

Beer and WineMakers of America
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BeerMakers Homebrew Instructions

1. First step - **open a beer and read through this instruction sheet.**
2. Clean all brewing equipment. Use a cleanser that does not leave a soap residue; PBW is a good cleanser. Next you must sanitize anything that will come into contact with the wort after the boil. (Wort is the name for beer before you add the yeast.) Below 180° F, sanitation is important to prevent bacterial and wild yeast contamination. To sanitize your equipment, use exactly 1 oz. Star San in 5 gallons of water. Drain the solution out of the equipment; it is now sanitized. **Do not rinse with water.**
3. All of the water must be boiled and if your water contains Chloramine, use a campden tablet to remove the chloramine. If your brewpot holds less than 8 gallons you will not be able to boil everything at once. You can boil part of the water for 20 minutes and pour it into the sanitized fermenter; then boil the remaining water with the beer ingredients to end up with a total volume of 5 gallons.
4. Put the grains into the mesh bag. Place the bag of grains into 2 gallons of water. Heat to 155° F for the specified time for your recipe. Lift the mesh bag of grains out of the brew pot and allow to drain. Add water to bring the total to 6 gallons. This assumes you will lose 1 gallon during the boil.

Remove the brewpot from the heat. Add the malt extract and stir. Bring the wort to a boil and watch for boil over. Next stir in the bittering hops and boil for one hour. If using Servomyces add 30 minutes before end of the boil. After boiling for an hour add the finishing hops and remove the brewpot from the heat. When hops are boiled, bitterness is extracted to balance the sweetness from the malt. The final hop addition is not boiled and will contribute hop aroma to the beer. Cool the wort as quickly as possible with the lid on the brewpot; use a wort chiller, or use ice water outside of the brewpot to speed the cooling process. Wort should be cooled in less than 1 hour.

Now you are ready to pour the wort into the sanitized fermenter. Collect a sample of the wort, float your hydrometer in the sample and record the specific gravity. This is the original gravity. Never return samples to the fermenter.

Pitch the yeast after the wort has dropped below 70° F. After pitching the yeast you should aerate the beer using an oxygenator or by splashing it into the sterilized primary fermenter and vigorously rocking the fermenter for several minutes. This aeration will contribute to a good fermentation. I recommend using a **White Labs liquid yeast** culture. The liquid yeasts will give you clean consistent results.

5. Check the temperature where you will be fermenting your beer. **It is very important to stay within the correct temperature range for the yeast strain you are using.** Use vodka in the airlock. Allow to ferment for several days; you will notice gas bubbling through the airlock during fermentation.

Fermentation rate will vary due to temperature, original gravity, and yeast strain used. When you notice that the rate of bubbling through the airlock has slowed to about 1 bubble per minute you should siphon the beer into the secondary fermenter (the 5 gallon glass or PET carboy). Carefully siphon into the carboy to avoid splashing the beer. You don't want to aerate the beer at this stage of the fermentation; it could lead to oxidation, which will result in off-flavors. Usually after a week in the secondary fermenter, fermentation is complete. This can be verified by taking a hydrometer reading of the sample. Wait three days and take another hydrometer reading, if there is no change in the specific gravity during this three day period the beer is ready to be bottled. This is the final gravity.

6. To determine the percent of alcohol in the beer, subtract the final gravity from the original gravity and multiply by 105 to calculate the percent alcohol by weight. To convert percent alcohol by weight to percent alcohol by volume, multiply by 1.25

Example: Original Gravity 1.055
Final Gravity 1.012
 $1.055 - 1.012 = 0.043$
 $0.043 \times 105 = 4.51\%$ Alcohol by weight
 $4.51 \times 1.25 = 5.64\%$ Alcohol by volume

7. To carbonate the beer you will add priming sugar (Corn sugar). Siphon the beer from the carboy to the primary fermenter bucket. Dissolve 3/4 cup of corn sugar into 2 or 3 cups of water and boil for two minutes. Cool the sugar solution to room temperature with the pot covered and then very gently stir this into the beer. Avoid splashing the beer to prevent oxidation. Have ready 50 sanitized 12 oz. bottles or the equivalent capacity in other size bottles. Fill the bottles using the bottle filler and siphon hose connected to the spigot on the bucket. Cap the bottles and store at room temperature (60-70° F) for 2 weeks. **Always store beer out of direct light; this also applies to the fermenters.** It will age well for several months or even longer for some styles of beer. If the beer has any off-flavors or problems bring one to the shop, I can usually determine the cause to help you make better beer.

Enjoy your beer!