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## Sparkling Wine, Step-by-Step

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by Alison Crowe

**Anyone who can make a clean white wine and knows a bit about secondary fermentation can whip up a killer Champagne-style wine.**

Ah, another summer season come and gone. The family thought your 1997 Chardonnay was great at cousin Bob's wedding dinner, and the after-dinner crowd at the late summer supper on the deck loved your port-style Barbera. In fact they were still smacking their lips long after the dessert dishes were cleared away and demanded that you give them the recipe — not for the chocolate strawberry pie but for the wine.

It seems you're a pretty talented (and most assuredly appreciated) winemaker. Barrel fermentation, red-wine maceration, and even dessert-wine making — you can do it all. But have you ever thought about sparkling wine? It may sound a little involved, but anyone who can make a clean white wine and knows a bit about secondary fermentation (think of it as adding priming sugar, as homebrewers do) can whip up a killer Champagne-style sparkling wine.

Starting with wine you made during the 1998 harvest, you can have your own "chateau's" grande tete de cuvée ready in about three months, just in time for the winter holiday season or any time you need to add a little sparkle to your life.

Sparkling wine takes nine months from start to finish, including making the base wine. There are three processing stages. Each stage has its own list of equipment and ingredients. Read the directions thoroughly before engaging in this rewarding but potentially time-consuming endeavor. This recipe was adapted from a sparkling wine recipe in *Winemaking* by Stanley and Dorothy Anderson (Harcourt Brace & Co., 1989).

### Making It Sparkle

Stage one involves the remoculation of the cuvée. In this stage you'll be taking your base wine (the cuvée) and introducing some sugar and yeast into it. When the cuvée is cloudy with gently fermenting yeast, you'll bottle it in stage two.

Bottling the fermenting cuvée is what gives the wine its sparkle. The yeast continues to ferment the added sugar in the sealed

bottles, producing alcohol and a small amount of carbon dioxide. The carbon dioxide gas dissolves into solution and the yeast cells

die out, leaving a thick layer of lees (spent yeast cells) on the bottom of the bottles.

This thick layer is rather ugly and could cause spoilage problems or off-odors later. So in stage three you'll chill the wine and decant it into another bottle to which you've added the dosage (pronounced doe sahj', a final addition of some distilled alcohol, wine conditioner, and some of the original cuvée). This stage is necessary to take the sparkling wine to its long-awaited finish.

By chilling the bottles in the freezer and then carefully pouring the sparkling wine off the lees

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into another bottle (to which you've added the dosage), you clarify the wine and balance its body and texture a bit so it's ready to drink.

The wine conditioner provides the wine with a touch of sugar, but don't be surprised if you don't taste it in the final product. Base-wine cuvées used to make sparkling wines are purposely made high in acid so the resulting sparkling wine will be as well. It's the high acid content that makes sparkling wine so crisp and refreshing that it just sometimes takes a little extra sugar (we use an unfermentable sugar in this recipe) to balance out the final taste profile of the wine.

### Stage One: Reinoculation

#### Equipment:

- 750-mL standard wine bottle with plastic closure (screw cap works)
- A jug of strong sanitization fluid — a strong sulfite solution (80 parts per million) works well
- Standard five-gallon (18.9 L) glass carboy, well-sanitized
- A sanitized glass or plastic pitcher that can hold at least 3/4 of a bottle
- Small bowl or 1-cup measure
- Fermentation lock half filled with a strong sulfite solution (80 ppm)
- Stirring spoon
- Siphon hose

#### Ingredients:

The ingredients below take 24 hours to process. You'll need five gallons of a fined, filtered, and chillproofed white wine, at least six months old, to act as your cuvée or base wine. The wine should be sound, dry, and neutral. Sugar should be 0.00 or very close to it. The pH should be 3 to 3.4, titratable acidity should be 6.5 to 7 grams per liter, and alcohol should be 10 percent to 12 percent. A total of 750 mL of this will be immediately bottled and set aside for later use in stage three as part of the dosage.

#### Additional ingredients include:

- 13 oz. (364 g) cane sugar
- 5 tsp. (25 mL) yeast nutrient
- 1 cup (240 mL) warm (slightly above body temperature) water
- 2 packets Champagne wine yeast, 5 g each

#### Step by Step:

1. Siphon 750 mL (one wine bottle) of your cuvée into a wine bottle with the plastic closure or screw cap. Close tightly and store in your refrigerator for use as the dosage in stage three.
2. Siphon off two cups (480 mL) of your cuvée into the pitcher. Dump in the sugar and the yeast nutrient and stir until everything is dissolved.
3. Dump the yeast into the warm water. Do not stir. Let stand 10 minutes or until bubbly and active.
4. Pour the sugar and yeast-nutrient mixture into your clean, sanitized carboy. Add the bubbling and active yeast.
5. Siphon the rest of your white cuvée from its carboy into the new one. When the siphon finishes, give the cuvée a good stir and attach the fermentation lock.
6. Let the newly inoculated cuvée stand in a fairly warm place (70° to 80° F, 21° to 27° C) for 24

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hours.

### Stage Two: Bottling the Fermenting Cuvée

#### Equipment:

- 25 750-mL Champagne bottles
- Metal crown caps (used in beer bottling)
- Crown capper (rent at your local homebrewing store)
- Bottle washer

#### Step by Step:

This stage takes a total of three months.

1. After a day or so, or when the cuvée is cloudy with growing yeast, get out the Champagne bottles, crown caps, and the capper.
2. Give the bottles a good washing with hot water — but don't sulfite them! This might kill the yeast that you're trying to grow inside the bottles.
3. Take the fermentation lock off of the carboy and give the whole thing a good stir with the long handle of the spoon.
4. Siphon the cloudy cuvée into the Champagne bottles, leaving about one inch (2.5 cm) of headspace.
5. Cap the bottles with crown caps.
6. Store the bottles upright in a cool (65° to 75° F, 18° to 24° C), out-of-the-way location for two months. Seldom-used closets work well, as do basements and quiet corners of garages. Just make sure not to put the bottles in a place where the temperatures could get too hot.
7. Twice a week during this time, carefully invert the bottles and shake gently. The object is to encourage the yeast inside the bottle to ferment the added sugar to completion. A word of warning: Because there are live yeast cells eating up sugar and making carbon dioxide inside the sealed bottles, there is a lot of gas building up under pressure. Be very careful when handling the bottles. Always wear protective eye gear and gloves, and be sure to store the bottles away from inquisitive children and pets.
8. After two months, give the bottles one final shake and then let the bottles rest (standing upright) undisturbed for one month. During this time the yeast will die out and a thick layer of lees, or spent yeast, will develop on the bottom of each bottle.

### Stage Three: Decanting and Rebottling

#### Equipment:

- 25 750-mL Champagne bottles
- 25 plastic Champagne corks
- 25 Champagne cork wires
- Lab goggles (or other OSHA safety glasses)
- Gloves (thick rubber, leather, or other thick material)
- Set of measuring spoons
- Enough space in your freezer and fridge to be able to hold at least five bottles at a time — the more you can hold, the faster this stage goes

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Ingredients:

- 1 cup (240 mL) neutral vodka
- 1.5 cups (360 mL) wine conditioner
- 750 mL of the cuvée (set aside at the beginning)

Step by Step:

1. Dig out the 25 Champagne bottles that have been resting for a month. Stash them in your freezer, if they'll all fit. If not, the following steps can be done in batches. These steps are written assuming that there is space for 10 wine bottles in the freezer.
2. Put five of the full Champagne bottles in the freezer.
3. Use hot water to wash the 25 new Champagne bottles. Again, do not sulfite them.
4. Mix a dosage by combining the vodka, wine conditioner, and cuvée (that you set aside three months ago in the fridge) in the pitcher.
5. Pour two tablespoons (30 mL) of the dosage mixture into five of the just-washed Champagne bottles.
6. Put these five bottles in the freezer. Stand them upright next to their full counterparts.
7. When ice has just started to form on the five full cuvée bottles, take them out of the freezer, remove the cap from each one carefully in turn, and pour its contents gently into one of the bottles that contains the frozen dosage. Be careful not to pour the entire contents in; you want to leave behind the gooky stuff (the lees) at the bottom of the cuvée bottle.
8. Quickly insert a plastic Champagne cork and fasten with wire or, alternatively, just put crown caps on the new bottles if you can't fathom the notion of plastic Champagne corks.
9. Repeat the above steps with batches of five cuvée bottles at a time.
10. When done, store the bottles upright in a cool, dry, dark place.
11. When the dosage has thawed in the bottom of the bottle, swirl the bottles gently to mix the cuvée and dosage together.
12. Store bottles in a cool, dry place, and be sure to chill each bottle thoroughly before serving.

Alison Crowe works at Byington Winery & Vineyards in Los Gatos, Calif. She has a degree in winemaking from the University of California, Davis.

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