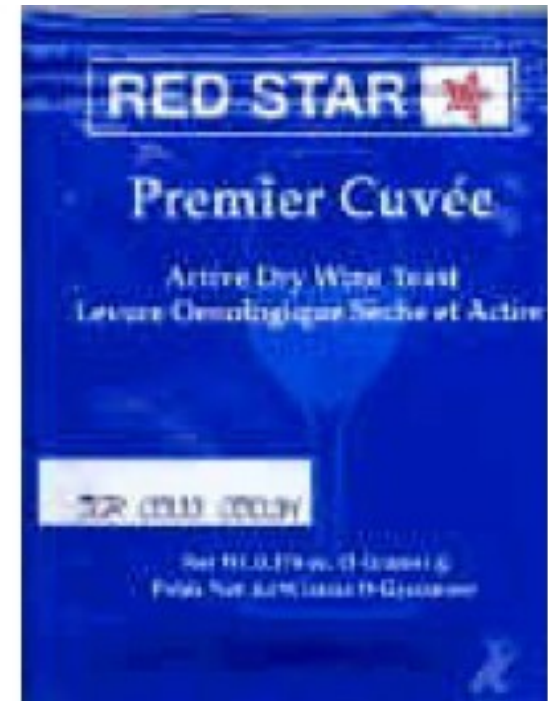
LALVIN YEAST

- ◆ 71B-1122
- ◆ D-47
- ◆ RC 212
- ◆ KIV-1116
- ◆ EC-1118
- ◆ QA-23



RED STAR YEAST

- ◆ COTES DES BLANC
- ◆ PASTEUR CHAMPAGNE
- ◆ PREMIER CUVÉE
- ◆ PASTEUR RED
- ◆ MONTRACHET



YEAST FOAMING PROPERTIES

- ◆ LOW FOAMING
 - ◆ ALL LALVIN YEAST
 - ◆ RED STAR:
 - ◆ COTES DES BLANC
 - ◆ PREMIER CUVÉE

These carboys are in the primary fermentation with low foaming yeast.



VOLATILE: EXPLOSIVE

◆ RED STAR

- ◆ PASTEUR CHAMPAGNE
- ◆ PASTEUR RED
- ◆ MONTRACHET



POTASSIUM METABISULFITE

SO2

- ◆ ANTI-OXIDANT
- ◆ ANTI-MICROBIAL
- ◆ USED SINCE ROMAN TIMES
- ◆ FORMS:
 - ◆ POWDER PURE, K, Na
 - ◆ CAMPDEN TABLETS
- ◆ SO2 AND YEAST
 - ◆ YEAST ARE USUALLY RESISTANT TO 50 PPM
 - ◆ ADDED INITIALLY AT CRUSHING AND
 - ◆ EACH RACKING (3-4)
 - ◆ DO NOT DOUBLE DOSE

Potassium Metabisulfite

CALCULATING SO₂ ADDITIONS for 50 PPM

57.6% (0.576) OF POTASSIUM METABISULFITE IS 'ACTIVE'

Example: to add 50 ppm to 100 L

Desired addition (g/L)* volume (L)/0.576=grams of Meta to add

50 ppm = 50 mg/L = 0.050g/L

0.050*100 (liters)/0.576=8.6 grams of meta to add to 100L for
50ppm

100 L is 26.42 gallons (taken from presentation and used
with permission Winemaker Magazine Conference 2012
by Chik Brenneman)

Potassium Metabisulfite

◆ Teaspoons to add from our label.

1/4 teaspoon per 5 gal white wine	40 PPM in 5 gal
1/8 teaspoon per 5 gal red wine	20 PPM in 5 gal

If you want a MALOLACTIC fermentation, keep under 20 ppm.

1 teaspoon per quart of water for sterilizing or neutralizing previous chlorine rinses.

TEST with Titrets

- ◆ Test free SO₂ for Whites and Rose
- ◆ Testing reds more difficult for amateurs

MAKING WINE FROM GRAPES

- ◆ QUALITY GRAPES
- ◆ CRUSH, DE-STEM
- ◆ INTO FERMENTER
- ◆ 10-25% STEMS
TANNIN
- ◆ ADD META
- ◆ TEST TA (.7-.85)
- ◆ TEST BRIX 21-23%
- ◆ TEMPERATURE



GRAPE FERMENTATION

- ◆ MAKE ADJUSTMENTS
- ◆ ADD OAK ADDITIVE NOW OR AFTER FERMENTATION
- ◆ 2-3 days AFTER adding meta:
- ◆ RE-HYDRATE YEAST
GO FERM OR NOT
- ◆ INOCULATE DO NOT STIR
- ◆ END OF LAG ADD ½ DOSE OF
FERMAID
DAP



ACTUAL FERMENTATION

- ◆ AFTER START OF FERMENTATION
PUSH CAP DOWN 2 TIMES A DAY
- ◆ TIME TO FERMENT 5-14 DAYS
DEPENDING ON VARIETY
TEMPERATURE
CIRCUMSTANCE BEYOND CONTROL

PRESSING

- ◆ SIPHON WINE FROM UNDER CAP INTO
- ◆ SECONDARY FERMENTER: CARBOY
- ◆ WITH ADDED META
- ◆ TOP TO 1 INCH OF BUNG
- ◆ TOP UP WITH WINE
- ◆ SECONDARY FERMENTATION
 - ◆ ALLOW 2-6 MONTHS MORE, VERY SLOW

GRAPE JUICE FERMENTATION

- ◆ FILL CARBOY TO SHOULDER or
- ◆ FILL BUCKET TO 4-5 INCHES
- ◆ BELOW TOP
- ◆ DOSE WITH META IF NEEDED
- ◆ PLACE BUNG WITH AIRLOCK
THAT IS $\frac{1}{2}$ FILLED WITH WATER
- ◆ BRING UP TO ROOM TEMPERATURE

GRAPE JUICE FERMENTATION

- ◆ INOCULATE WITH YEAST 2-3 DAYS AFTER META ADDITION OR WHEN UP TO TEMPERATURE after you
- ◆ RE-HYDRATE YEAST WITH OR WITHOUT GO FERM
- ◆ ADD, DO NOT STIR, IT WILL EXPAND
- ◆ DOSE $\frac{1}{2}$ NUTRIENT AT START OF THE FERMENTATION AND AT $\frac{2}{3}$ SUGAR
- ◆ FERMENTATION WILL TAKE 7-14 DAYS

JUICE TO WINE

- ◆ RACK AFTER
- ◆ OFF LEES
- ◆ RACKING WAND!
- ◆ INTO CLEAN
 - ◆ SECONDARY
 - ◆ WITH META DOSE
- ◆ TOP WITH WINE
- ◆ SECURE AIRLOCK
- ◆ 2-6 MONTHS



SECONDARY FERMENTATION

- ◆ RACK 2-3 TIMES OFF LEES
- ◆ MAY NEED TO ADJUST
 - ◆ ACID
- ◆ MAY COLD STABILIZE
- ◆ MAY FINE
- ◆ MAY FILTER
- ◆ MAY SORBATE with
PROPER META!
- ◆ MAY SWEETEN TO TASTE
- ◆ MAY NEED TO DE-GAS
- ◆ MAY BOTTLE



BOTTLING

- ◆ BOTTLE FILLER
- ◆ CORKS
- ◆ SCREW CAPS
- ◆ BOTTLES
- ◆ 5 GALLONS
 - ◆ 24-25 750 ML BOTTLES
- ◆ 6 GALLONS
 - ◆ 30 BOTTLES

Preventing Wine Faults

Oxidation

- ◆ Oxidation of phenols causes browning
- ◆ Effects taste, eye appeal
- ◆ PREVENTION:
 - ◆ Full container
 - ◆ Use of airlock
 - ◆ Use of Meta

Preventing Wine Faults

Cloudiness

- ◆ Wine did not Fall Bright!
- ◆ Cloudy
- ◆ Hazes
- ◆ Sediment
- ◆ Aiding in Clarity
- ◆ Use of Pectic Enzyme
- ◆ Use of Fining Agents
- ◆ Racking

Preventing Wine Faults

Crystals on cork, in bottle

- ◆ Tartrate Crystals
 - ◆ Cold Temperature
 - ◆ Causes and cures!
 - ◆ Cold Stabilize before bottling and the crystals drop out.
 - ◆ Below 30 degrees F for at least 2 weeks

Preventing Wine Faults

Crispness

- ◆ Too Sharp
- ◆ Too Crisp
- ◆ Too flat
- ◆ Flabby
- ◆ Acid Balance
- ◆ Test, Taste
- ◆ Adjust before or after fermentation.
- ◆ Deacidification
- ◆ Increase Acid

Preventing Wine Faults

Good Aromas

- ◆ Aroma good
- ◆ Clean aromas
- ◆ Clean, Clean, Clean
- ◆ Microbiology good
 - ◆ Cultured yeast
 - ◆ Most wild yeast

Preventing Wine Faults

Bad Aromas

◆ Microbiology

- ◆ Acetobacter vinegar
- ◆ Acetic acid,
Malolactic and
Citric acid in wine
- ◆ Brettanomyces bacteria
- ◆ Bacteria
- ◆ Canadida yeast
- ◆ Mold, wrong kind

◆ Causes

- ◆ Contaminated juice
- ◆ Some wild yeast
- ◆ Contaminated equip
- ◆ Poor Sanitation
- ◆ Low SO₂
- ◆ Head space oxygen
- ◆ High humidity
- ◆ Usually no fixes
- ◆ Try fix with 50 ppm
SO₂

Other Microbiology

- ◆ Malolactic
- ◆ Reduces acid
 - OK if Malic acid
- ◆ Traditional uses in Reds and Some Whites.
- ◆ Cultures available
- ◆ Good if you want it
- ◆ Bad if you don't.
- ◆ Low SO₂ if using
- ◆ High SO₂ to prevent
- ◆ High SO₂ when finished to terminate
- ◆ Off taste if Citric acid
- ◆ Off taste if Sorbate

Hydrogen sulfide (H₂S)

- ◆ Rotten eggs
- ◆ Produced by (grapes) must low in soil nutrients
- ◆ Spray program
- ◆ Produced by yeast with higher nutrient needs
- ◆ Prevention
- ◆ Use of GoFerm during re-hydration
- ◆ Use of Fermaid in must
- ◆ Yeast: Feed or avoid Montrachet, feed D-47

Fixing Treating Hydrogen Sulfide

- ◆ Try to prevent it with use of nutrients
- ◆ Rack and aerate!
- ◆ Dose with Reduless
 - ◆ May double dose.
- ◆ Treat with Copper Sulfate if all else fails.
- ◆ Pennies and copper wire aren't recommended. No means to determine how much to use.

- Shopping online at
- www.fallbright.com
- And in store 10110 Hyatt Hill, Dundee, NY
- May Your Wines Fall Bright!
- Free wine making references at
- www.101winemaking.com

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- SHOPPING CART
FOR SUPPLIES
- GRAPE, JUICE
LIST
- BRIX, TA, pH
- CATALOG PDF
- CROP UPDATES
- OUR VINEYARD



**THANK YOU and
MAY YOUR WINES
FALL BRIGHT!**



MAY YOUR WINES FALL BRIGHT!

- Tom and Marcy Mitchell 1972 started growing grapes in family business.
- Pa'tridge Run Farms on our own (Vineyard 20 acres) 1977
- Fall Bright (juice plant, grapes and wine making supplies 1978)
- Finger Lakes Wine Region, NY
- 10110 Hyatt Hill, Dundee, NY



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