

Chapter 6:  
Process

# Process Map

Cleaning/sanitizing

Starting your Wine

Primary Fermentation

Secondary Fermentation

Stabilizing

Blending (finishing/sweetening blend)

Degassing

Clearing

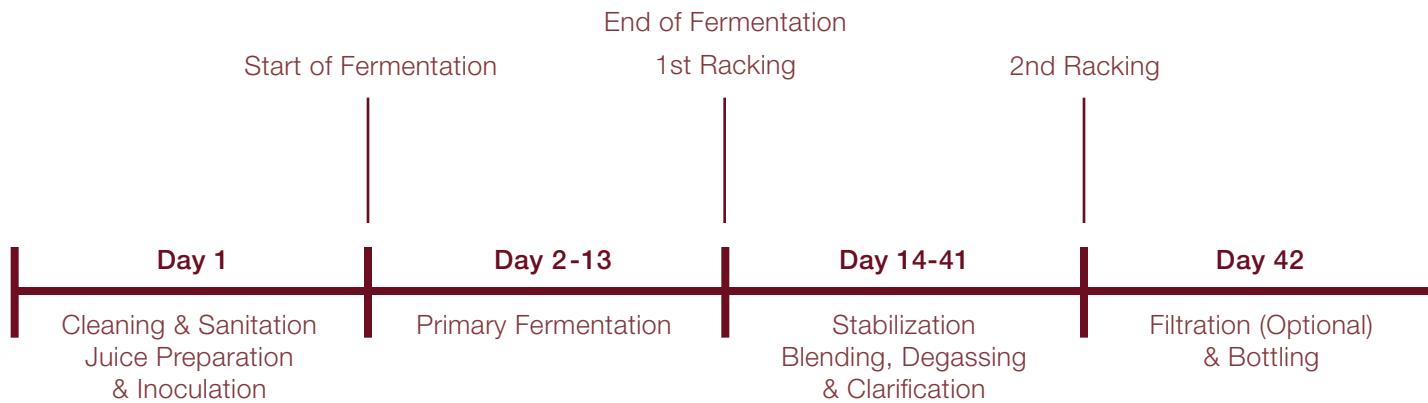
Filtering

Bottling

Presentation / Packaging

# Process Map

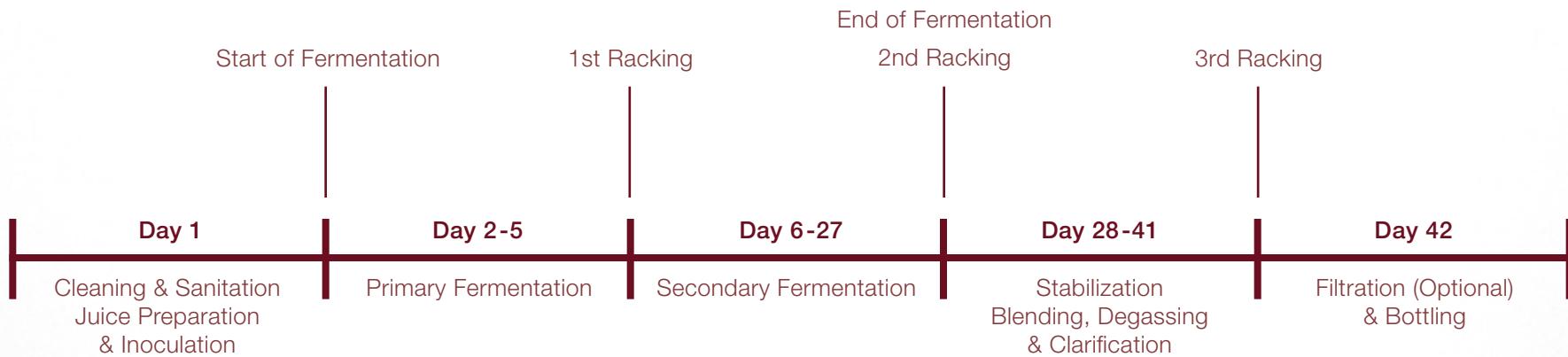
## Single Stage Ferment



**NOTE:** Days are approximate and may vary according to your fermentation environment.

# Process Map

## Double Stage Ferment



**NOTE:** Days are approximate and may vary according to your fermentation environment.

# Cleaning & Sanitizing

## DAY 1

Clean & sanitize ALL equipment that will come into contact with juice & wine, and immediately prior to starting your wine.

- Primary fermenter (e.g. pail)
- Airlock and bung
- Long-handled stirring spoon
- Hydrometer and test cylinder
- Thermometer
- Wine thief

Refer to Sanitization section for more details!

# Starting your Wine

## DAY 1

Most critical step – most problems occur here!

Ensure kits are kept at room temperature to help regulate proper fermentation temperature.

Use a cap remover to remove cap on wine kit bladder to ensure a clean open.

Open bladder and pour content into primary fermenter. The bladder can be very heavy. Pour with one hand holding the spout and the other hand holding the bottom of the bladder.

 Watch video

# Starting your Wine

## DAY 1

Add bentonite (Package #1) to warm water, if so instructed, to primary fermenter (PF); stir thoroughly until there are no more clumps.

Pour lukewarm water into bladder to rinse any left over concentrate and then pour into primary fermenter, and stir thoroughly.

**Note:** Do NOT rinse the bladder where the concentrate is not reconstituted, e.g. in icewine-style kits.

Add fresh, clean water and top up to required volume, e.g. 23 L, and stir thoroughly.

- Water can be used to regulate proper starting temperature of the must.

# Starting your Wine

## DAY 1

Insert a sanitized thermometer in juice; temperature should be in the range 20°–25°C (68°–77°F) before you inoculate with yeast.

Measure and record the SG and °T. Record starting date and date code.

Note: the top of the box has a peelable date code sticker for recording ease.

Add other ingredients such as grape skins and oak as instructed and stir thoroughly. Be sure to clean/sanitize the straining bag in kits supplied with grape skins.

Customer can now inoculate the yeast.

Sanitize the lid and place on the primary fermenter.

Move into your production queue.

# Primary Fermentation

## DAY 2 (approx.)

Fermentation should start within 24–36 hours; you should see foaming at the surface of the must (now becoming wine).

- It is CRUCIAL that you check to ensure fermentation is started.
- Refer to troubleshooting section if fermentation does not begin.

It's important to maintain surrounding area °T within the range 20°–25°C (68°–77°F).

As fermentation picks up and becomes vigorous, you will see a lot of foaming. Optionally, stirring the fermenting wine twice daily using a sanitized long-handle spoon promotes a good fermentation.

Do NOT be tempted to open lid more often than necessary; the CO<sup>2</sup> produced from fermentation is protecting your wine from spoilage effects.

# Primary Fermentation

## DAY 2 (approx.)

Monitor fermentation progress by measuring and recording the SG once daily.

Once primary fermentation has reached the SG indicated in the kit, your wine is ready to move to the next step.

In SINGLE-stage fermentations, the AF is complete and you will need to rack the wine from the primary fermenter (e.g. pail) to a carboy, and proceed to stabilizing and clearing the wine.

In DOUBLE-stage fermentations, i.e. in kits with grape skins, the AF is NOT yet complete. You will need to rack the wine from the primary fermenter (e.g. pail) to a secondary fermenter (i.e. carboy) to let AF complete to the SG indicated in the kit.

# Secondary Fermentation (for Double-Stage Fermentations)

**DAY 6-8 (approx.)**

Retrieve a wine sample and measure/record the SG.

Once secondary fermentation has reached the SG indicated in the kit (e.g. 1.020), your wine is ready to proceed to stabilization and clearing.

# Stabilization

## DAY 14 (approx.) SINGLE-stage / DAY 28 (approx.) DOUBLE-stage fermentations

When the wine reaches desired SG (refer to your instructions), you are ready to proceed with stabilization. If you still see some bubbling activity, WAIT until there is no more bubbling to allow fermentation to complete.

Clean and sanitize your racking equipment and receiving carboy.

Dissolve the required amount of sulphite (Package #2A) in a small amount of lukewarm warm and add to the receiving carboy.

Rack the wine into the receiving carboy; avoid getting any sediment into the carboy.

Dissolve the required amount of potassium sorbate (Package #2B) in a small amount of lukewarm water and add to the wine; stir thoroughly.

 Watch video

# Blending

Add any finishing blend or sweetening blend, e.g. Suss Reserve, if instructed, at this time.

# Degassing

Degas wine using your preferred method; only degas until fizz is no longer detectable on palate.

# Clarification

**NOTE: The kieselsol & chitosan MUST be used together in the correct sequence:**

Add the Kieselsol (package # D1) and stir thoroughly.

Add the chitosan (package # D2) and stir thoroughly.

Degas wine for 5 minutes by stirring vigorously.

Top up the carboy with water/wine, if required, to within 2 inches of the airlock.

Place the bung/airlock on the carboy.

Ideally place the carboy in a dark, cool area with °T the range 13–18°C (55–65°F).

Please note that different temperatures are required for fermentation versus clearing.

 Watch video

# Clarification

Log all operations and any observations.

Clean primary fermenter & racking equipment and store away.

Let the wine clarify for the length of time as kit instructions.

The wine should completely clear before moving onto filtering. Wine can be tested by shining a bright flashlight through the carboy in a dark room. If you see suspended material, the wine is not clear.

# Filtration

## DAY 42

Filter wine to avoid sediment in bottles, even in a crystal clear wine.  
*Filtering in a Craft Winemaking environment is highly recommended.*

Once the wine has completely cleared, rack into a sanitized carboy.

- Note that if the wine doesn't need to be moved, there is no need to rack it if the filtration process is done carefully to not disturb sediment.

Best to filter at cool temperature, i.e. around 13°C (55°F).

Your filtering system should reflect the size of your store.

 Watch video

# Filtration

## DAY 42

Most stores use Buon Vino or AF10, with medium or #2 filter pads.

The entire system must be rinsed and sanitized prior to filtering wine.

Filter pads stored in their original packaging can be used without sanitizing.

Filter pads stored outside their original packaging or in unknown conditions must be sanitized before filtering.

# Preparing Your Filtration Equipment

Pour approximately 10 L (2 ½ gal) of fresh, clean water in a clean pail.

Dip one filter pad in water and let saturate (just a few seconds); insert in filter plate; repeat with remaining pads.

Be sure to properly orient & align pads as per manufacturer's instructions; wine should always flow into the coarse side of pads.

Complete installing filter plates and secure tightly.

Connect pump and filtration equipment as per desired configuration.

Your system is now ready to filter wine if pads do not require sanitizing.

# Preparing Your Filtration Equipment

**NOTE:** Never mix pads of different grades.

## If pads require sanitizing:

1. Filter 10 L (2 ½ gal) of fresh, clean water from one carboy to another.
2. Prepare a 10% sulphite solution in a 4-L (1-gal) jug.
3. Place both IN & OUT tubes of filtration system in jug; filter for approximately 5 minutes.
4. Remove the filtration tubes from the jug and run the filter for just a few seconds to flush out any remaining sulphite solution.
5. Repeat steps 3 & 4 with water to ensure there is not residual sulphite solution.
6. Your system is now ready to filter wine.

# Filtering Wine

Double check your setup before turning power on.

Filter wine into a sanitized carboy; monitor pressure (or wine flow if there is no gauge) to ensure that pads are not clogging. You can discard the first little water out of the filtration system.

It is normal to see a little wine leakage from filter unit.

Do NOT turn pump ON/OFF/ON during filtration; this may affect filtration efficiency and wine clarity.

# Filtering Wine

Discard pads at the end of filtration.

Always filter white wines before red, & dry before sweet! And filter Orchard Breezin' wines separately as they will add flavours to other wines.

If the customer will be ageing their wine, add  $\frac{1}{4}$  tsp of extra sulphite to the receiving carboy.

Clean all filtration equipment with water and store away.

# Bottles & Closures

## Glass bottles

- Only use clean or washed/sanitized bottles
- Avoid flange-top or bottles with non-standard tops;  
corkers are not designed for these
- Recommend that consumers use appropriate bottles that present the wine well

## Closures

- Do NOT soak corks; there is no need, esp. with a good corker
- Do NOT use old, dry corks; manage your inventory and observe FIFO
- Ensure corks are stored in an air tight container and not exposed

# Closures

Type of Closure	Characteristics	Recommended Max. Aging Period
Agglomerated cork	<ul style="list-style-type: none"><li>• Manufactured from coarse natural cork particles</li><li>• Lots of imperfections</li></ul>	8 - 12 Months
Twin-disc cork	<ul style="list-style-type: none"><li>• Agglomerated segment sandwiched between 2 natural cork discs</li></ul>	12 - 18 Months
Synthetic cork	<ul style="list-style-type: none"><li>• Synthetic material</li><li>• Cheap corks may impart off flavours and/or aromas</li><li>• Closure type with the highest ingress of oxygen</li><li>• May be hard to remove with a corkscrew</li><li>• Unchamfered corks don't insert well</li><li>• Best for early-drinking wines</li></ul>	12 - 18 Months

# Closures

Type of Closure	Characteristics	Recommended Max. Aging Period
T-top	<ul style="list-style-type: none"><li>• Natural though usually agglomerated cork segment with plastic top</li><li>• Must be inserted by hand</li><li>• Plastic top tends to break off if corks dries out</li></ul>	6 Months
Stelvin	<ul style="list-style-type: none"><li>• Closure with the lowest ingress of oxygen when properly applied by machine; technology not available to home winemakers.</li><li>• Applying used closures by hand is NOT recommended due to risk of high oxygen ingress</li></ul>	24+ Months

# Bottling

Assemble the required number of CLEAN bottles, e.g. 30 bottles for a 23-L batch.

RJS recommends an automatic bottle washer where possible to enhance consumer experience.

Using a bottle washer/sulphiter

- Pressure wash all bottles with warm water; tap pressure is fine.
- Sanitize each bottle using the sulphiter and a 10% sulphite solution.
- “Squirt” the solution at least 3 times into each bottle.
- Pressure rinse all bottles with cool, clean water, and place on bottle tree to let drain.  
*(Caution: Some may recommend to skip this step but the wine will smell of sulphite once bottled.)*

 Watch video

# Bottling

Have corks and corker ready.

Remember to use corks that have been properly stored!

Using your preferred bottling equipment, bottle the wine;  
fill to within  $\frac{1}{2}$  inch of the bottom of the cork.

Cork each bottle immediately, minimizing any exposure to air and the environment.

# Packaging & Presentation

RJS offers a variety of bottle labels and shrink capsules.

Consumers that customize their bottles generally are:

- More proud of their accomplishment
- More likely to share their wine with family and friends
- Feel like they are drinking a better product

Encourage all consumers to label their wine at your store – they are less likely to finish the job at home!

Process is simple

- Place capsule on bottles and shrink using a heat tunnel.
- Apply labels.

Make it fun by allowing mix and match and a wide selection of capsules and labels.

 Watch video