Getting Started in Home Brew

A look at the things you need and need to know to be able to brew your own beer at home.

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Table of Contents

Introduction

I was first introduced to the concept of brewing beer at home years ago when dad decided to give it a go. I didn't think much of it at the time but apparently it wasn't bad as my brother used to be more than happy to take a few bottles with him on his way to parties at the weekend.

Anyway, I then moved away from home and forgot all about it for maybe 20 years. It all changed when my wife, Tatiana and I bought our first house. Getting a house of our own provided the stimulus for me to get into homebrew in two ways.

The why

First, we suddenly had space. Moving from a small two bedroom apartment into a proper house left us with more space than we knew what to do with. Setting aside a cupboard in the kitchen for my homebrew seemed like a good idea so that's what I did.

Secondly, we suddenly had a huge debt in the form of a mortgage. There is nothing like knowing that the bank will happily take your home away from you to bring your finances into sharp focus. Given that cases of beer at the shop generally start at around $35 and that an equivalent case of home brew can be made for as little as $12 it's a fairly obvious choice.

The how

After getting started I started to realize the full scope and flexibility of what you can do with a fairly basic homebrew kit.

If you're not happy with the way your brew turns out, you just adjust the recipe. Adjusting the type and amount of sugar or the amount of hops can have dramatic affects on the end product and finding out which recipe you like best is, to my mind, the whole point of doing it in the first place.

Of course these are not the only adjustments you can make. But finding out the secrets of the perfect brew for yourself is half the fun.

Moving forward, The Equipment, Brewing and Bottling chapters found later in this book go through the equipment you need and how to get started. The Brewing Tips section will give you some pointers on a few of the more technical aspects of the brewing process and then we give you a few recipe ideas to show that there is far more to beer than just drinking.

After that, it's up to you, experiment, have fun and enjoy the fruits of your labour. Beer is good, enjoy it!

The Equipment You Will Need

The equipment that you need to get started can be broken into two groups. Firstly we have the consumables and then we have the reusable equipment, basically everything else that you can use time after time.

If you're just starting out, you should be able to get a kit with everything you need for at least one batch of beer fairly easily from any home brew store or even from some of the bigger supermarkets.

The kit should include most, if not all of the individual items shown below.

Depending upon the contents, I've seen prices range anywhere from around $70 to more than $300 for the more elaborate kits.

The Consumables

Beer Concentrate

One of the primary ingredients in the home brew beer making process, the tin contains a concentrated syrup derived from the raw beer making ingredients and will determine the style of the finished product.

Along with the tin of syrup you will also get a packet containing suitable yeast to match the style of beer you are making.

There are literally dozens of different styles and flavours to choose from so the sort you choose depends entirely on your personal taste.

Prices usually range between $15 and $30.

Brewing Sugar

Not all sugars are the same. The style of the beer you are making will determine the sugar you should use. There are a huge range of different sugars suitable for brewing; some examples are Corn Syrup, Dextrose, Lactose, Light and Dark malt extract.

They come in both premixed packages targeted at specific beer styles or as separate products for you to mix on your own.

If at all uncertain which is the right combination for you, your homebrew supplier will be the best person to advise you on matching the brewing sugar to the beer you are going to make.

Prices for sugar tend to start at around $4/kg and will vary according to the sugar variety you need.

Bottle Tops

Stating to obvious, these metal bottle tops work with the capping press to seal your beer bottles. They are good for one use only and as such are considered a consumable.

Fortunately they are very cheap usually running in at well under $10 for a bag of 500.

Sterilizing solutions

Probably the most important of all, these products are designed to kill all unwanted bacteria that may be contaminating your brewing equipment.

There are several different varieties of sterilizing powder and liquids so it is important to follow the directions found on the label.

Reusable Equipment

Fermenting Drum

Basically the fermenting vessel is a plastic drum with an air tight lid, a tap at the bottom and a stick on thermometer on the side.

The thermometer is an important part of the brewing process. Different styles of beer can have vastly different optimum temperature requirements.

Something else to consider is that drum sizes can vary so be sure to match ingredient quantities to the size of your drum.

Pressure Release Valve

A device designed to allow the excess carbon dioxide produced by the fermentation process to escape without allowing outside air in.

The air outside the drum can be contaminated with natural bacteria that could interfere with or adversely affect the desired fermentation process.

Mixing Spoon

A spoon used to mix the brew ingredients. It does not necessarily need to be a spoon. The shape is not as important as the material it is made from.

You should avoid wood or other porous material as it can harbor bacteria that can affect the fermentation process.

Hydrometer

A hydrometer is a device that allows you to measure the relative density of a liquid compared to pure water.

This is very useful in the brew process as it allows you to determine two very important things. First, you can see when the fermentation process is complete and it is ok to bottle the beer. Bottling beer to soon is a very bad idea as occasionally it can lead to bottle explosions.

Second, it allows you to estimate the alcohol percentage of the beer you make. The benefits of knowing the strength of your brew are obvious. Further detailed

instructions on how to use a hydrometer and calculate the alc/vol of your brew can be found later in this book.

Sugar measure

This tool is used to prime the bottles before filling them so that the end result is beer with bubbles in it and not an exploding bottle.

The tool that is shown has two ends, the large side is used to prime 750ml bottles and the small end is for 375ml bottles.

Bottle Brush

Simply put, this device is used to clean bottles so that they may be reused.

Bottles

You can choose to either buy new empty bottles or just buy some beer and keep the bottles that it comes in.

The bottle colour is important. As exposure to UV light can adversely affect beer, brown glass bottles are best as they reduce the amount of light that comes in contact with your brew. If you must use clear bottles, you should store the beer in a dark place.

Bottling Device

This device fits into the end of the tap on the fermenting drum and allows you to fill the beer bottles from the bottom up thus preventing excessive foam build up and loss of beer.

Capping Press

Used for pressing the bottle tops onto the top of the bottles with enough force to make an air tight seal. There are hand tools that do the same job but the lever action of the Capping press means that a lot less effort is required to achieve a seal.

Brewing Your Beer

Ok, so now that we have all of the required equipment and consumables we will move onto the brewing process proper. Before you start, the first thing to do is decide where you are going to store the fermenting drum while the fermentation process takes place.

The spot you choose should allow you to keep the drum at a fairly constant temperature, be easily accessible and allow you to take samples from the drums tap periodically so that you can check on your brews progress.

The brewing Process

Warm the Syrup.

The brewing concentrate can become very thick and hard to get out of the can at low temperatures. To get around this, put the tin in a bucket of hot water for ten minutes. This will gently warm the contents making it easier to pour out.

Clean your equipment.

Make sure you thoroughly clean and sterilize all equipment that will come into contact with your brew.

Different sterilizing products have different directions for use. Follow them; this is probably the most important step as a bacterial contamination can and will completely ruin a batch of beer.

Add Sugar.

Fairly straight forward, once you have made sure your equipment is cleaned properly, pour your sugar into the fermenting drum.

Add boiling water.

Add around two litres of boiling water to the fermenting drum. You use boiling water to aid in the process of dissolving the sugar. It also raises the temperature of the brew at the end of the process which helps to activate the yeast.

Once you have added the water, stir the mix thoroughly until the sugar dissolves.

It may seem obvious but before you add the water, make sure the fermenting drum tap is turned off.

Open the tin.

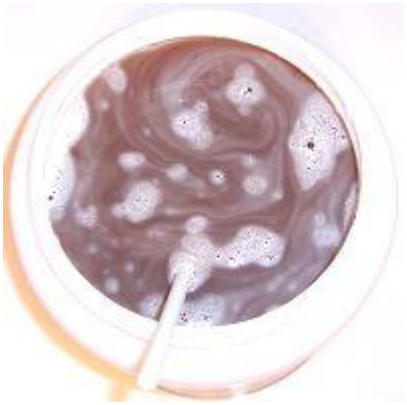
Now is the time to take the tin of brewing concentrate out of the bucket of hot water. Once you open it you will see that it is a very thick, dark syrup. Depending upon which style of beer you are brewing, there may be hops present which you will make the syrup look a little lumpy.

Add the syrup to the mix.

Pour the syrup into the fermenting drum. It should be quite runny if you have left it in the hot water for the full ten minutes.

As the contents of the tin are already sterile, there is no problem adding it straight to the boiling water in the fermenting drum.

Once added, again, give it a good stir.



Top up with cold water.

By cold, I don't mean chilled. Normal tap water at room temperature will do.

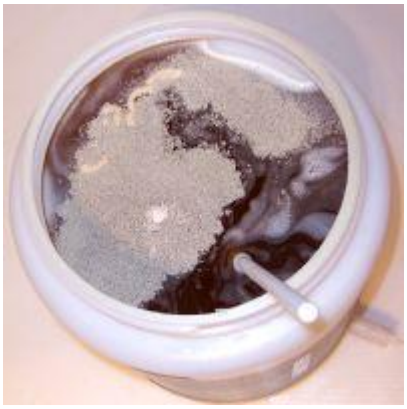
Once filled, give it a good stir to ensure the ingredients are evenly mixed.

Check the temperature.

After filling the drum with water, the end temperature of your brew is important. This is where we make use of the strip thermometer on the side of the fermenting drum to take a measurement.

If the end temperature is too hot, you'll kill the yeast before it can work. Too cold and it will take longer to activate and increase the chance of bacterial contamination.

You should aim for an end temperature between 24 and 28 degrees Celsius. If your temperature is outside this range, you can adjust it slightly by adding a bit more hot or cold water.



Add yeast to mix.

Once the temperature is in the acceptable range, you can then add your yeast to the mix. The yeast is usually found in a small sachet under the cap found on the can of syrup. Stir thoroughly after adding the yeast.

After adding the yeast you may see it clumping together into lumps. I have seen this a few times and as far as I can tell the only affect is to slightly delay the activation time.

Fit Lid and Pressure valve.

That's it, your brew is complete. Now is the time to fit the lid, make sure it is screwed on tightly and insert the pressure release valve.

The pressure release valve is composed of an S shaped plastic tube fitted to a hole in the fermentation drum lid. The valve is filled with a little water so that allows the gas produced by the fermentation process to escape while preventing outside air that could be contaminated with bacteria from entering.

Move the fermenting Drum.

While it's not strictly necessary, I always choose to mix my brew in a wet area such as a bath tub. This way any spills are easy to clean up. Obviously, you cannot leave the fermenting drum in the bath tub while it's doing its work so it will need to be moved.

The place you choose to keep your fermenting drum should be relatively temperature stable and warm enough to allow the bacteria to stay active.

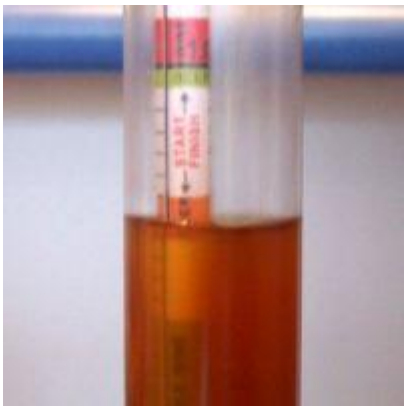
You can ignore this step if you choose to make your brew in the location where it will be stored.

Using the Hydrometer to find the Original Gravity.

Now that you have finished making your brew it is time to take the first of the readings on the Hydrometer. The reading the Hydrometer provides is a measurement of the relative density of the brew compared to pure water.

Your Hydrometer will normally have come in a plastic tube. This tube doubles as a test jar for taking a reading.

To take the reading you must fill the test jar. Fill it to just under two thirds full. When putting the Hydrometer into the test jar, give it a spin using your finger tips as you release it. This will have the effect of removing any air bubbles from the surface of the Hydrometer and allow you to take a more accurate reading.



Recording the Results.

You take the reading by looking at where the surface of the brew reaches up to on the neck of the Hydrometer. This first reading is known as the original gravity. You need to note down this first reading as it can be used to calculate the approximate alcohol content of the finished product.

While recording the original gravity is important, to be able to accurately calculate the amount of alcohol in your finished beer you also need to note down the temperature of the brew when the reading is taken. We discuss the reasons for this a bit later on.

Yeast activation.

After about 3 hours, providing everything has gone well, you should start to see some movement on the pressure release valve. This movement indicates that the yeast is active and is busy breaking down the sugar into alcohol and carbon dioxide.

The next week or two.

All that's left to do now is wait and let the yeast do its job. Over the next week or so the yeast will break down the sugar into alcohol and carbon dioxide.

As time goes by, as more of the sugar is consumed you will start to see the activity slow down on the pressure release valve. Once this slow down occurs it is time to start taking and noting down readings with the hydrometer again, at first every couple of days, then daily as you get closer to the completion of the fermentation process.

You are looking for the point where you get at least two measurements at the same level over a 24 hour period. Once this happens it indicates that the primary fermentation is complete and that it is safe to proceed with the bottling process.

Bottling your beer

Ok, so to get to this point you should have taken note of your final hydrometer reading with the temperature at which it was taken and be ready to move on to the bottling process.

The Bottles

The process starts with the preparation of the bottles. All bottles should be thoroughly cleaned and sterilized. Again you need to follow the instructions that come with your particular brand of sterilizing product.

A batch of brew from my system will normally yield between 27 and 29 full 750ml bottles. I would generally prepare 30 bottles per batch to account for accidental breakages etc.

Obviously, if you have a different sized drum or bottles you will need to adjust the number of bottles you prepare accordingly.

Prime the bottles

Each bottle should now have a measure of sugar added to it, why? Well in simple terms, this is where the bubbles in the beer come from. The sugar added now will allow the yeast to re-activate in the bottle.

Again, the yeast will break the sugar down into alcohol and carbon dioxide. Unlike in the primary fermentation though, this time the gas is trapped and absorbed into the beer. With this in mind, the amount of sugar you add is important. Too little and the end result will be flat beer. Too much and the bottles could literally explode.

Ordinary white table sugar if fine for this purpose, the sugar measure shown has too ends, one for 375ml bottles, the other for 750ml.

Clear the tap

With the bottles ready it is now time to prepare the fermenting drum to fill the bottles. The first stage is to make sure the tap is clear of any sediment that may clog your bottling device.

You do this by simply fully opening the tap and allowing a small amount of your beer, usually less than half a glass to run through.

Fit the bottling device.

In simple terms the bottling device is a piece of plastic tube that fits into the tap on the fermenting drum and has a pressure switch on the end to stop the beer pouring out unless there is a bottle under it.

This allows you to fill the bottles from the bottom up rather than just pouring the beer in from the top.

At this point I just want to reiterate the point that you should make sure to clean and sterilize all equipment that is going to come into contact with your brew. This point still applies at this stage in the process.

Just one note of caution, the seal in the pressure switch may not be 100% so I would recommend that you do not open the tap until you are ready to start bottling as the bottling device may leak.

Fill the bottles

After priming you are now ready to fill the bottles. You do this by raising them up under the bottling device until you feel the pressure switch release and see the bottle start to fill. You continue filling the bottle right to the brim as when you remove the bottling device the level will fall back to just above the neck of the bottle.

Repeat this process until you have emptied the fermenting drum.

Fit the lids

Once you have filled the bottles you are now ready to fit the lids in preparation for sealing. The lids should fit snugly on the tops of the bottles.

Sealing the bottles

If you are using a capping press, adjust the height so that the bottle fits just under the press when it is in its fully upright position. When placing the bottle under the press you must make sure it is centred correctly to avoid problems with the seal.

Once your press is set up and the bottle centred, pull down on the handle. This will lower the press and seal the bottle. It can require considerable force so be sure to either bolt the press to a solid bench or table or make sure you use your other hand to steady the press when you are pulling the handle down.

The Finished Product

That's it. All that remains to do now is to store the finished bottles in a cool dark place for a minimum two, preferably four weeks before chilling and enjoying.

Why wait so long, well, there are two reasons. First and foremost, you need to leave it for long enough to allow the secondary fermentation to finish. If you don't do this you'll end up with a sugary flat beer.

Secondly and to my mind most importantly, the longer you leave the beer, the more the flavour will develop. You can test this effect out for yourself quite easily by simply tasting the beer at each stage. If you have a little taste at when you are bottling the beer, open a bottle after two weeks and then again at four weeks you will see the difference a little extra time in the bottle makes.

Brewing Tips

How to use a hydrometer.

What is a Hydrometer?

In simple terms a hydrometer is a tool that allows us to measure the density or weight of a liquid as compared to pure water. By measuring the relative change in density of your brew during the brewing process we can tell two important things.

First, and most importantly is allows you to see with absolute certainty that the breakdown of the primary sugar into alcohol and carbon dioxide is complete and thus your brew can be safely bottled. Secondly, it allows you to calculate the approximate strength or alcohol by volume of the finished product.

How does it work?

The Hydrometer is essentially a glass tube specifically designed to float at a known level of 1.000 in pure water at a known temperature, usually 20 degrees Celsius. You can test this quite simply by filling your test jar with water and see if your hydrometer reads true at 1.000.

Now I realize that the reading shown in the picture is not exactly 1.000, why? Well there are two main reasons. First, tap water is not actually pure, there are all sorts of minerals dissolved in it that can change its density however, if you live in an area with good quality tap water the effect usually won't be too pronounced.

Second and most importantly is temperature. Your hydrometer is designed to be accurate at a known temperature, usually 20 degrees Celsius. If your measurement is not at this temperature then the reading will not be accurate. Fortunately the effect is predictable and can be adjusted for. In fact, our online homebrew calculator has this adjustment built into it just to make it easy.

You can find that calculator at http://flavoursomedelights.com/Beer/Tips/alccalc.html

Taking a reading

The first step is to fill your test jar. You need to fill it up enough so that the Hydrometer will float freely. Usually filling the jar about two thirds full is about right. This allows the hydrometer enough space to float and also gives it a bit of leeway so that it doesn't hit the bottom while the reading is stabilising.

If there are any bubbles or foam on top of the brew as shown in the picture, allow it to fully clear before taking your reading.

Next, take your hydrometer and lower it into the liquid until its body (the wide bit) is completely submerged. Once at this point you need to give the hydrometer a twist with your fingertips as you release it so that it is spinning as the reading stabilises.

You do this in order to remove any small bubbles that may have stuck to or formed on the hydrometers surface as it was placed into the liquid. Obviously, having air bubbles stuck to its surface will affect the hydrometers buoyancy so if after the reading has stabilised you notice some of these bubbles stuck to it, simply take hold of the hydrometer again and give it another spin to free them.

Finally, once the hydrometer has stabilised, is free of bubbles and is not resting against the side of the test jar you can take your reading. Once you have noted down the reading remove the hydrometer from the jar and wash it. Next, before you discard the test liquid, you should take and note down the temperature of the liquid.

That's it really, nothing fancy. If you are careful you will get an accurate reading every time.

How to check yeast activation.

You've followed all the instructions, sterilized everything, made sure your brew was at the right temperature before adding the yeast and have waited a good few hours after putting the lid on your fermenting drum. Yet, after all this there is no movement in the form of slow bubbling on the pressure release valve and nothing seems to be happening.

What do you do?

Well, the first thing is not to just assume it's a bad batch and throw the brew away. The most common issue I've come across when this happens is that I've had a bad seal somewhere that allows the CO2 produced by the yeast to escape without having to go through the valve. Simply tightening the lid that little bit more has been enough to put it right.

Even if you've tightened the lid as hard as you can and there is still no movement, all may not be lost. There may still be a bad seal somewhere, you can use other means to determine if the yeast has activated. The easiest way is just to look. By look, I do NOT mean take the lid off the fermenting drum. If you have a fermenting drum with a lid you can see through, have a look. Does your brew have a good layer of foam on top? If so it's an indication that the yeast activation has occurred.

This said, the final and best judge as to whether the yeast is working has to be your hydrometer. You simply cannot beat it for providing the hard facts. See the how to use a hydrometer page if you're not sure how to use a hydrometer. A steadily falling reading from your hydrometer as the days pass indicates that the yeast activation is good and that the yeast is busy doing its job of breaking down the sugar.

In cases like this the chances of contamination are higher as it definitely indicates that there is an open path into the fermenting drum that bacteria could exploit. However, as the yeast are producing CO2 the fermenting drum is at a positive pressure to the outside world meaning that for most of the time gas only flows out, not in. If you are a bit more careful to keep the brew at the optimal temperature in most cases it will be fine.

Unfortunately, if you see no movement on the hydrometer after a few days it would be probable that the yeast has failed to activate and you will have lost the batch. The best thing I can suggest in this case is to chalk it up to experience and move on.

Calculating the strength of your beer.

You've finished bottling your beer and have taken down all the measurements. Ok, time to figure out just how strong that batch is going to be. However, just a small disclaimer before we start, the calculations below will allow you to estimate the strength of your beer. There is no way, outside of a laboratory to guarantee the accuracy of your results.

The information required for the calculation

To work out approximately how much alcohol there will be in your beer you need four measurements and the calibration temperature of your hydrometer. These measurements are the Original Gravity, the Final Gravity and the temperature at which each of these measurements was taken.

If you need to know how to take the Original Gravity and Final Gravity measurements, is covered in the How to use a Hydrometer chapter of this book. The calibration temperature of your Hydrometer however is required and can normally be found printed on your Hydrometer somewhere similar to the way it is shown below.

Newer hydrometers will usually be calibrated to 20 degrees Celsius but it's not uncommon to find some that are use 15 degrees as a standard.

The Math

Now that you have all of your measurements, you have two options. Firstly, you can continue reading, get your head around the calculations, get your calculator out and work it out for yourself or secondly, you can go to my online calculator found at http://flavoursomedelights.com/Beer/Tips/alccalc.html and let me do the figuring out for you.

Either way, the math will be the same so it's up to you.

The mathematics to calculate the adjusted gravity and alcohol by volume figures can be quite complex so I will attempt to make it as simple as possible.

Adjusting the Original and Final Gravity readings
The formula to calculate the hydrometer correction is rather complex. If it is to be completely accurate it must account not only for the change in density of the liquid being measured at different temperatures but also the expansion of the glass in the hydrometer as well.

As I for one am not an expert in physics, I usually tend to follow the following rule of thumb. My online calculator uses a more sophisticated method to calculate the difference but If I haven't got a computer handy, this method works well.

For every degree Celsius above the calibration temperature of the hydrometer, add 0.2 to the SG reading when it is expressed as a whole number.

For example, a hydrometer that is calibrated to 20 degrees Celsius reads 1.040 at a temperature of 25 degrees. 5 x 0.2 = 1 so the adjusted reading would be 1041.

The adjustment works the same way for readings taken at temperatures under the calibration temperature of the hydrometer. For every degree under, subtract 0.2 from the reading.

Calculate the Alcohol by Volume (ABV)
The formula to calculate the alcohol by volume at its simplest is

(Original gravity - Final Gravity) / 7.67 + 0.5%.

Note: For this to work you must take your hydrometer readings eg 1.041 and multiply them by 1000 so they are expressed as whole numbers eg 1041.

The two gravity measurements we know about, but what are the other numbers.

Well, the easiest to explain is the 0.5 so I'll do that first. This is simply the additional alcohol created by the secondary fermentation that takes place in the bottle to give it bubbles. As the amount of sugar that goes in at this point is fixed we know the effect it will have on the ABV and so there is no need to worry about taking further hydrometer measurements to work it out.

The 7.67 figure is a little more ephemeral. How is it derived? Well, it has been calculated by analysing the chemistry of the reaction that turns sugar into alcohol and carbon dioxide.

The chemistry, assuming we are just using ordinary table sugar goes like this

$C_6H_{12}O_6 \Rightarrow 2(CH_3CH_2OH) + 2(CO_2)$

So for every sugar molecule you get 2 alcohol and 2 carbon dioxide molecules.

The molecular weight alcohol is 46.0688 g/mol

The molecular weight carbon dioxide is 44.0098 g/mol

So now we have the basics required to do the calculation. Using a ratio of the above figures we can say that for every gram of CO_2 produced by the reaction, you get 1.047 grams of alcohol.

We know how much CO_2 is produced as this is represented by the difference between the Original and Final Gravity readings. For instance if your OG is 1045 and your FG is 1010 you have a difference of 35 which represents the fact that 35g of CO_2 was produced per litre of liquid.

With these figures we can now calculate the weight of the alcohol

1.047 x (OG - FG) = g/L alcohol = alcohol by weight.
1.047 x (1045 - 1010) = 36.645 g/L alcohol = 3.66% alcohol by weight

The next part of the equation lets us calculate the alcohol by volume from the alcohol by weight by using the known density of pure alcohol.

The density of alcohol = 0.789 kg/L (at 20degrees Celsius)

So, 3.66% / 0.789 = 4.64% alcohol by volume.

The initial calculation given is simply a shortcut to this. You will note that the dividing factor used in the initial formula is different to the one given as the density of alcohol.

This is due to the fact that in brewing, we do not use table sugar during the primary fermentation. The various different sugars have different chemical compositions and break down to different degrees so the final divisor must be adjusted for this.

Beer Recipes

Beer, not just for drinking, there are a whole host of recipes that can be made with beer. Here, I list three of my favourites that just happen to work together quite well.

Just one thing that I think is definitely worth mentioning when cooking with home brew. When you are pouring the beer from the bottle, make sure to swish it around to stir up the sediment that has settled to the bottom. It really adds to the flavour so why not put it to use.

Cheesy Beer Gougeres

This is a twist to the traditional recipe from Burgundy. Enjoy them with a glass of your favourite beer.

Ingredients

50 g cubed butter
125ml of your favourite beer
75 g Plain flour
2 eggs beaten
1 tsp salt
40g grated cheddar cheese
40g cubed cheddar cheese

Directions

Preheat the oven to 180 degrees.

Put the butter and beer in a saucepan. Heat them until they just start the boil before removing the pan from the heat.

Add the flour and the salt and beat.

When the dough forms a smooth paste, return the pan to the heat. Continue stirring until it starts to look dry, forms a ball and pulls away from the side of the pan.

Remove the pan from the heat and place the dough in a glass bowl.

Add the beaten eggs, about one egg at the time, and mix well after each addition.

Speed is important here as you must not let the egg start to cook before it is mixed in.

After adding in all the egg, continue beating until the paste is thick and shiny.

Then fold in the grated cheese and once this is done, fold in the cubed cheese.

Place small mounds of the dough on a baking sheet, leaving enough space in between each ball to allow them to expand.

Bake at 180 degrees for 20 minutes or until golden. Then, turn out onto a rack and allow to cool before serving with a glass of your favourite icy cold beer.

Bush Beer Damper

Quintessentially Australian and probably the simplest of all the bread products to make, my first memories of making Damper come from my childhood where we used to make the dough while camping before sticking it on the end of a stick and cooking it over an open fire.

Ingredients

2 ½ Cups Self Raising Flour
1 good pinch of salt
175 ml of your favourite Beer

Directions

Place the flour and salt into a bowl and make a well in the middle. Pour the beer into this well and mix using your hands.

Continue mixing until the dough forms. You may need to adjust the mixture a bit, if it's too dry add a bit more beer, if it's too wet, add a bit more flour. Knead lightly for another minute or so but be careful not to over work the dough.

Divide the dough into two large pieces or four smaller pieces and shape them into rolls. Place the rolls onto a floured baking tray or silicone mat.

Preheat the oven to 200 degrees. Cook the rolls for about 12 - 15 minutes until they are golden brown on the outside and sound hollow when their base is tapped. Once cooked, turn out onto a rack to cool.

Bush Beer Damper rolls make a good substitute to bread rolls at meal time, can be eaten with Jam or are great for making a bacon and egg sandwich.

Beef Carbonnade (Beer stew)

A hearty beef stew made using a flavoursome English Bitter style beer. While you can use your favourite commercially available beer, for the best results we prefer to use beer that we have brewed ourselves.

Ingredients

1 kg chuck steak
20g butter
2 tbsp of oil
1 large onion, thoroughly chopped
1 garlic clove, sliced
2 carrots, sliced
1 tsp sugar
1 tbsp plain flour
750ml of Beer (Bitter or Stout)
2 bay leaves
1 sprig of rosemary
Salt and Pepper to taste

Directions

Preheat the oven to 150 degrees.

First, cut the meat into two to three centimetre cubes.

Pat the meat with paper towels to dry of any excess moisture.

Melt the butter with a tablespoon of oil in a frying pan.

Brown the meat in batches before setting it aside on a clean plate.

In a casserole dish, cook the onions, garlic and carrots in another tablespoon of oil.

Cook over moderate heat for 10 minutes, then, add the sugar.

Cook for another 5 minutes.

Reduce the heat to low.

Add the meat to the casserole dish and pour in any juices that have drained from the meat. Then stir in the flour.

Cook for another couple of minutes.

Remove from the heat and stir in the beer, a little at a time (the beer will foam).

Return to the heat and let the mixture gently simmer and thicken. Add the bay leaves and rosemary and season with the salt and pepper.

Cover the casserole dish with a lid and cook in the oven for 3 hours or until the meat is tender.

The stew can be served hot straight away or can be kept refrigerated for a couple of days.

This stew goes very well when served with either the Cheesy Beer Gougeres or the Bush Beer Damper recipes found earlier in this book.

Conclusion

Well, that's it. I hope I've managed to convince you that home brew really is actually quite easy, worth a go and that it's not all just about the drinking.

Again, just to reiterate, if you're at all unsure about any of the math, we have an online calculator at Flavoursome delights that will do the number crunching for you.

It can be found at http://flavoursomedelights.com/Beer/Tips/alccalc.html.

If you like the sound of the recipes in this book, we have many more and no; they don't all involve beer at Flavoursome Delights. Please feel free to pop in for a visit at http://flavoursomedelights.com