

Yeast Starter for Hard-to-Ferment Wine

Preparation of yeast starter:

For each 1000 gal to be fermented, prepare 44 gal of starter (roughly 5% of mass).

1. Check the total acidity. Juice/must acidification should be as close as possible to pH 3.5; add tartaric acid if needed. The temperature of the juice/must should be 70°F.

2. Rehydrate the yeast using the following:

- 2 lb of **BC S103** yeast (25 g/hl)
- 2 lb **SpringFerm**
- 2.4 gal of water

Sprinkle dry **BC S103** yeast into clean water (volume 1:10) at 95-100.4°F and stir gently. Wait for 20 minutes and stir again. Add the juice/must to the suspension (1/3 of its volume) as quickly as possible. Wait 5-10 minutes and check the temperature. Add more juice/must (1/3 of new volume) and repeat the same action, ensuring the temperature drop does not exceed 18°F (10°C). Add 1 gal of acidified (pH 3.5) and cooled (73°F) juice/must every 10-15 minutes 3 times. The temperature difference between the starter and the tank should not exceed 18°F (10°C). Add the yeast thus prepared to 53 gal of acidified (pH 3.5) and cooled (73°F) juice/must. Add 2 lb of **SpringFerm Complete** and keep the juice/must stirred (or pumped over) for 3 hours. If possible, add 10 ppm/day of pure oxygen.

3. Move the starter to an empty tank and then fill up the tank with the rest of the juice/must.

4. When the tank is full, add **SpringFerm Xtrem** and 1.5 lb/1000 gal of **SpringCell Color** and pump over aeratively ensuring a circulation of at least 1.5x of the volume of the tank. Macro-oxygenate with 10 mg/l/day of oxygen).

5. At 1/3 of fermentation (by sugar depletion), add 20-25 g/hL of **SpringFerm Complete** and 15 mg/L of pure oxygen.

Must Addition:

At the destemmer add **Color-Tan NT** (1 lb/1000 gal) and **Zyme-O-Color Plus** (0.2 lb/1000 gal). Acidify with tartaric acid to get as close as possible to pH 3.5 and homogenize by pumping over.

Fermentation:

Fermentation temperature 73°F.

If possible, perform an extended delestage (12 hours with cap, 12 hours separate). If not possible, add a low dosage of pure oxygen (3-6 mg/l/day) until 3-4% alcohol is achieved. Then add **SpringFerm Complete**, increasing the oxygen dosage for 24 hours (adding 10-15 mg/L day). If it is not possible to add oxygen, carry out intensive aerative pumping over (5-8 or more per day). When 7-8% alcohol is achieved add 8 g/hL **Tani-Heritage**, then pure oxygen (2-4 ppm/day) until the end of fermentation.