MAKING SPARKLING WINE AT HOME

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Four Different Methods

- Traditional Method
  Methode Champenoise
  Methode Traditionnelle
- Country “Champagne”
- Pet-Nat
  Petillant Naturel
- Force Carbonation
  Bulk Process
  Charmat Process
• Anyone can use this term on the label
• Only “methode champenoise” if it is made in Champagne in France (with a few “grandfathered” exceptions)
• Fermented in this bottle
• No transfers under pressure
• We are home winemakers—call it anything you like!
The Traditional Process, part 1

1. Ferment a white or rosé wine to dryness, preferably with low alcohol, 11-12%.
2. Clarify, stabilize, and completely finish the “cuvée”.
3. Age or not, as you wish.
4. Add 20 to 25 g/L of dextrose or sucrose.
5. Add a vigorous yeast starter like EC1118.
7. Insert bidules.
8. Crown cap and lay on sides at room temperature.
Part 2: Disgorge

| After a few weeks or months, riddle |
| Tilt bottles and rotate daily until fully inverted |
| Freeze the neck of each bottle in an ice and salt bath |
| Pointing the bottle in a safe direction, pry off the cap |
| Add the "dosage:" wine, brandy, sugar |
| Top up with the same wine |
| Insert a Champagne cork |
| Install a wire cage |
My 2019 Estate “Traditional” Blanc de Blancs

• The 2019 harvest from my hobby vineyard of Chardonnay and Pinot Noir
• I decided to turn some of the Chardonnay into sparkling wine
• Completely finished in the usual manner, using M2 yeast
• On February 7, 2020 I started the sparkling process
First Steps

- Racked 5 gallons (19 L) carboy into a sanitized bucket
- Added 20 g/L corn sugar (dextrose) 
  *Recommended amount per Daniel Pambianchi’s Techniques in Home Winemaking*
- 380 g (13.4 oz.) in 500 mL water
- Boil 1 minute for sanitation
- Meanwhile, sanitized champagne bottles, bidules, and crown caps
- Rehydrated 10 g EC1118 yeast with 12.5 g Go-Ferm Protect Evolution in 250 mL water
- Added 0.01% (1.9 g) FT Blanc Soft Citrus tannin for settling and clarification
Next steps

• Filled 25 champagne bottles one at a time
• Inserted a bidule and crown capped
• Took inside to my kitchen so they would stay warm
• Laid on their sides in a plastic tub in case one burst (none did)
• 6 weeks later, riddled one case
• Start with bottles on their sides
• Every day, make a quarter turn and drop the bottle back in the rack
• Over three weeks, get the bottles fully vertical, upside down
• I found this French guide that I followed
• Yeast collects in the bidule and the first part of the bottle neck
Home Winemakers Improvise

**ACTUAL CHAMPAGNE CAVE STYLE**

**UNDER THE DESK IN MY KITCHEN WITH WOOD BLOCKS**
Deciding the dosage

- Chilled and uncapped one bottle
- Added different sugar levels to 100 mL samples
- Added 10% brandy to all but one brandy level recommended by Jackisch in Modern Home Winemaking
- Arranged glasses on a placemat
- Picked a winner
DISGORGE, STEP 1

Chill the riddled bottles upside down

Freeze the neck

Salt plus ice coldest brine is -6 deg F (-21.2 deg C) at 23.3% salt

I used 10 lbs (4.5 kg) of ice and 2 lbs 6 oz (1.1 kg) salt

Froze for 15 minutes
Arrange your setup

• Bottles freezing in the ice chest with a cardboard case divider
• Heavy rubber gloves
• Safety goggles
• For a “decrowner” I used a paint can opener
• For a wire tool, I used a pair of pliers
Sanitize the corks, prepare the dosage

- Champagne corks and a champagne corker
- 100 ppm sulfite in water, soak 10 minutes
- For dosage, I used the same vintage of still Chardonnay, dissolving sugar plus brandy
  - 30 mL in each disgorged bottle
Pop the cap!

- Pointing the bottle slightly down, pry off the cap
- I used the plastic tub to catch the cap and bidule
- Immediately tip the bottle up
- Note safety glasses and gloves
Finish the adjustment

- All but one bottle foamed over
- Quickly added 30 mL dosage
- Topped up with cold Chardonnay
  - Inserted a cork
- Put on a cage and twisted 6 half turns
  - Put back into the plastic tub
White Peak Estate Blanc de Blanc

- It came out tasting good
- No bottles exploded
- It was a lot of work
- I’m glad I did it
- That’s traditional method
Country Style Sparkling Wine

- A simplified version of “made in this bottle”
- Start with a base cuvee
- Add measured sugar
  - Add yeast
  - Crown cap
- Allow carbonation
- Chill and enjoy
Step by step

If you plan ahead, consider an early harvest to make a lower alcohol base wine

Completely finish the wine just as for “traditional”

You need high-pressure champagne bottles

Usually closed with crown caps

For every 5 gallons, boil 8 oz (227 g) of corn sugar (dextrose) in an equal amount of water (~12 g/L)

Rack wine into a sanitized bucket
Next Steps

• Stir in your “priming sugar” solution
  
  *In home brewing, 6 oz (170 g) is common for 5 gal (19 L)*
  
  *The recommendation here is still well below the “traditional” but fizzier than beer*
  
  *The lower level should minimize gushing*

• Rehydrate 10 g of yeast like EC1118

• Stir into the bucket

• Fill champagne bottles
Finish your Country Style

- Attach crown caps
- Store bottles upright at room temperature
- Fermentation will produce pressure and some yeast lees
  - Chill upright
- Uncap and pour gently, leaving behind last little bit of lees
A Note on Pressure and Bottles

- 20 to 25 g of sugar per liter, fermented out, will develop a pressure approaching 6 bars (about 6 atm or 90 psi)
- 10 g/L will produce about 3 bar (or 3 atm or 45 psi)
- Normal still-wine bottles cannot handle any significant pressure
- Beer bottles can withstand about 3 bar
- Punted, heavy champagne bottles can withstand 6 bar
Country Style vs. Traditional

**COUNTRY**
- Quick
- Easy
- Some sediment in bottle
- Not as effervescent
- No way to adjust sweetness—it goes dry
- Shelf stable

**TRADITIONAL**
- It’s the real thing
- Elaborate process
- Completely clear to the last drop
- Your choice of final sweetness level
- Also shelf stable
Pet-Nat

• Short for the French term Petillant-Naturel or naturally bubbly
• Also called méthode ancestrale
• In English, often called semi-sparkling
• The method pre-dates “traditional”
• Sometimes off-dry, usually cloudy, favored by “natural wine” drinkers
Step by Pet-Nat Step

• Begin fermenting white or rose', or press red with some residual sugar

• When your hydrometer reads 1.0 deg Brix, bottle

  1 Brix means about 20 g/L remain, since it indicates 1% on a wine that will finish about -1 Brix

• Use champagne bottles
• Crown caps as for country sparkling

• For plastic corks:
  Fill bottle with fermenting wine
  Place bottle on a wood block on the floor
  Begin inserting the stopper
  Use a rubber mallet to drive it in
  Wire cages, as for traditional, are recommended

Use crown caps or plastic champagne corks
Final steps for Pet-Nat

- Put bottles in a save place to finish fermenting (in a tub or cabinet) in case of bursting
  - Chill a bottle
- Open carefully outdoors or over a sink
- Put your thumb over the neck if it tries to gush
  - Pour and enjoy!
Force Carbonated

For Charmat process, final fermentation is captured in a tank (like pet-nat, sort of)

Wine is filtered and bottled under pressure

At home, it is easier to use a CO2 tanks to carbonate

Enjoy on tap as draft wine, or bottle under pressure
Force Carbonated, step by step

- Completely finish the wine
  *Back sweeten and add sorbate if you like
  *sorbate not needed if kept cold*
- Transfer to 5-gal (19 L) soda syrup keg
- Chill as close to 32 deg F (0 deg C) as you can
- Turn on gas system and pressurize to 40 psi (2.75 bar)
- For draft service, after 3 days, reduce to serving pressure (about 12 psi)
To Bottle

- Chill champagne bottles
- Using the CO2 that you carbonated with, hook up a counter pressure filler
- Insert the stainless steel tube in a bottle
- Fill
- Remove filler
- Quickly cap or insert plastic champagne cork
Four Methods for Sparkling Wine

- Traditional
- Country style
- Pet-Nat
- Force carbonated
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