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Instructions – Hard Cider

- 1) Clean and Sanitize your fermenting jug or bucket, airlock, funnel, and stopper.
- 2) Carefully pour your pasteurized cider into your fermenter. Set a sample aside in your test jar.
- 3.) Take a specific gravity reading with your hydrometer by floating it in the juice sample you took. Record this gravity reading, called the Original Gravity or Starting Gravity. Original Gravity:_____
 - 3a.) If you are using pasteurized or pretreated (NO Potassium Sorbate) juice, proceed to step 6.
- 4.) If you are using fresh-pressed or unpasteurized cider you will need to sanitize the must (juice). There are wild yeast and bacteria present on apples that get transferred the must when you crush and press your apples. You will need to diminish these naturally occurring cultures. To do this, crush 1 campden tablet per gallon of juice you are going to ferment and add it to your juice.
- 5.) Cover and wait 24 hours for the sulfites in the campden tablets kill the wild yeast and then to dissipate.
- 6.) After 24 hours have passed, add pectic enzyme and sprinkle the yeast into the juice (this is called pitching) and attach the airlock. Add water to the airlock about half full and cap. Leave to ferment at room temperature (~60-75 degrees) out of direct sunlight.
- 7.) Fermentation will begin within 24 hours which will be indicated by bubbling in the airlock. Active fermentation will occur over the next 4-7 days. You will notice quite a bit of bubbling in the airlock during this time. Bubbling in the airlock will subside and eventually stop as fermentation completes.
- 8.) After 7-14 days in the primary it will be time to transfer the cider to a secondary fermenter. Take a second gravity reading, called the Final Gravity, when you transfer your cider and record it. Final Gravity:_____

Secondary Fermentation

We recommend secondary fermentation for hard cider and find the benefits worth the extra time. If you prefer not to allow for secondary fermentation skip this section and go to 'Bottling Your Cider'.

Purpose

Secondary fermentation is a (or longer if you prefer) conditioning process where the yeast finish up their job, so to speak, by re-processing some of the by-products (esters, aldehydes, fusel alcohols) that they produced during the early stages of fermentation.

As the yeast consume all of the fermentable sugars in the juice and food supplies run out they begin to re-process some of the excess esters and other flavor compounds that they gave off early in fermentation. The removal of these excess flavor compounds in effect 'cleans up' the cider. The extra conditioning time in the fermenter allows for the cider to become more rounded which improves the flavor profile. An added benefit of the extra time necessary for secondary fermentation is a more clear cider. As food supplies run out, yeast begins to store up food reserves and go dormant. As they become inactive they will clump together (flocculate) and settle out of the cider.

Method

The popular method of secondary fermentation is to transfer the cider to a secondary fermenter. A secondary fermenter is usually a glass or PET jug/carboy. You want minimal head space in the carboy to keep as little air in contact with the finishing cider as possible.

Once primary fermentation slows, around 7-10 days, gently rack your cider out of the primary fermenter into a clean, sanitized jug or carboy (secondary fermenter). Attach a stopper and airlock and leave it to condition and clarify in the secondary for 1 week or more. When you see the cider becoming clearer it is a good indication that you can bottle your cider. You may want to take another gravity reading before you bottle as the final gravity may have dropped a bit.

Bottling Your Cider

Once your cider is finished fermenting it is time to bottle it. You will need: 10 12 oz crown top beer bottles (not twist off) per gallon of cider, a bottling bucket, a racking cane or auto siphon with approx. 5' of tubing, a bottle filler tube, 10 bottle caps, sanitizing solution, a bottle capper and priming sugar.

- 1) Clean and sanitize your bottles, bottling bucket, racking cane, tubing, bottle filler and caps.
- 2) Prepare the priming sugar by simmering it in 4-8 oz. of water for 5-10 min. Let it stand for a few minutes then pour the solution into your sanitized bottling bucket. You do not need to cool it down first.
- 3) Using your sanitized racking cane or auto-siphon transfer your finished cider from your primary or secondary fermenter into the bottling bucket. Make sure that the end of the tubing that is in the bottling bucket is resting on the bottom of the bucket so that it quickly covers up with cider. The cider will mix with the priming solution as it transfers. Leave the yeast at the bottom of the fermenter (called lees) behind.
- 4) Once the cider is transferred into the bottling bucket it is time to fill the bottles. Connect the transfer tubing to the bottling bucket spigot and the other end to the bottle filler.
- 5) Fill each bottle by inserting the bottle filler all the way to the bottom of the bottle and depressing the valve. Lift bottle filler when the cider reaches the top of the bottle to stop the flow. As you remove the filler it will displace the correct amount of cider for the proper head-space in the bottle.
- 6) Place a bottle cap on the bottle and crimp it with the bottle capper.
- 7) Set your bottled cider aside to carbonate at a temperature of around 70 for at least 2 weeks.
- 8) Refrigerate and enjoy!

Additions

Pure apple juice will ferment out for a crisp, dry hard cider at around 6% abv. Some recipes call for fruit, spice, or sugar additions to alter the character of the cider.

Pectic Enzyme: These can be added directly to the juice before the yeast pitch. These enzymes help break down the natural apple pectin and create a clearer cider. (Primary)

Acid Blend: These can be added directly to the juice before the yeast pitch. Most commercial apple juice is made from low-acid apples, and the addition of extra acids can make a more interesting and fuller cider. (Primary)

Yeast Nutrient: These can be added directly to the juice before the yeast pitch. This helps ensure a fast, healthy fermentation and cleaner flavors. (Primary)

Sugar: Bring the sugar (honey, molasses, malt extract, etc.) to a boil in a small amount of water or apple juice to sanitize. Use enough liquid to dissolve the sugar completely. Allow to cool and add it to the fermenter. (Primary)

Fruit/Spices: Fruit and spices can either be boiled in water/juice, or it can be soaked in a small amount of neutral vodka. Allow to cool and add it to the fermenter. You can also add fruit extract directly to the fermenter. (Secondary)