Day 1

Date: ________ S.G.: ________

- Clean primary fermenter and other process equipment with sanitizing solution. Rinse well with water.

- If you are making white or blush wine, add about 10 liters warm water to the primary fermenter. Pour the contents of the Bentonite pack into the primary fermenter and stir well. Note: The Bentonite will not totally dissolve- this is normal. **Bentonite is not necessary for red wine.**

- Sanitize the top opening of drum including bag/cap containing the juice concentrate. Remove cap or cut bag to insert transfer hose. Transfer juice concentrate from drum into primary fermenter. Some acids and sugars may precipitate into a paste during storage and transit. This is a normal occurrence. Ensure that all precipitate is transferred to primary fermenter along with juice concentrate and mixed well.

- Rinse remaining juice from bag with about 12 liters of hot water. Add to primary fermenter.

- Reconstitute juice concentrate in primary fermenter by adding cool water to fit tank/vessel and/or reach desired starting gravity ranging between 1.090-1.100 S.G. Total water addition should be approximately 490-565 Liters resulting in a total juice yield of approximately 686-761 Liters.

Approximate dilutions

Juice Concentrate	Water Addition	Resulting S.G/Brix & total volume
196 Liters	565 Liters	1.090sg/22bx @761 Liters
196 Liters	490 Liters	1.100 sg/24bx @ 686 Liters

- Stir vigorously or re-circulate juice with pump for at least 15-30 minutes to mix the concentrate and water evenly and to provide the yeast with oxygen for healthy fermentation.

- Check Specific Gravity. Starting S.G. should be approximately 1.090-1.100, continue to stir to ensure complete distribution, wait 15 minutes and check Specific Gravity again.

- Add oak packet if included and mix well. **Note:** If you have more than one packet of oak, be sure to add all of them to primary **or** add either pack at Day 1 & the remaining pack at Day 7 for more oak complexity and character.

- **Yeast Rehydration & Inoculation:** Provided with your drum is **Enartis EZ-Ferm 4X4 Active Dry Yeast**(Dosage Rate is 40 grams per hectoliter or about 275 grams per drum).

- **Rehydration:** Proper rehydration of Active Dry Yeast(ADY) is critical in optaining optimum yeast viability. Disperse yeast in 40°C(105°F) water, at an addition rate of 1lb. yeast to ¾ -1 gal. water(1kg to 2 gal). Water temperature is critical-lower temperatures cause leaching of cell constituents and reduce viability. Let stand 5 to 15 minutes(NEVER MORE THAN 30 MINUTES IN WATER). Water is preferable to juice for rehydration. The yeast cell membrane is very fragile until it is rehydrated and will allow liquid to pass through.

- **Inoculating:** After rehydration, mix yeast suspension and juice to be fermented until temperature is adjusted to 15-20°C(59-68°F). This will help avoid damage to the yeast by temperature shock. Add temperature adjusted yeast suspension to juice or must.

- **Nutriferm Energy Addition at Inoculation:** Provided with your drum is **Enartis Nutriferm Energy** yeast nutrient. This addition is made to promote healthy yeast population and ensure an even and healthy fermentation. (Dosage Rate is 5-15grams per hectoliter or approximately 35 to 102 grams per drum). Dissolve nutrient into aqueous solution of juice or water and mix evenly into juice. **ENSURE YOU ARE USING PROPER NUTRIENT TYPE AND DOSAGE FOR THIS STEP AS DESCRIBED IMMEDIATELY ABOVE.**

- Cover primary fermenter and low venting of CO2 fermentation and heat generated by fermentation. Ferment for 7-10 days. **Monitor sugar depletion y checking brix/specific gravity DAILY for 7-10 days and make necessary nutrient additions using correct nutrient at 1/3 to 1/2 sugar depeletion (See below step on 2nd Nutrient Addition regarding Enartis Nutriferm Advance.)** Preferred temperature range for good fermentation is 20-24°C(68-75°F). Avoid fermentation temperatures above 25°C(77°F) as this may result in sluggish or stuck fermentation. Adequate temperature control, venting and proper nutrient additions will ensure that the fermentation does not become too vigorous or sluggish and will avoid stressing yeast.

- **Nutriferm Advance Addition- 1/3 to 1/2 sugar depletion:** Provided with your drum is **Enartis Nutriferm Advance** yeast nutrient. This addition is made during the first 7-10 days of primary fermentation to promote healthy completion of fermentation. This addition must be made after Brix/Specific gravity(Sugar Content) has reduced by **1/3 to 1/2** of the original starting gravity. **DO NOT ATTEMPT TO ADD NUTRIFERM ADVANCE IF SUGAR LEVEL HAS DECREASED BY MORE THAN ½ (50%) OF ORIGINAL BRIX/STARTING GRAVITY AS YEAST WILL NOT METABOLIZE NUTRIENT DUE TO HIGH ALCOHOL INFECTION. IF SUGAR DEPLETION OF MORE THAN 50% OF ORIGINAL BRIX-STARTING GRAVITY HAS OCCURRED, SKIP THIS STEP AND PROCEED WITH ADDITION** (NUTRIFERM ADVANCE Dosage Rate is 20-30 grams per hectoliter or 136 to 204 grams per drum). Dissolve nutrient into aqueous solution of juice or water and mix evenly into juice. **ENSURE YOU ARE USING PROPER NUTRIENT TYPE AND DOSAGE FOR THIS STEP AS DESCRIBED IMMEDIATELY ABOVE.**

DAY 7

- Optional – For more oak complexity and character add second oak package, stir lightly.

Day 14 FERMENTATION WILL BE COMPLETE

Date:_____ S.G._____

- Taste the wine for dryness. Specific Gravity reading will be approximately 0.995 and all fermentation activity will be over. If not complete, vigorously mix wine, thereby stirring up lees and removing excess CO2. Wait several days for completion of fermentation at or below 0.995. Increasing temperature of wine/juice may also promote completion of fermentation. If wine remains stuck for several days, seek competent analysis and advice in restarting the stuck fermentation.
- Rack wine off the gross lees and into a clean, sanitized tank/vessel leaving sediment behind.
- **1st SULPHITE ADDITION: Test wine for SO2 level with appropriate testing device and calculate addition rate to raise free SO2 to 25-35 ppm. You may wish to use an online sulphite calculator at www.fermsoft.com.** Once you have calculated addition rate, dissolve the sulphite powder using approximately 500-1000ml of cold water and stir to dissolve. Add sulphite solution to the wine and mix thoroughly.
- **POST TANNIN ADDITION:** If your kit contains a pack of **POST TANNIN,** mix the tannin with 500ml of warm water and add to carboy of wine. Stir gently to distribute. (Dosage level is approximately 5-30 grams per hectorliter or 34 to 204 grams per drum). Additions should be made to desired taste. Performing bench trials is advised prior to making post tannin addition to wine.
- The HotMix Sparkolloid clearing agent solution must now be prepared. Prepare a solution of 1.5L of hot water and 1.5L of wine in a microwaveable or heat resistant container. Add contents of HotMix Sparkolloid packet into the water/wine mixture and stir. Stir and heat the solution until liquid boils (avoid foam over). Remove from heat and stir occasionally for 5 minutes. Pour the hot Sparkolloid solution into the wine. Stir gently for 10 minutes. **Sparkolloid must be brought to a complete boil to activate ingredient.**
- Top up the tank/vessel reducing head space with water or a similar wine. Attach fermentation lock.
- Leave the wine to clear for up to 21 days. During this period, you may wish to chill-proof the wine to drop out any natural tartrate crystals that can slowly precipitate in the bottled wine in a cool wine cellar. This chill-proofing is purely cosmetic.
- **COLD STABILIZATION:** Chill the wine to 0°(32°F) for 3-4 weeks to drop the tartrates. Syphon the wine off the sediment while still cold.

DAY 35

Date:_____ S.G._____

- Rack the wine off the gross lees/sediment and into a clean, sanitized tank/vessel leaving sediment behind. Top up the tank/vessel reducing head space with water or a similar wine. Attach fermentation lock. Check SO2.
- Age the wine for 2-8 weeks in a cool environment. Recommended temperature range is 13-18°C(55-65°F). Monitor SO2 frequently.

DAY 52 FILTERING/BOTTLING

DATE:_____ S.G._____

- Rack the wine off the gross lees/sediment and into a clean, sanitized tank/vessel leaving sediment behind. Top up the tank/vessel reducing head space with water or a similar wine. Attach fermentation lock.
- **2nd SULPHITE ADDITION: Test wine for SO2 level with appropriate testing device and calculate addition rate to raise free SO2 to 25-35ppm. You may wish to use an online suphite calculator at www.fermsoft.com**. Once you have calculated addition rate, dissolve the suphite powder using approximately 500-1000ml of cold water and stir to dissolve, Add sulphite solution to the wine and mix thoroughly.
- **SWEETENING:** If you find the wine too dry, deep in mind that the wine will soften and mellow greatly as it ages. If you wish to sweeten the wine, be sure you have added the above sulphite addition PLUS you will now need to add potassium sorbate (also known as wine stabilizer) to prevent refermentation. Sterile Filtration may also be advised when making sweetend wine.
- **DIRECTIONS FOR SWEETENING:** Add the contents of the potassium sorbate packet to a small amount of cool water to dissolve then add to the wine and lightly mix.
- Now prepare sweetening syrup: Sterile juice concentrate or liquid sugar mixture may be used to desired level of sweetness. Add the sweetener mixture in small amounts to the wine until you have the desired sweetness level. Performing bench trials is advised prior to making addition to wine.
- **FILTERING:** Filtering is recommended as it will improve the appearance and the flavour. Filter the wine into a clean, sanitized tank or vessel before bottling.
- **BOTTLING:** Clean and sanitize wine bottles. Rinse well with water to remove all sanitizer and drain. Fill the wine into bottles leaving about 2.5cm/1" of space between the bottom level of the cork and the wine. Use a corker to insert dry corks. Leave the bottles to stand upright for 3 days, and then place the bottles on their sides to keep the corks moist.
- **AGING:** The ideal temperature range for storing bottling wine is about 12°C(54°F)-18°C(65°F). If the storage temperature is warmer, avoid long aging. If the storage temperature is colder, the aging will be retarded and wine will likely drop a bit of sediment over time.
- Although the wine will be quite platable after bottling, it is best to leave the wine for at least 1-2 months to get over the "shock" of siphoning and bottling.

TIPS: All Equipment should be spotlessly clean and sanitized before coming in contact with wine. Prevent air from spoiling your wine after fermentation. Refularly check and adjust SO2 levels. Keep tanks/vessels topped and fermentation locks attached and filled with water or similar wine. Properly evaluate your wine prior to bottling.

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