

FERMENTATION

ZINE

-CIDER-

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The Great Untamed

INTRODUCTION

Cider is a delicious alcoholic beverage made from apple juice! Yeast ferments the sugars in the apple juice into alcohol. This is pretty much the simplest alcoholic ferment you can do at home, so it's a great starting point for beginners!

1.



WHY TRY IT

I think the coolest thing about fermenting drinks is the way they change. You start with apple juice and end up with something that tastes totally different. There are only a few variables for this process ; the juice, the type of yeast, and the temperature during fermentation are the only things that are going to affect the flavor, but change one of them and you'll get a totally different result. With a little experimentation you can make your cider taste just how you want!

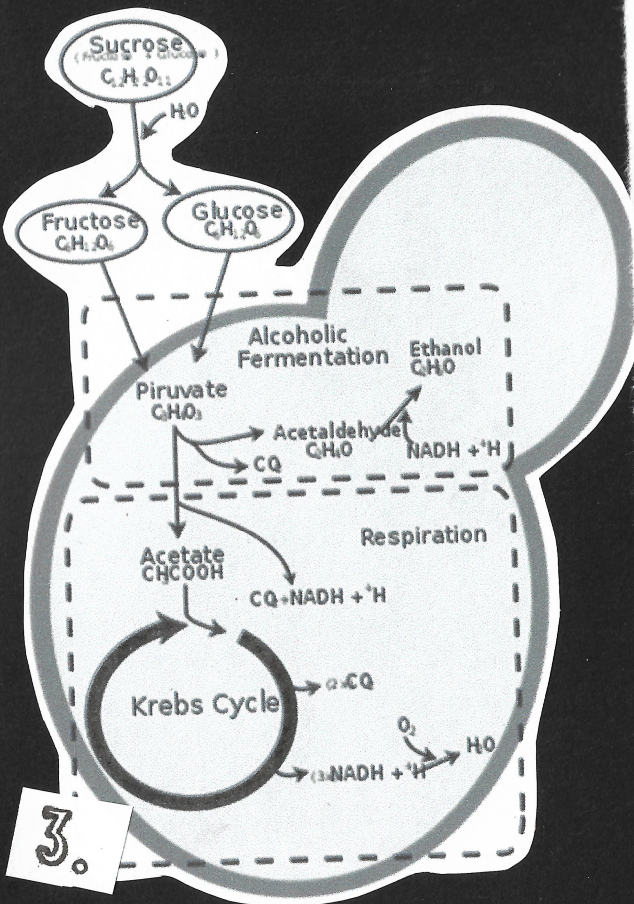
It's also really satisfying to drink something that you've made and taken care of and guided through the fermentation process. There's something really good about knowing what the stuff you're drinking has been through on its way to the point of consumption.

2.

HOW IT WORKS

This is a pretty straightforward thing. Apple juice (or any fruit juice, or anything we make alcohol out of) has sugar in it. When you add yeast, they eat up the sugar and produce alcohol and carbon dioxide as waste products. They keep going until either

- (1) the sugar is all consumed or
- (2) there's too much alcohol in the stuff for them to survive.



3.

Case 1 results in a completely dry (no sugar) drink. Case 2 results in a sweeter drink where the sweetness depends on how much sugar was available initially. With normal apple juice, we're solidly in the case 1 neighborhood. The last thing to keep in mind is that the final alcohol content of the cider depends on the amount of sugar in the starting juice.

FOOD SAFETY

This is fundamentally a food preservation technique; we're taking fruit juice and making it spoil in the way we want instead of letting nature decide how it goes. So, the main goal here is to make sure our yeast that we add to the juice is the strongest microorganism in the juice.

Sound difficult? Don't worry!

I've got a super easy way to do that! Make sure you wash your hands, use clean utensils, and when your cider is done you should probably keep it in the refrigerator (so it doesn't turn into vinegar). There are, of course, ways to make it stable for room temperature storage, but we're not going to get into that here. This is a pretty beginner-friendly project. The worst case is that your cider ends up tasting bad, like feet or vinegar or something. If it smells and tastes good, you're in the clear.

4.

SUPPLIES INGREDIENTS

A jug of apple juice
A packet of yeast
An extra container the same size as the apple juice jug
A balloon
OR
A rubber band and some plastic wrap

-For apple juice, get something that tastes good, and go for a gallon to make it worth your while. We're gonna use the jug the apple juice came in to ferment it.

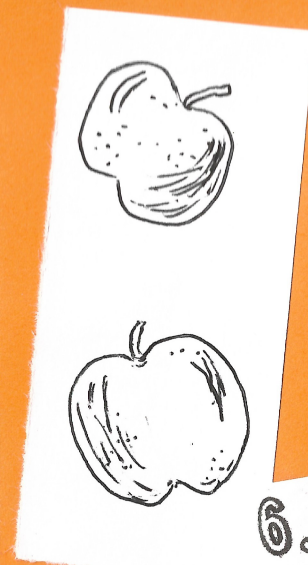
-Bread yeast will work fine- you want a 5-gram packet, or about $\frac{1}{4}$ tsp. I hear Red Star works better for making booze than Fleischmann's. If you want to get fancy, you can go to a homebrew shop or online and get some wine or beer yeast. Go for a 5-gram packet of freeze dried yeast, don't bother with liquid yeast for this. Any type of wine/beer yeast will work, but stay away from champagne yeast- it's only useful for very high alcohol stuff and doesn't add any flavor.

-The balloon/rubber band and plastic wrap/rubber stopper and airlock will be what we use to keep the jug sealed but still able to release carbon dioxide produced by fermentation. So, whichever you've chosen, it needs to fit tightly around the neck of the jug. We're going to call this the "Ferment Hat."

PROCEDURE

This one is pretty simple:

1. Pour a little apple juice, like $\frac{1}{4}$ - $\frac{1}{2}$ cup, out of the jug and drink it.
2. Add your packet of yeast to the jug.
3. Put the cap back on the jug and shake it until the yeast is dissolved.
4. Remove the cap (hang onto it for later) and put your ferment hat over the mouth of the jug. Poke a pinhole in it.
5. Put the jug in a warm place. It is wise, but not necessary, to keep it somewhere you don't mind getting sticky. If the ferment is particularly vigorous, it could overflow from the jug.



FOLLOW UP

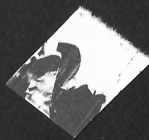
After a day or two, you should notice some bubbling in the apple juice, and the ferment hat will be puffed up. Congratulations, your yeasts are going wild on that juice and turning it into cider!

About 5-10 days after that, you should notice that the bubbling has stopped, and maybe the ferment hat has deflated. This means the yeast has consumed all the sugar available and the fermentation is finished. You now have drinkable cider, but it'll taste better if you get the yeast out of there. Here's how:

1. Take off the ferment hat and put the cap on loosely.
2. Put the jug of cider in the refrigerator overnight.
3. The next day, you should notice that the yeast has settled to the bottom of the jug. Pour the cider carefully into another vessel, being careful not to disturb the yeast.
4. If your cider still tastes yeasty, repeat steps 2 and 3.

Once you have the yeast out, you can add some apple juice or sugar to sweeten the cider to taste. Be sure to keep it refrigerated if you do so. There may be yeast still present in the cider and adding sugar can restart the fermentation if the cider isn't refrigerated. This will cause your jug of cider to explode and make a huge mess.

7.



8.

OTHER STUFF YOU CAN DO!

This is the basic process for making any alcohol. Substituting a different fruit juice for the apple juice is the simplest direction to go from here. You can also try adding sugar to your juice if you want a higher alcohol content - the more sugar you start with, the more alcohol you'll end up with, to a point. If you add more than a pound of sugar to a gallon of juice, you may exceed the yeast's alcohol tolerance and end up with a wine that finishes a little sweet. This depends on your yeast.

If you want to try making mead, mix some honey and water together instead of using apple juice. Two pounds of honey for a gallon of mead is a good starting point for that. You can also go crazy and add some flavors to your cider. Cinnamon is a good choice - maybe use half a stick, or toss some frozen berries in there, or a pinch of orange peel, even black pepper goes well with it. Go crazy, try whatever sounds good!

FURTHER READING

There's all kinds of information out there on homebrewing and you can go as simple or as complicated as you want. On the internet, homebrew forums are a great place to learn more. Lots of homebrew supply websites have good articles too.

For books, I recommend "The Alaskan Bootlegger's Bible" by Leon W. Kania. It's a really fun read and walks you through how to make all kinds of stuff without fancy equipment.

THANKS FOR READING!