

12 Things I Wish I Had Known When I Started Homebrewing



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1

WHAT YOU NEED TO KNOW ABOUT HOMEBREWING EQUIPMENT!

Since this book is being written to the new brewer, I am making an assumption. I assume you have not yet started, so what I am going to do is start from the beginning.

BASIC KIT

You can get started with a basic kit for under \$200, which includes the cost of an [extract kit](#).

This is the bare-bones minimum that you need to get started. This is all basically cheap and lower-end equipment, the least expensive set you can find that has everything you need to get started. All in all it is, or should be less than \$125.

[To purchase all the basic equipment for under \\$125, click here!](#)



Your beginning set includes:

- Plastic primary fermenter with a lid and stopper
- Airlock
- Bottling bucket with spigot.
- 6 feet of Siphon Hose
- Auto-Siphon
- Bottle Filler
- Bottle Capper
- Bottle caps
- Cleaner/Sanitizer
- Hop bags, at least 2
- A basic 5 gallon (or larger) brewing pot

See photo below for what kit includes



YOUR FIRST RECIPE

\$ I recommend for your first batch that you purchase an [extract kit](#). An extract kit is a prepackaged recipe kit that includes all the ingredients and instructions to create your batch. You have a lot to learn at this point so an extract kit will simplify your experience. Experiences are the best teacher, and believe me, it will teach you!

HERE IS MY FIRST CAUTION, WARNING, AND HORROR STORY!

My first batch was done in a fairly inexpensive 20-quart stainless steel pot. "This kit is a 5 gallon batch and should be a piece of cake," I thought to myself. So I take 5 gallons of water, a quart or 2 of extract, hops, and all of the sudden, I am up to almost 6 gallons and I have not even started. "Okay, I will cheat," I tell myself, "and deduct the 2 quarts of extract and use 4 ½ gallons of water." Good plan! (NOT)

The wife is gone, so now I start heating water, 4 ½ gallons since I am being so smart. I am heating water, and when it gets up to 160 degrees I pour in my extract. Now I am up to 5 gallons.

Do you know what happens when you boil something with massive amounts of sugar in it? Let me tell you: it gets a lot of foam building up on the top. Put 5 gallons in a 5-gallon pot and a boil over is eminent! I have the hops ready to go but nothing had prepared me for the on sloth of foam, water and sugar all over the brand new stove. I am trying to stop the foam over with a spoon, a great weapon for this kind of thing. About that time the wife comes home. Okay I have a huge mess, I am not really even started yet, and I am in the doghouse already!

I won't go into more detail, but you get the picture.

Of course besides the obvious moral to the story (which is get a pot with headroom), there are other things to consider:

- In a one-hour boil, you will boil out at least a gallon of water.
- Extract brewing, weather you are using liquid or dry, also adds mass to the pot.
- Sugar when boiled builds up a lot of foam.

I say again, make sure you get a pot with a lot of headspace. To get a 5-gallon batch of extract beer, you will need a pot to hold 6 gallons, plus have room enough to catch the foam from the wort (the common name for unfermented beer). We will discuss all grain brewing later.

Hop bags are needed to hold the hops in the pot during the boil. Don't do what I did and hang it off the side of the pot

handle and let it dangle into the fire. Another smart plan! (not)

FERMENTING EQUIPMENT EXPLAINED

Notice in the basic recommended equipment list I went with a plastic bucket for fermenting. My main reason is the handle! 5 Gallons of beer weighs in at about 44 lbs. When you add 20 lbs for a fermenter, you are getting close to 70 lbs with no handle.

Have you ever dropped a glass carboy? I have, luckily with my foot out of the way. Not everyone is so lucky! It makes a real mess, not to mention the safety aspect of the thing. So for now, let's go with a lighter and easier to handle fermenter.

The airlock will allow the carbon dioxide to escape without letting outside air in to contaminate the wort before it ferments.

 There is one rule in brewing that is the most important of all: Clean, sanitize, and when you are done, clean and sanitize some more! Nothing ruins more beer than contamination!

The beer gods love sanitation! Clean and sanitize all surfaces that will touch the wort or the beer religiously. Therefore a cleaner and sanitizer are of utmost importance.

The *auto-siphon* allows you to move the beer from vessel to vessel without siphoning using your mouth, which is very unsanitary!

Of course the bottling equipment is self-explanatory. Just be sure to rinse all particulates from the bottles and sanitize the bottles and caps.

So we are into homebrewing with less than a \$125 investment plus the \$30 or so for the cost of the extract kit.

Mission accomplished.

2

LET'S TALK TOOLS!

You know what they say... every good man loves tools! How about women and homebrewers? The fact is we all love them. They make life easier and for the homebrewer, some are absolutely essential.



What are the tools of the trade you ask? Here is a basic list:

- [A long handled spoon.](#)
- [Measuring spoons](#)
- [Hydrometer](#)
- Test tube holder (see story below)
- [Grain bag\(s\).](#)
- [Hop bags, at least 3.](#)
- [An industrial strength burner.](#)
- [Floating thermometer](#)
- [A scale](#)
- [A funnel](#)
- [Extra fermenter stoppers](#)
- [Extra Airlock or S valve](#)

There is an endless supply for things to spend your hard earned dollar on, but these are the ones I strongly recommend.

Lets talk about these one at a time starting with the long handled spoon. Anytime you are extract brewing you especially need a long handled spoon, I am not talking your basic tall kitchen-cooking spoon, I am talking about your basic 24 to 36 inch handled monster spoon. You absolutely need something that will reach the bottom of your brew pot to keep all sugars (sugars scorch you know) off of the bottom. Unless of course you want everything to taste like burned caramel, a 24 to 36 inch spoon is absolutely essential.

You will need a set of measuring spoons as you advance in ability. Some styles of beer require you add calcium or some other water additives. Sanitizers often require 1 tablespoon per gallon, so using measuring spoons takes out the guesswork and helps you conserve resources. I prefer stainless steel spoons because they sanitize so well.

The *hydrometer* plays an important role in determining *alcohol by volume* (ABV) in your beer by measuring the sugar content before and after fermentation. You simply take a sample of the final wort as it goes into the fermenter, read the scale and record the results to compare later with the reading at the end of fermentation. More about that later.

The *test tube holder* is probably my favorite tool. I do recall needing my hydrometer, reaching for it, bumping it and watching as it crashed on the floor into a million little glassy pieces. That is why I so strongly recommend a holder for all your breakable things, such as hydrometer, thermometer, and all those things made of glass.

A grain bag, which looks like a cheesecloth or muslin bag, is for those small additions of grain used to bring out a particular flavor to an otherwise all extract brews. It can also be used as a hop bag in a pinch.

When purchasing hop bags, which resemble smaller cheesecloth or muslin bags, the more the merrier. You have at least 3 hop additions during most wort boils, plus having spares allows you to add more hops. In the event you didn't add enough hops and caught yourself (that never happens does it?) you can just add more in another bag and throw it in with the rest.

Remember my story about the boil over? A boil over in the garage is no big deal; on the kitchen stove it is a REAL BIG deal. You might also consider a propane burner (linked above) or turkey fryer burner. The amount of BTUs (British Thermal Units) thrown out by one of these will really improve your boil time and may save your marriage!

A *floating thermometer* helps you to NOT boil over. You can manage your burner by cutting back the flame just before boil. You will also need it if you progress to all-grain brewing, but more about that later.

A *scale* is helpful when a partial mash (that is extract and grain used together) asks for a half pound of grain. You can also measure ounces of hops with a smaller calibrated scale.

Funnels are always handy for adding yeast starters to a fermenter. They are not essential but always handy to have around.

I listed extra fermenter stoppers and extra air locks or s-valves. An airlock or s-valve allows the carbon dioxide to be expelled from the fermenter without allowing outside air back in. Extra airlocks or S-valves will allow you to try the

same wort with different yeasts or you can have multiple batches fermenting at the same time.

One thing I did not mention, extra ANYTHING is always nice to have around. I don't know how many times I had an idea but could not do it because of lack of equipment.

We have come this far, so now let's talk about procedures!

4

WATER MATTERS!

As a new brewer, one thing I never thought about that turns out is very important. Did you know that 90-95% (by weight) of beer is water? I bet deep down inside you know this, but you probably never gave it a second thought.

How many recipes do you see that specify a water type? I'd say not very many unless it was written by an advanced brewer or is for a very specific style.

When I lived in northern Nevada, all my beers developed a common flavor. All my beers started developing a "lime" flavor and it drove me crazy! Can you imagine a lime-flavored stout? Believe me, you don't want to go there! I cleaned, re-cleaned and paid extra attention to sanitizing but nothing worked and it would not go away.

I moved to Colorado where the water is much different and behold, that "lime" flavor disappeared! What happened?

Turns out that a high pH (that is a measure of acidity in water) will do that. According to Dr. Lee Janson, the author of [Brew Chem 101](#), the lime flavor comes from a pH of about 12 ppm (parts per million). The ideal range is 6.5-8 ppm. Most municipal water supplies fall in that range, but it turns out, Nevada has a very high pH in their water.

I said all that to emphasize that water matters a great deal. Let's look at some other water issues you may or may not know about.

The big one is chlorine! Every municipal water supply adds it to drive off germs and bacteria. That is fine for swimming pools (where even more is added), but what does it do to beer? Have you ever heard someone say, "That beer tastes like old Band-Aids?" The taste you are getting is what is called *chlorophenolics*. It has a flavor that tastes at best like medicine, and at its worst tastes like Band-Aids. How do you make sure there is no chlorine in your water?

- Use all store bought spring water. It is not chlorinated, and all excess ozone is destroyed before bottling.
- Boil your tap water then let it cool back down before adding steeping grains (works for chlorine only). Some homebrewers say let it sit overnight before using.
- Add ½ a crushed [Campden tablets](#) (or 1/16 teaspoon of metabisulfite) per 5 gallons cool water, stir in and let stand 5 minutes. NOTE: Not advisable for people who can't tolerate sulfites (wine makers use it as a preservative).

How do minerals get into water you ask? Minerals are naturally found in soil. Soft rainwater makes it down through the soil, through underground caverns, over rocks in streams or aquifers it picks up some of the following dissolved minerals along the way:

- Calcium
- Carbonate
- Chloride
- Bicarbonate

- Magnesium
- Sodium
- Sulfate
- Trace metals such as iron and copper

I could do an entire book on water and [water chemistry](#), but that really is getting pretty advanced. I would encourage you to do more research on water chemistry as you become more familiar with the craft of homebrewing.

Each of the minerals listed affect water and brewing in a different way. Without getting too technical, I will just say for now that different water chemistry works better with certain beer styles. For example, waters that are low in alkaline are known to be better for lighter styles of beers, like English Bitters, where as water with higher concentrations are better for stouts and heavy beers. It is also known that very soft water, water with sodium being the only trace element, is better for Pilsners and light beers than hard water containing many more trace elements.

The water used for extract brewing is not as critical because your malt has already been mashed. Therefore you don't have to worry about the mash pH, and are only concerned with flavor impacting minerals like sodium, chloride, magnesium and sulfates.

So you ask, "Is there a way to tell if your water is sufficient for brewing?"

My rule of thumb (interesting origin to that phrase by the way) is this; taste the water, really taste it! Make sure it is at room temperature. Does it taste good? To tolerate it do you have to chill it? Is there a salty or lime flavor to it? If you detect anything at all that tastes off, your taste buds are

telling you something. Either go buy (at least) 6 gallons of store bought filtered water, or boil it out and taste it after it cools again. If it still tastes bad, buy your water; making sure it tastes good as well.

Okay, I have talked about basic equipment and water. What next?

We'll talk about Sanitation.

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