

# AWO Sparkling Wine Seminar

‘Keep it Clean and be Precise’

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# Overview

- Equipment
- Base wine production
  - Pressing
  - Phenolic extraction
  - Juice Settling
  - Nutrient addition
  - Storage
  - Filtration
- Secondary Fermentation (Tirage)
  - Starter culture – Build up
  - Tirage Bottling
    - Nutrient, Aduvent, Additives
  - Aging on lees
- Disgorging
  - Dosage preperation

# Equipment

- Champagne Bottles
- Crown caps with bidules
- Crown Capper
- Riddling Rack
- Syringe

# Base Wine Production

- 19 Brix max (18.5 is optimal), 9 g/L TA
- Remember we will be adding approximately 1.5 % alc during Tirage
- Whole bunch pressing
  - 500 L/Tonne = 0.5 L/kg
  - Cut pressings – Heads and Tails
    - First 5% out
    - Last 20 % out
  - Low phenolic extraction
  - Not after “Character” as in table wines
  - Insipid wine (a good thing)
  - Settle juice very clear to limit H<sub>2</sub>S production, 20 ppm So<sub>2</sub>
  - Avoid using enzymes if possible because of over protein extraction (helps foam retention)

# Base Wine Production

- Rack Juice clean off juice bottoms (limit H<sub>2</sub>S)
- Ferment base wine clean
  - Use reliable yeast strain ( bayanus)
    - EC118, Spark (saccharomyces), Uvaferm43, BO2013
    - Use the same yeast for Tirage as primary
  - Ensure temp is suitable for fermenting dry
    - 15 o C for primary, must finish dry
    - NO H<sub>2</sub>S
  - Try to put wine through Malo, 20 oC minimum
  - Once primary is finished sulphur with 20 ppm So<sub>2</sub>
  - No bentonite, Protein for
  - Keep in cold place for 6 months
  - Must be cold stable (no option)

# Base Wine Production

- Rack wine off Lees after 1 month
- After 4 to 6 months filter wine
- Wine is now ready for Tirage (secondary fermentation)

# Tirage

- We now have filtered, clean, no H<sub>2</sub>S base wine
- Warm wine to 20 oC
- Add 26 g/L Cane Sugar – discuss pressure -
- Start build up culture ( 3 days )
  - Discuss build up culture –
- Additives to base wine before Tirage
  - Riddling aid (Complex AN - Helps Yeast not stick to bottle)
  - Tannin addition (Clair T tirage, Helps mouse and structure)
  - Complex AN ( helps yeast compact, aids in riddling)
  - Phosphate Compound (Nutrient – Thiamin and DAP, helps in fermentation)
  - Meta – Tartaric Acid (50 ppm, forces cold stability)

# Yeast Culture for Bottling

For 9 hl of yeast culture which allow to inoculate at 3% 270 hl of wine...

|            |                     |
|------------|---------------------|
| 500 gm     | active dry yeast    |
| 120 litres | water               |
| 600 gm     | diamonium phosphate |
| 15 kg      | sugar               |
| 15 litres  | wine                |

Total 145 litres of yeast culture at 20 degrees C for 24 hours.

We consider that 1 kg sugar improve the volume of 0.63 litre.

After 20 hours...

|            |                    |
|------------|--------------------|
| 145 litres | yeast culture (YC) |
| 6.1 hl     | wine               |
| 67.5 kg    | sugar              |
| 75 litres  | water              |

Total 872 litres YC during 2-3 days at 16 degrees C.

The YC is usable when SG is below 1000. Check SG before using YC.

**For information** - the yeast are eating 18-25 gm/l sugar in 24 hours at 16 degrees C.

**Remark** - the wine to be bottled must be sterile filtered before the addition of yeast, if the MLF is not done.

## **Nutrients**

To help the fermentation the addition of ammonium phosphate must be done at rate of 10gm/hl and also thiamine at rate of 50 mg/hl.



# Tirage

- Add Build up culture plus additives to tank
- Ensure tank is at 20 oC
- Mix tank while bottling (extremely important it is evenly mixed)
- Bottle wine, crown cap with bidule
- Leave wine to ferment in bottle at 18 oC

# Aging

- Make sure temperature is stable during secondary fermentation (18°C)
- Don't let temperature dip below 18 °C – Stuck ferment or reduction
- Lay bottles on their side
- May take 4 to 5 months to ferment
- Taste every 6 months until desired balance between Yeasty character and Fruit is obtained

# Disgorging

- Riddle wines by hand
  - Need Riddling rack
- Make dosage
  - Sparkling wine or table wine
  - 20 ppm  $\text{SO}_2$
  - Sugar (bench trial) usually between 5 and 20 g/L
  - Fining agent (gum arabic – Stabvin SB)
- Wet disgorge wines, cold bottles (30C to keep  $\text{CO}_2$  in solution)
- Add Dosage with Syringe
- Top wine with sparkling
- Recap