

GENERAL BREWING INSTRUCTIONS

Also see the Recipe Instructions sheet for specific instructions for your kit.



REQUIRED EQUIPMENT*



- 5 gallon pot
- thermometer
- 6 gallon fermentation bucket or carboy
- bottling siphon and/or bottling bucket
- 48 12 oz. bottles
- bottle caps and capper

**Note: Most of the items can be purchased as part of a basic equipment kit from your local homebrewing shop. If you have an 8 gallon pot, you have the option of doing a full volume boil with all of the extract, and not dividing the extract into Wort A and B. However, boiling the full volume typically requires an outdoor propane burner instead of the kitchen stove.*

OVERVIEW OF THE PALMER BREWING METHOD

These kits are designed to make high quality beer with a minimum of fuss and bother using the Palmer Method. This method consists of boiling half of the total wort (Wort A) with the hops, and pasteurizing the remaining extract (Wort B) before diluting the total wort in the fermenter. The purpose of this method is to reduce the volume of wort that needs to be boiled, saving time and energy, while producing the same flavor development that would occur during a full volume boil of this same recipe. Doing a partial boil of all the malt extract (i.e., a high gravity boil) would result in flavor development that is not characteristic of the style.

Wort A will typically consist of roughly half of the total malt extract, plus any steeping grains that the recipe may require. A steeping bag will be included in the kit, if needed. Wort B will typically consist of additional malt extract and/or brewing sugar.

Some kits will require mashing of the grains, and those kits will include a packet of mashing enzymes to help ensure the conversion of the grain starches to fermentable sugars. Otherwise, mashing is similar to steeping, but with tighter temperature control.

After boiling the hops in Wort A, the heat is turned off and the ingredients for Wort B are added to the pot to pasteurize for 10 minutes.

The hot wort (both A and B) is then poured into 3 gallons of cold water in the fermenter. The fermenter should be placed in a cool room and allowed to cool completely before pitching the yeast. See the Recipe Instructions that came with the kit for specific fermentation instructions.

BREWING INSTRUCTIONS

1. Clean and Sanitize. Wort is a highly nutritious environment that is easily contaminated by other microorganisms. All equipment should be thoroughly cleaned and anything that contacts the wort after boiling should be thoroughly sanitized to prevent contamination. Clean your equipment with an unscented dishwashing detergent or recommended brewing cleaner, and sanitize the fermenter with a no-rinse brewing sanitizer.

2. Read the Recipe Instructions. The recipe instructions are a separate sheet of paper that comes with the kit.

3. Water. Pour 3 gallons (11.4 liters) of cold water in the boiling pot. Do not heat the water yet. Also, pour 3 gallons of cold water into a cleaned and sanitized fermenter. It is best to use a low mineral or distilled water source when brewing with malt extract because the extract already contains minerals from the original brewing water.

4. Wort "A". Read the Recipe Instructions (separate sheet). Open the package(s) of dry malt extract for Wort A, and add them to the cold water. Stir to dissolve. (DME dissolves without clumping in cold water.)

5. Grains. If the kit does not contain crushed grain, proceed to Step 6. Read the Recipe Instructions to see whether you will be steeping or mashing your grains, and follow the appropriate step (5a or 5b). Steeping or mashing the grains in Wort A as opposed to plain water improves the wort pH and reduces the risk of bitter tannin extraction from the grain husks. Do not squeeze the grain bag to get all the wort out after steeping or mashing. You may rinse the bag with a quart or two of water, but it is really not necessary.

5a. Steeping: Put the crushed grain in the grain bag. Heat the wort to a temperature of 120-170°F (50-75°C). The steep may be started cold, placing the grain bag in the pot as it heats, but do not exceed 170°F (75°C). Give the bag a bob and stir to make sure all of the grain is wetted. The grain bag is steeped in the hot wort just like a teabag for 30 minutes. After this time, the grain bag is removed and the wort is brought to a boil.



5b. Mashing: Put the crushed grain in the grain bag. Heat the wort to a temperature of 150-158°F (65-70°C). Temperature is very important when mashing; do not overheat. Add the enzyme packet and stir to dissolve.

Give the bag a bob and stir to make sure that all of the grain is wetted. The grain bag is mashed in the hot wort just like a teabag for 30 minutes. Add heat and stir as necessary to maintain the temperature. After 30 minutes, the grain bag is removed and the wort is brought to a boil.

6. Boiling. Bring the wort to a boil. The total boil time will be 1 hour. Note the time for the start of the boil, and prepare your hop additions.

7. Hop Additions. See the Recipe Instructions for quantities and boil times. Hops are added at different times during the boil to contribute different proportions of bitterness, flavor, and/or aroma. Additions are named according to how long they are boiled: 60 minute additions are added at the start of the boil and boiled for sixty minutes; 15 minute additions are added after 45 minutes has elapsed and are boiled for the last 15 minutes, et cetera. Knockout or 0 minute additions are added at the end of the boil when the heat has been turned off. Dry hop additions are added to the fermenter, 2-4 days after pitching when activity is starting to subside, but the yeast can still absorb the oxygen and minimize any staling effects.

8. Wort "B". Open the package(s) of malt extract and/or adjuncts for Wort B, and slowly pour them into the pot while stirring to avoid clumping. Stir until fully dissolved. Allow the hot wort to rest for 10 minutes to make sure the recent extract additions are pasteurized.

9. Pouring and Cooling. Clean and sanitize the airlock and stopper. If you have a wort chiller (copper immersion coil or similar) you may use that to chill the wort before adding it to the fermenter. Otherwise, pour the hot wort into the cold water in the fermenter, and seal the lid. Move the fermenter to a cool room and allow it to cool to the fermentation temperature before pitching the yeast. See Recipe Instructions for fermentation temperature range.

Note: If you are using a carboy, you will need to clean and sanitize a funnel as well. Do NOT pour hot wort into a glass carboy; it will crack.



10. Pitching the Yeast. Open the yeast packet and pour into 1 cup of warm water. Allow yeast to sit for 15 minutes before stirring. Stir the yeast gently and allow it to thoroughly rehydrate (10-30 minutes) before adding it to the fermenter.

For best results, the wort should be at the recommended fermentation temperature before pitching the yeast. Pour the yeast into the fermenter and seal it up. Rock the fermenter back and forth for several minutes to aerate the wort with the air in the headspace. Aeration of the wort immediately prior to pitching will provide oxygen the yeast need to grow and conduct a successful fermentation. This is the only time in the brewing process where we want to expose the beer to oxygen. Later exposure to oxygen, after fermentation, will only cause the beer to oxidize and taste stale.

11. Fermentation. Fermentation temperature is critically important to beer flavor. If the temperature is 5°F or 2°C warmer than the recommended range, the beer will commonly exhibit off-flavors such as solvent or phenolics. If the temperature is cooler by 5°F (2°C) than the recommended range, the yeast will perform sluggishly and may not ferment. For best results, the temperature of the room should be consistent within a couple degrees.

The fermentation should start within 12-36 hours. The airlock will bubble vigorously for the first few days and then decrease dramatically as the fermentable sugars are consumed. Activity may cease altogether within one week. For best results, allow the fermenter to sit undisturbed for at least one week after activity in the airlock has slowed. This will give time for the majority of the yeast and trub to settle out of the beer, improving clarity when bottled.

12. Priming Sugar. On bottling day, boil 2 cups of water and dissolve the priming sugar into it. Cover it with plastic wrap and allow it to cool before gently stirring it into the beer or adding it to the bottling bucket.

13. Bottling. There are two options for bottling your beer: either use a bottling siphon to fill the bottles from the fermenter, or transfer the beer from the fermenter to a bottling bucket and filling from that. In either case, the priming sugar solution should be gently but thoroughly mixed with the beer before bottling.



Fill and cap the bottles, leaving about ½-1 inch of headspace in the bottles. It is important to treat the beer gently during bottling, to minimize the oxygen pickup and potential for staling. Allow the bottles to carbonate at room temperature for two weeks before chilling and drinking. The bottles should be stored cold after carbonation to best preserve the flavor.