



GUIDE TO MAKING KETTLE SOURED

Fruit Beer

Fruit purée is thriving in the craft beverage segment and has been for some time. From seltzers to ciders - even distilled spirits, but there is one beverage which has embraced fruit purée more than any other, and that beverage is beer. There are many styles of beer that can be greatly enhanced by using fruit purée, but none has gained more popularity than the "fruited sour beer." Usually these are kettle-soured beers such as Berliner Weisse or Gose (but not limited to by any means).

This style of beer has several different monikers. The most popular one seems to be the "slushie" or "smoothie-style." Many still believe there is room for a beer that contains-

fruit but has a balance so the beer itself does not get lost. fruit but has a balance so the beer itself does not get lost. However, it cannot be denied that there is a huge market for these heavily-fruited products and the masses are lining up. There is no reason you cannot have both: lightly to moderately fruited beers; and heavily fruited beers pouring at the same time... but it seems like this is not always the case. There seems to be two camps, you have the heavily-fruited producers in one and the lightly to moderately-fruited producers in the another. A lot of this discussion is going to be philosophical. What is your personal style and what do you believe?





WRITING THE RECIPE

The first thing to do is to write a recipe and that begins with the grain bill. When considering the grain bill, you must also decide how much fruit purée you are going to use and if you are going to ferment out the fruit purée or not. This will be the determining factor as to whether you are making a light to moderately fruited beer or a heavily fruited “smoothie beer.” If you want to find a balance between the beer and the fruit then one-half to one pound of fruit purée per gallon is where you want to be (fermented out). On the other hand, if you desire to make a heavily fruited “smoothie” with alcohol then two to three pounds or greater of fruit purée per gallon is recommended. However, it is important to consider that the more purée being used will ultimately dilute the alcohol so this must be factored into the recipe (most recipe building software contain ways to account for fruit purée, but you get the idea). When using a low to moderate amount of fruit purée, and fermenting it out, will not result in a significant amount of dilution to the alcohol by volume.

WORT PRODUCTION

First up, let's discuss the production of wort – which is used for both traditional fruited sour beers and also the newer “smoothie” beers. The grain bill is relatively simple. Fifty percent 2-row, pilsner, or similar base malt with the other fifty percent composed of white wheat, flaked wheat, and dextrin malt. With a single mash, rest at a high temperature such as 152 degrees Fahrenheit for approximately forty-five minutes. Next, ramp up to mash out temperature and proceed with lauter. Adjust the P.H. with either acidulated malt (which I did not mention in the grain bill, but can be used) or food grade phosphoric acid to a P.H. of 4.8-5.0 during first boil.

This first boil will serve to sanitize the wort of any unwanted microbes that live in the malt. Then, adjust the P.H. to give the pure culture of lactobacillus a little head start. This will allow you to reach the desired level of acidity while preserving protein content that will help preserve head retention.

Next, finish the boil and circulate the wort through the heat-exchanger in the brewhouse back to the kettle or wherever the wort is to be soured (if using

souring tank or reactor). It is important to keep oxygen out of this process, so add CO₂ instead of oxygen. Once a temperature of 100-110 degrees Fahrenheit is reached to make certain no oxygen is present, bubble CO₂ through the bottom of the kettle or tank. Add the pure culture of Lactobacillus or desired souring agent while maintaining a sterile process to avoid contamination. Seal the kettle or put an air lock on the tank and incubation should take about twenty-four hours depending on the culture used.

Once the P.H. has reached a level of 3.3 to 3.5, boil the wort to kill the bacteria (remember to save a keg or a flask for the next kettle sour) then run the sanitized wort through the heat exchanger and aerate like a normal batch. Pitch yeast as you would a normal batch while considering original gravity. The fermentation typically takes about three to five days or until the fermentation stabilizes.

ADDING THE FRUIT PURÉE

At this point, the fruit purée is added if the intention is to ferment out the sugar in the fruit. For a beer that has some balance of beer and fruit, aim for levels between one-half to one pound of fruit purée per gallon. If you are going for a sweet unbalanced “smoothie” that contains alcohol, you want let the fermentation finish up and crash cool the tank. Next, the yeast is removed and the beer is moved to a bright tank (beer ready for packaging). Now, the fruit purée can be added and subsequently packaged in kegs or in cans if a heavy fruit presence is desired, otherwise the pulp can be strained out or packaged from a racking arm which will allow you to pull from above the fruit that settles in the tank.

The only drawback with packaging beer with fermentable sugar present is the chance that some yeast (wild or clean) could be left behind in the can or keg and could start fermenting this sugar (if the temperature is warm enough to wake the dormant yeast). The result could end up with off-flavors and possibly an exploding can or an over-carbonated keg.

This can be avoided by fermenting out purée fully, thus having to add more fruit purée to reach desired result. Adding something to inhibit any surviving yeast or pasteurization are other options that could also adversely affect the final product, so use with care.

A KETTLE SOURLED FRUIT BEER

HOW TO BREW

1. Mash in at 152 degrees for 45 mins with Calcium Sulfate and Calcium Chloride
2. Raise temperature to 170 degrees to mash out
3. Lauter wort to kettle
4. Boil for 15 to 20 minutes, adjust P.H. to 4.8-5
5. Cool wort through heat exchanger and add co2 back to kettle or to souring vessel (purged of oxygen)
6. Add pure culture of lactobacillus and seal kettle or add air-lock to tank, incubate at 100 degrees Fahrenheit.
7. When PH of 3.3 to 3.5 is reached approximately 24 hours later return to kettle
8. Add hops and boil for additional 15-20 minutes, add kettle coagulant at end of boil
9. Send wort through heat exchanger to fermenter and aerate (65-70 degrees Fahrenheit)
10. Pitch yeast and ferment for 5-7 days or until stable gravity is reached
11. Add fruit purée and ferment until gravity is stable, cold crash tank
12. Move beer to bright tank and carbonate, if adding unfermented fruit purée add now*
13. Package in kegs or cans through strainer if pulp is not desired in final product



www.asepticfruitpurees.com

info@asepticfruitpurees.com

+1 (800) 949-5137