SPARKLING WINE PROTOCOL

Prise de Mousse - Using Active Dry Yeast

Preparation of yeast for tirage bottling:
Prior to beginning this stage, the wine should be analyzed and fall within the following parameters: pH>2.9, FSO_2<15ppm, temperature>12˚C/54˚F, Alc. ≤11.5%. It is essential that this information is known and adhered to, as it is the combination of these parameters that is the key to success.

The yeast preparation takes between 3-5 days in order to reach a cell density of 70-100x10^6 active yeast cells/mL. The yeast starter is added at a level of ~5% of the wine volume, it is recommended that this inoculation should comprise 1-1.5x10^6 active yeast cells/mL.

To achieve the build-up, follow the protocol highlighted below.

Steps	**Build up and acclimization of starter culture (for 10hL - 264 gallons wine)**	**Temperature**	**Time**
Rehydration of Yeast	0.125 kg Go-Ferm 0.1 kg yeast 1 L water (chlorine free)	35-38˚C/95-100˚F	15-20 minutes
Preparation of Mother Culture	1L rehydrated yeast (prepared in step 1) 1L base wine 1L Liqueur (sugar + wine at a concentration of 500g/L) Total volume = 3L Homogenize and check the specific gravity (s.g.). Loss of s.g. will show the activity of the yeast. Maintain temperature, then proceed to step 3 when the s.g. has dropped to less than 1030.	20-25˚C/68-77˚F	12-24 hours* *If specific gravity drops to less than 1030 before 12 hours, proceed with next stage.
Yeast Culture	3L mother culture (prepared in step 2) 17L base wine 5L water 5L of Liqueur (=2.5kg sugar) 10g Phosphate titres Total volume = 30L Mix with aeration twice per day and check specific gravity. The normal loss of specific gravity is 10 points per day. Ensure that culture remains above 1000 specific gravity during build-up of culture. If possible, conduct microscopic examination prior to use.	20˚C/77˚F (during yeast multiplication stage)	2-4 days

Once the yeast has been prepared, it is time to add the preparation to the filtered base wine, along with dissolved sugar, nutrients and riddling aids (you have the option of adding the sugar and nutrients prior to filtration). Traditionally, you would add 24g/L of sugar dissolved into a small amount of hot water. To this preparation, add 0.6g/hL Phosphate Titres. The liquid preparations of riddling aids are added once the sugar, nutrients and yeast preparation have been added and mixed in thoroughly to the base wine. Shake the riddling aids well and add 75mL/hL of Clarifiant S and then 20hL Phosphate Mazure to the base wine preparation, mix thoroughly and continue mixing throughout the tirage bottling process.

Fill the bottles to 2-2.25" from the lip of the bottle (no higher). Use a crown cap suitable for the pressure and the bottle type.

The secondary fermentation will take approximately 2-4 weeks at ~12˚C. Keep the bottles on their side to allow maximum exposure between the yeast and the sugar solution.

Riddling

This stage involves moving the yeast into the neck of the bottle. Agitate the bottles vigorously to break the yeast away from the side of the bottle. Insert the bottles into the riddling frame in the horizontal position. Once the yeast settles, turn the bottles a ¼ turn per day, while slowly moving the bottles into the upside-down position until the yeast has spiraled into the neck of the bottle and is captured in the cap. This can take up to 3 weeks. Once the sediment has all been captured into the neck of the bottle, the disgorging phase can begin.

Prise de Mousse - Using Encapsulated Yeast

Add 1.2-1.5g beads to each bottle prior to filling. Fill bottles with prepared base wine, which has the tirage liqueur added (this is the sugar ~24g/L, normal for 6 volumes $C0_2$, and the required nutrients). Leave 2.25" in the bottle after filling. Close bottles with a cap appropriate for pressurized bottles and store on their side. The secondary fermentation should take approximately two weeks and temperature should remain above 54˚F. For full encapsulated protocol and instructions, see website at **www.scottlab.com**.