

Full Spectrum Red Ale

STEP 1: Sanitizing

Cleaning is one of the most important steps in brewing. It kills microscopic bacteria, wild yeast, and molds that may cause off-flavors in your beer. **Make certain to clean all equipment that comes in contact with your beer by following the directions below:**

1. Fill clean fermenter with 8 liters (2 Gallons) of warm water, then add 1 pack of No-Rinse Cleanser and stir until dissolved.
2. Use your measuring cup to scoop the liquid up and run it down the side of the Coopers Fermenter. Do this around the entire fermenter a few times. Then add your krousen kollar and repeat. Then take some of the solution and pour it into the lid and allow it to sit for 2 minutes. (If you have a different fermenter sanitizing may be different.)
3. To clean the spigot, open it fully and allow the liquid to flow for 5 seconds, and then close.
4. Pour some of the solution from the fermenter into a large bowl. You need enough to fully cover your brewing utensils. Place your spoon/whisk, can opener, and measuring cup into the bowl to keep them cleaned throughout the brewing process. Leave them immersed for at least 2 minutes in the cleaning solution prior to use. Any remaining solution in your fermenter can be discarded.
5. After all, surfaces have been thoroughly cleaned, do not rinse or dry the keg or utensils. Return lid to the top of the fermenter, proceed immediately to brewing.

STEP 2: BREWING

Brewing beer is the process of combining a starch source (in this case, a malt brewing extract) with yeast. Once combined, the yeast eats the sugars in the malt, producing alcohol and carbon dioxide (CO₂). This process is called fermentation.

1. Split the grains into four of the muslin sacks and tie them closed so that the grains have room to flow freely within the sack (the grains can be mixed between the muslin sacks anyway that you'd like).

2. In a 3-gallon or larger pot, Bring 3-quarts of water to 150F, add the grain sacks. Steep for 30 minutes, rinse the grain sacks with 2-quarts of 170F hot water, let drain into the kettle then discard the grain sacks.
3. Top up the kettle to 2-gallons (by adding another gallon of water to the kettle), then add the can of malt extract, the box of dried extract, and the booster pack, then stir until combined and bring to a boil.
4. If foam begins to rise, pull the kettle off the heat, and lower the temperature slightly, continuing to stir (about 5 to 20 minutes depending on your particular conditions), until you hit the hot break which is where the foam has subsided, and the wort is now boiling.
5. Once the wort is at a low rolling boil and foam has subsided, place the packet of Northern Brewer hops into a hopsack. Add the hopsack to the boiling mixture and set a 60-minute timer. Stir the mixture occasionally to avoid scorching while maintaining the low, rolling boil.
6. Next, split the Cascade hop pellets evenly into two of the hop sacks.
7. Add the first Cascade hop sack when the timer reaches 45-minutes remaining.
8. Place the last Cascade hop sack into the boil when there are 15-minutes remaining.
9. Prepare your plastic fermenter with 2-gallons of cold water. Pour the wort, including the hop sacks, into your fermenter. Then bring the volume of the fermenter to 5-gallons by adding more cold water.
10. Stir your wort mixture vigorously with your sanitized spoon or whisk.
11. Sprinkle the S-04 yeast packet into the keg, and cover with the lid. Do not stir.

Put your fermenter in a location with a consistent temperature between 68° and 72° F and out of direct sunlight. Ferment for 14 days.

STEP 3: Bottling & Carbonating

After 14 days, taste a small sample to determine if the beer is fully fermented and ready to bottle. If it tastes like flat beer, it is ready. If it's sweet, then it's not ready. Let it ferment for 3 more days (17 total). At this point, it is time to bottle. Do not let it sit in the fermenter for longer than 80 days total;

1. When your beer is ready to bottle, fill 3 1-gallon containers with warm water, then split the remaining pack of the No-Rinse Cleanser between them and mix until dissolved. Once dissolved, it is ready to use.
2. Distribute the cleaning solution equally among the bottles. Screw-on caps (or cover with a metal cap if using glass bottles) and shake bottles vigorously. Allow to sit 10 minutes, then shake the bottles again. Remove caps and empty all cleaning solution into a large bowl. Use this solution to clean any other equipment you may be used for bottling. Do not rinse.
3. Add 2 [Carbonation Drops](#) to each 740-mL bottle. For 1-liter bottles, add 2 ½ drops; for ½-liter bottles add 1 drop. Alternatively, you can add table sugar using [this table as a guide](#).
4. Holding the bottle at an angle, fill each bottle to about 2 inches from the bottle's top.
5. Place caps on bottles, hand tighten, and gently turn the bottle over to check the bottle's seal. It is not necessary to shake them.
6. Store the bottles upright and out of direct sunlight in a location with a consistent temperature between 70°-76°F or 21°-24°C. Allow sitting for a minimum of 14 days. If the temperature is cooler than suggested it may take an additional week to reach full carbonation.

Tip from our Brewmasters

After the primary carbonation has taken place your beer is ready to drink. We recommend putting 1 bottle in the refrigerator at first for 48 hrs. After 48hrs. give it a try and if it is up to your liking put the rest of your beer in the fridge. If it does not taste quite right, leave the bottles out at room temp for another week or so. Keep following this method until your brew tastes just how you like it.

This process is called conditioning and during this time the yeast left in your beer can help clean up any off-flavors. Almost everything gets a little better with time and so will your beer.