



Brewer's Update - Bottling

By Jim Lopes

When your beer has fallen clear in the primary or secondary fermenter, it's time to bottle. A good way to find out if your beer is ready to bottle is to take a specific gravity. Your terminal gravity should be at least 60-70% of your starting , or original gravity. Fermentation for an ale should be complete in 7-10 days, and a lager in 14-21 days. This may vary if you're not using what is considered normal fermentation temperatures or for high gravity beers.

To prepare to bottle you must sanitize all bottles, caps, tubing, bottle fillers, carboys, buckets, etc. Also, you have to prepare a priming solution. This solution will provide enough sugar to ensure adequate carbonation (as carbon dioxide) as a result of additional fermentation in the bottle. Remember, for this fermentation we need yeast. If you have stored your beer for a long period of time (month plus), or if you have stored it cold (below fermentation temperature) for more than a couple of days there is a risk your yeast has fallen out of solution. If this has occurred you may need to pitch new active yeast.

Preparing your priming solution is similar to making a yeast starter. For 5 gallons, add the appropriate amount (see table 1) of corn sugar (dextrose) or dry malt extract to 1 pint of water. **Do not use white or brown sugar (sucrose)!** It will give your beer a cidery flavor.

Table 1
Priming Rates for 5 Gallon Batches

Beer Type	Corn Sugar	Malt Extract
Ales	4.1 oz. (3/4 Cup)	5.1 oz. (1 Cup)
Lagers	5.3 oz. (1 Cup)	6.6 oz. (1 1/4 Cup)
Highly Carbonated Beers	6.3 oz. (1 1/4 Cup)	7.9 oz. (1 1/2 Cup)

Bring this solution to a boil, then simmer for 3-5 minutes. Cool the solution to approximately the same temperature as your beer. Once cooled, add the priming solution to a clean, sterilized carboy or bucket. Rack your beer over the top of your priming solution. Try not to agitate or aerate your beer during this process (oxidation-Boo-Hiss!). You can stir gently with your tubing towards the end of racking to ensure thorough mixing. You're now ready to bottle! Note: You should have all your equipment (bottles, caps, tubing, filler, carboy, etc.) sterilizing while you are making your priming solution.

To prepare bottles, make sure first they are clean and free of visible debris. Brushes and jet washers are available at Bencomo's Homebrew Supply and other shops. To sanitize, use your normal procedure utilizing iodine or chlorine bleach. Remember, do not rinse after sterilizing (see previous "Brewer's Update"). Also, your can use heat to sanitize bottles. Ovens and dishwashers work. Bottles need to first be wet then heated. Do not add detergent to your dish washer! Detergent residues will destroy your beer's head. Whether you use heat, bleach, or iodine, once the bottles are ready turn them upright and place a sterilized cap on each bottle. The caps will keep dust, bugs and other creepy crawlies from getting into your sanitized bottles. Don't fill bottles that are still hot or warm. Allow them to cool first.

OK....set up your racking system, but at the receiving end of the tubing place a bottle filler (the type with the spring valve tip). Start your siphon and run a little beer into a cup to rinse out any residual chlorine or iodine. Take your first bottle and fill it to the top. This will account for the volume the filler

takes inside the bottle. You may need to adjust the fill line for your specific filler. You should end up with about 3/4" to 1" air space at the top of each bottle after the filler is removed.

Cappers come in many varieties and styles. My preference is to use a single lever, cam operated capper. Mine has a sturdy base and can adjust to a number of bottle sizes.

Once you're done bottling, store your beer at fermentation temperature. It will take about two weeks for an ale and four weeks for a lager to carbonate in the bottle. Try a bottle or two before

chilling the rest of the batch to consumption temperature.

Don't forget, if you wish to take a terminal gravity, make sure and do it before you add your priming solution. If you do it after you have primed the beer the added sugar or malt will add about 2-3 specific gravity points.

At our March 8 meeting a bottle filling demonstration will be conducted. Both traditional bottle filling and counter pressure (from kegs) bottle filling will be reviewed. See you at the meeting!

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