STRETCHLEARN · WORKBOOK

Winemaking — Workbook

This workbook turns the Winemaking course into a working batch. Each section follows a course module, giving you the exercises, worksheets, and checklists to plan, ferment, stabilise, and bottle your first wine. Fill it in as you go, and the editable templates become your reusable batch records for every wine that follows.

Getting Started: Equipment, Sanitation, and Reading a Must

Set up your cellar, lock in a sanitation routine, and measure your must before you ferment.

Checklist: Beginner Cellar Setup Checklist

[ ] Acquire a 30 litre primary bucket with lid and grommet
[ ] Acquire a 23 litre glass carboy or PET better-bottle for secondary
[ ] Acquire a hydrometer and a tall test jar reading 0.990 to 1.170
[ ] Acquire an airlock, bung, racking cane, auto-siphon, and 2 metres of siphon tubing
[ ] Acquire a no-rinse sanitiser such as Star San and a cleaner such as PBW
[ ] Acquire a wine thief or turkey baster for pulling clean samples
[ ] Confirm you have enough clean 750 millilitre bottles for roughly 30 bottles per 23 litre batch

Checklist: Pre-Operation Sanitation Routine

[ ] Scrub every wine-contact surface with cleaner and rinse
[ ] Mix sanitiser to label concentration, about 1.5 millilitres Star San per litre
[ ] Fully wet fermenters, lids, airlocks, tubing, cane, spoon, and hydrometer jar
[ ] Hold the directed contact time, then let foam drip rather than wiping
[ ] Keep sanitised gear covered until the moment of use
[ ] Re-sanitise anything set down on an unsanitised surface, including hands and cane
[ ] Smell the batch at this step for any vinegar or off odour

Worksheet: Must Measurement Record

Take all three core readings before pitching yeast. Record the raw value, your target for the intended style, and the adjustment you plan to make.

Batch name and date

Juice source (kit, store juice, or fresh fruit)

Starting specific gravity (raw reading)

Must temperature at reading

Temperature-corrected specific gravity

Estimated potential alcohol percent

pH reading

Titratable acidity (grams per litre tartaric)

Target SG / pH / TA for this style

Planned adjustment (tartaric acid, sugar, water, blend)

Exercise: Calculate Your Must Adjustments

Use your recorded readings and the course rules to work out the corrections this must needs. Show your arithmetic so you can check it.

• Using the rule that each 0.001 of gravity above 1.000 yields about 0.13 percent alcohol, what potential alcohol does your starting gravity predict?

• If your titratable acidity is below target, how many grams of tartaric acid does your batch volume need to reach the target, and how did you calculate it?

• Given your pH, what free SO2 range will the wine eventually need, and what does that imply about how carefully you must sanitise?

• If your gravity is above your style target, how will you bring it down without diluting the acid too far?

Sulphites and Yeast: Protecting and Driving the Ferment

Plan your sulphite schedule and select, rehydrate, and feed the right yeast.

Worksheet: Sulphite Dosing Plan

Plan each SO2 addition across the batch life. Tie your target free SO2 to the wine's pH, and record actual additions as you make them.

Wine pH

Target free SO2 (parts per million) for this pH

Dose at crush or kit start (Campden tablets or grams metabisulphite)

Dose at first racking

Dose at later rackings

Dose at bottling

Form used (Campden tablets or potassium metabisulphite powder)

Notes on smell and colour at each addition

Exercise: Match the Yeast to the Job

Decide on a yeast strain for your specific must using the course strain guide. Justify the choice against your gravity, style, and temperature.

• What is your starting gravity, and does it call for a high-tolerance strain such as EC-1118?

• What style are you aiming for, and which strain best supports it (for example 71B to soften acidity, RC-212 for red structure, D-47 for white mouthfeel)?

• At what temperature can you hold fermentation, and is your chosen strain suited to that range?

• Will you use the kit-supplied yeast or substitute, and why?

Checklist: Yeast Rehydration and Pitch

[ ] Warm about 50 millilitres of clean water per sachet to 35 to 40 degrees Celsius, never above 43
[ ] Add Go-Ferm rehydration nutrient if the must is above 1.100 or you are restarting
[ ] Sprinkle dry yeast on the surface and wait 15 minutes undisturbed
[ ] Stir to a smooth slurry and wait another 5 minutes
[ ] Confirm slurry is within about 10 degrees of the must, tempering with a splash of must if needed
[ ] Pitch and stir briefly to distribute
[ ] Record pitch date and time in the batch log

Worksheet: Staggered Nutrient and Temperature Log

Track nutrient additions against sugar depletion and monitor fermentation temperature daily through the active phase.

Nutrient products used (Go-Ferm, Fermaid, diammonium phosphate)

Addition 1 at pitch (product and amount)

Gravity at one-third sugar depletion

Addition 2 at one-third depletion (product and amount)

Target fermentation temperature range for this style

Daily temperature readings

Daily gravity readings

Any off-aroma noted and action taken

Fermentation, Racking, and Clarification

Run both fermentation phases, rack cleanly off the lees, and clear the wine.

Worksheet: Fermentation Progress Tracker

Record gravity and observations daily so you know when to move vessels and when fermentation is truly finished. Confirm completeness by stable gravity, not by bubbles.

Day number and date

Specific gravity reading

Temperature

Airlock activity (vigorous, slow, silent)

Cap punched down or wine stirred (yes or no)

Observations (foam, aroma, colour)

Phase (primary bucket or secondary carboy)

Checklist: Racking Off the Lees

[ ] Sanitise the receiving carboy, auto-siphon, and tubing
[ ] Let the wine settle undisturbed at least a day so sediment is compact
[ ] Position the intake an inch or two above the lees
[ ] Keep the outflow tube against the vessel wall, below the wine surface, to avoid splashing
[ ] Stop before drawing up sediment, sacrificing the last cloudy portion
[ ] Add the scheduled sulphite dose to the freshly racked wine
[ ] Top up headspace and record the date and gravity

Exercise: Diagnose the Haze

Before adding any fining agent, identify why your wine is cloudy and choose the matching treatment from the course.

• Is the wine fully degassed, or could residual carbon dioxide be keeping particles suspended?

• Is this a fruit wine that should have had pectic enzyme in the must, suggesting a pectin haze?

• Is it a white wine that may carry heat-unstable protein, calling for bentonite?

• If it is a general particulate haze, will you use the kieselsol and chitosan two-part finings, and in what order?

Checklist: Clarification and Cold Stabilisation

[ ] Confirm fermentation is complete and the wine is degassed
[ ] Add the first fining agent at the label dose and stir gently
[ ] Wait the directed interval, then add the second agent if using a two-part system
[ ] Let the wine sit cool and undisturbed several days as haze drops
[ ] Rack the clear wine off the new sediment
[ ] Optionally cold stabilise near 0 degrees Celsius for one to two weeks
[ ] Rack off any tartrate crystals before moving toward bottling

Stabilising, Bottling, and Troubleshooting

Make the wine bottle-safe, package it correctly, and learn from any faults.

Checklist: Stabilise Before Bottling

[ ] Confirm fermentation is finished with stable gravity near 0.992 across several days
[ ] Rack the clear wine into a clean carboy
[ ] Add potassium metabisulphite to reach your free SO2 target for the wine's pH
[ ] Add potassium sorbate at about 0.5 grams per litre and stir gently
[ ] Only after stabilising, back-sweeten in small increments while tasting if desired
[ ] Rest the wine a few days and confirm gravity stays stable before bottling
[ ] Confirm no malolactic fermentation is planned, since sorbate and malolactic bacteria clash

Checklist: Bottling and Corking

[ ] Sanitise bottles and drain them on a bottle tree
[ ] Sanitise the bottling wand, tubing, and corker
[ ] Siphon into each bottle with a spring-tip wand, leaving 15 to 20 millimetres below the cork
[ ] Cork immediately after filling with a floor or twin-lever corker
[ ] Stand bottles upright several days to let corks seat
[ ] Lay cork-finished bottles on their side for storage; screw caps may stand
[ ] Store at 12 to 15 degrees Celsius, away from light and temperature swings

Worksheet: Fault Diagnosis Log

When you detect an off-aroma, record it here, identify the likely cause, and decide whether it is recoverable. Trace each fault back to a preventable earlier step.

Date and stage (racking, stabilising, bottling, in bottle)

Aroma or sign observed

Suspected fault (oxidation, volatile acidity, hydrogen sulphide, stuck ferment, cork taint)

Likely cause

Recoverable yes or no

Action taken

Preventable step to change next batch

Exercise: Your Next-Batch Improvement Plan

Review this completed batch end to end and commit to specific changes that will make the next wine measurably better.

• Which single step, if tightened, would most improve your next batch, and why?

• Did any fault appear, and what earlier step would have prevented it?

• What were your final gravity, free SO2, and clarity, and how do they compare to your targets?

• What will you keep exactly the same because it worked well?

Your Action Plan

1. Assemble and sanitise your equipment, then choose a juice kit, store juice, or fresh fruit for a 23 litre batch
2. Measure starting specific gravity, pH, and titratable acidity, and adjust the must to your style targets
3. Add the crush-stage sulphite dose, then rehydrate and pitch a yeast strain matched to your gravity and style
4. Run primary fermentation in the bucket, stirring or punching down daily and adding staggered nutrient
5. Rack into the carboy near 1.010 to 1.020 and finish secondary fermentation under airlock to stable gravity
6. Rack off the gross lees, dose sulphite, and repeat racking over weeks as fine lees settle
7. Degas, fine for clarity if needed, and optionally cold stabilise, then rack off all sediment
8. Stabilise with sulphite and sorbate, back-sweeten if desired, and confirm the wine stays stable
9. Bottle, cork, and stand upright to seat, then store cool, dark, and on the side for cork closures
10. Log faults and final numbers, then plan one specific improvement for your next batch