

How to get grain for brew recipes



Brew stores of course sell grain, they also should sell kits, in the very least extract kits and better stores might even sell all-grain kits. But the best way to learn is to get your own grain, weight it, crush it – this will give you the flexibility you are after, so you can tweak the recipe if you think it would come out better in a slightly different way.

There are basically two types of grain categories base grain and specialty grain.

Base grains make up the base of your beer, that's why they are called that and typically the American 2-row barley is used for the base grain (but there is also 4 and 6-row too) and wheat too if you are going to brew a wheat beer.

<http://en.wikipedia.org/wiki/Barley>

As for specialty grain, there are quite a bit of those, a lot actually – so the best way to get familiar with all of them and look at them is to go to your local brew store. Grain is not that expensive, base usually sells for \$1.00 per pound, and a typical 5 gallon batch might need anywhere from 8 to 12 pounds of base grain, so you are not talking a lot of money.

Also the better stores will sell 50 lb bags of grain for some additional discount.

To be able to buy grain directly from the Malt house requires a federal license in most cases, which most home brewers lack, unless they also running a micro-brewery in the back of their house or something like that... :-)

Each specialty grains does something to the beer, to its

profile, to its taste, its body, its color, its outcome, and this is well known and so with beer software you can make your very own beers (via trial and error) from scratch if you want!

<http://www.beertools.com/html/ingredients.php?view=grains>

Take a look at the link above and read what each type of grain does to a beer, takes a while to learn all this, so don't worry about it.

Most brew stores, the better ones will have a room dedicated to this, if they have the space. Ask the rules if you never been there before, but generally speaking you find your grain bin, weigh the grains in the order that you need them, dump the grain into some bag and as last step you throw all the grain into a mill to crush your grain. The stores mill will be pre-set, as most are.

If you want the grain crushed a certain way other than the pre-set, don't crush the grain, bring it home with you and use your own technique or mill setup.

There are all kinds of mill setups out there – and so instead of showing one picture, here is a link to the Google search via image and you can see many different setups:

https://www.google.com/search?q=grain+beer+mill&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a&um=1&ie=UTF-8&hl=en&tbm=isch&source=og&sa=N&tab=wi&ei=aA6EUNuvDuvDiuLfvIHgCA&biw=1920&bih=1005&sei=ag6EUPz8J00sigL_74D4CQ

well, that's it for now – bear needs to go and use the hot-tub.

Kodiak's Pumpkin Ale Recipe – All Grain

Kodiak's Pumpkin Ale:

Don't know about how you guys prepare your pumpkin // but we do it like this!



(image source: google image for the below 1 photo)



Above people pour beer inside a pumpkin to give it an additional flavorings, plus it looks cool. Here is a video on youtube that shows a tapping of a pumpkin with beer already inside... <https://www.youtube.com/watch?v=SjNBBCxUYHw>

In addition we have done another article about how to prepare pumpkin for brewing if you should grow them in your back yard or you purchased them from a local pumpkin patch: <http://kodiakbrewing.com/wordpress/?p=1364>



2014 Brew details:

For this brew, we added the pumpkin meat both at mash and boil stages. We brewed a 7 gallon batch with OG of 1.059 (using the same amount of grain as for a 5 gallon batch) // spot on exactly as last year. We did the mash for almost 2 hours, (which included some re-circulation time). The boil was 75 minutes this year, because the pumpkin was frozen, so added 15 minutes in both steps for the ice cube treatment ☐ We did not use rice hulls to help mash out, we simply raised temperature to about 170 F while re-circulating at the same time, and when the beer is clear – we drain it off.

FG 1.014 (1 full week) // Final ABV 5.91% – or rounded off at 6% // again this was a 7 gallon batch, instead of a 5 gallon.

We used a British Ale #1098 this time // ferments dry and crisp, producing well-balanced beers with a clean and neutral finish, it also has a better lower temperature range, better for basements.

2013 Brew details below:

We brewed a 10 gallon batch on 7/6/2013, we got an OG of 1.064, better than when doing the 5 gallon batch for some reason, using same method and equipment. For yeast we used 2 packs of Wyeast American Ale (1056) . We used total of 16.5 gallons of water, and ended up slightly with more than 10 gallons, I say about 11.5 – so no matter how you look at it, we are happy.

FG on the 10 gallon batch was 1.016 – so it ended up as 6.4% ABV.

5 gallon batch ingredient picture below:



Usually brewed for the Holidays and Fall/Winter – breweries brew it ahead of time so that it is ready for brew events, and stores. This bear likes to drink it all the time and so we brew it all the time, regardless if there are any holidays or not, everyday is a holiday here!

The pumpkin can be added either at mash time, boil time or fermentor time and some people – do it at all 3 stages. But you have to ask your self if you want a really strong pumpkin beer or a nice hint of pumpkin, so that you can still enjoy the beer. If you add the pumpkin to mash (some people add rice hulls) and they are used traditionally to prevent a stuck mash. Rice hulls are the outer covering of rice, and that's

just it, there is no actual rice being added to the brew – that's one way to do it.

List of ingredients for a 5 gallon recipe.

OG 1.059 +/-

FG 1.020 +/-

$(1.059 - 1.020) * 131 = 5.109$ approx.

Alcohol by Volume about 5.11%

- 11 lb of american 2-row
- 3/4 lb crystal malt 20L
- 3/4 lb Cara-Pils (Dextrin)
- 1 ounce mt. hood hops (bittering, add at start of boil)
- 1 ounce cascade hops (last 2 minutes of boil)
- 1/2 lb brown sugar (add before returning to heat, before start of boil)
- 1 teaspoon nutmeg (last 2 minutes of boil)
- 1 teaspoon cinnamon (last 2 minutes of boil)
- pump-kin meat (boil for 10 minutes in a sock, we just add it at the last 10-15 minutes of boil)

MASH for 60 Minutes, with a re-mash for an 30-60 additional minutes, longer is better.

BOIL for 60 minutes and add all the ingredients at the right time.

We used a liquid yeast (Wyeast American Ale with direct pitch activator).

Age for 3 months any beer you brew, (some longer) its the best thing to do! Also before serving we cold-crash our kegs that hold the beer, this helps to clear the beer and gives it a superb taste.

Don't forget to take the OG gravity reading and record the reading number before the beer goes to fermentation and later after it ferments, take a FG reading. Both of these are considered SG readings.

Understanding Gravity in Beer Brewing, OG, FG and SG – What ?



This bear has brewed many batches of beer for private use and has totally neglected to do any sort of gravity measurements at all. The beer came out really good, definitely had alcohol in it (trust me) – but because it was for private consumption and this bear can get sometimes kind of lazy (yawn), this bear didn't even bother or even care to take the measurements – bad bear! just bad!

In reality you should take these reading and records them, learn – keep a log, even if you re-do the same batch over and over, because its important for a variety of reasons, which I am about to explain.

A **hydrometer** is used to read the specific gravity of un-fermented (wort) or fermented (beer).

<http://en.wikipedia.org/wiki/Hydrometer>

This device measures the relative density of wort/beer or SP (Specific Gravity)... there is also:

OG – Original Gravity (gravity taken after brewing beer finished, but before fermentation starts)

FG – Final Gravity (gravity taken after fermentation is done)

0.G. 1.056 (minus) F.G. 1.012 = 0.044 then multiply that by 131 to get 4.192% alcohol by volume approximate (example).

The hydrometer rating should be taken at a specific temperature of 59F / 15 C, and rarely people when taking readings get it that right temp, so that's why you take a temperature reading. In addition you can use a [calculator](#) that also has temperature adjustments for the formula, so **record the temperature too** for both OG and FG readings in your log.

http://en.wikipedia.org/wiki/Alcohol_by_volume

The less dense the liquid is (after fermentation), the deeper the hydrometer will sink into the liquid. The more dense it is (before fermentation), the less deeper it will sink into the liquid.

also – look at your hydrometer, it will say at what temperature to take the perfect reading, and it was calibrated at, on mine it reads 60 F and it should tell you the alcohol by volume right on the scale inside the glass. Some are made differently, so look at yours.

If you pick up a recipe that someone wrote or it came with a kit that you have purchased, it will have printed the expected OG range that you should get after finishing to brew beer.

Usually it is very difficult to get it spot on, so a Range is provided, and as long as you are within this range, you should be ok, example OG Range: 1.056 ~ 1.061.

You probably have noticed that the gravity reading number goes down after the fermentation is over, that is because the yeast will convert sugars into alcohol and alcohol is less dense **and the gravity meter measures what ? density**, super simple at the high-level.

To give you an idea, the **hydrometer** is also used in other applications, not just beer; for example in the salt water aquarium hobby, you start with fresh water, then add salt until you reach a certain safe and acceptable range.

If you are going to brew beer for commercial consumption, than this is super important, because if you claim that the beer is 7.2% on the beer label, but it is 5.1%; than you have a problem, don't you ?

So it is a good idea from day one to get used to doing this and it will help you to understand another critical aspect of brewing and that is the efficiency method that you are employing during the mash phase to extract the sugar from the grain.

How will you know if the mash is doing well, if you never take a reading and you assume this ? you won't know!

So even if you are not a commercial brewer, but want to confirm that you are doing the mashing correctly and your method or setup is working as intended, there is only one way to know and that is to take a gravity reading! Or what if you employ a new method and you want to compare to see which one does better ?

There is also another type of measuring device called a Brix Refractometer; but it needs to be calibrated, the hydrometer, not so much.

There is a benefit to this tool! While you are mashing, you can put a drop of the wort into the Brix and it will tell you the specific gravity, so that's a plus for this tool and a lot of people use it for that reason, before you begin the process of actually brewing beer, so that if the reading isn't right, you maybe have time to make some adjustment to improve the mashing process.

Its best to own both if you are a serious home brewer :-)



<http://en.wikipedia.org/wiki/Brix>

<http://en.wikipedia.org/wiki/Refractometer>

and they come in different shapes and sizes, including laboratory grade equipment that is tested and certified. We recommend the old fashioned way of using the hydrometer – cheap, reliable and did I mention its cheap ? and it don't require batteries ?

Fin.

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If you like our web site, like the writing and want to get more in the future and who knows where this will end up; please follow us on Twitter :-)

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How to Brew from Grain

Cleanliness is Godliness! Memorize that, seriously!

I said, ROAR! ~ Cleanliness is Godliness! not so much during the brewing process, but after the brew process has been completed, everything the beer comes in contact with (un-fermented or fermented) needs to be clean and sanitized! Otherwise the beer can go bad. We have yet to have a single batch go wrong!

Is brewing beer legal ? **Hell ya!**

<http://www.homebrewersassociation.org/pages/government-affairs/statutes/washington>

Check your states from the drop-down in the link above!

If you live in a different country other than US of A, check your local laws; hopefully it is legal too, if not move or don't tell anyone!

For cleaning various products exists! For sanitation, we like Star San, it has never let us down! So you clean first and then sanitize! That includes the fermentor, everything, the transfer lines, later when you bottles, the actual bottles need to also be sanitized and or Kegs, the rubber seals, **EVERYTHING ROAR!**



did I scare you yet! ? I hope so! :-)

Beer is usually made from extracting sugars from grain like barley or wheat, its that simple! Beginners brew beer from extracts. Extracts already went through the process of extracting the sugars from the grain(s) and leaving it in extract form of various sources...

Most people when they start to brew, start with extracts, because the entire stage of going through various methods and steps to extract the sugars has already been done, so you can go straight to brewing beer. The steps are as follows:

A) extract sugars from grain (you can skip if you are using extracts)

B) start to brew beer by mixing water with extracts (sugars), hops, other additives

C) after brewing beer is done, this is called wort (un-fermented beer), you cool, transfer the beer into a fermentor and pitch the yeast (various methods exist from beginner to more advanced)...

Let's Begin...

If you want to really learn about beer brewing, you have to learn how to brew from grain, there is no escaping that! There are also major economical reasons for doing this because brewing from grain is much cheaper \$\$\$ than brewing from extracts and also a level of control is gained that is only available to you when you brew from grain.

A beer recipe will have various types of grains mixed into the recipe, some of the grain is base grain and some of it will be more fancier grain types. The grain needs to go through a malting process (without this you are wasting your time), the malting process un-locks and makes available the various sugar types in the grain available to the beer extraction process.

There is already a great Wiki on the subject of malting so here you go: <http://en.wikipedia.org/wiki/Malt>

So brew stores sell the grain that is already malted, so there is nothing to worry there, but if you were to grow say 2-row barley, after harvesting it and all that you would have to malt it (another layer of work) that mostly is not talked

about in the beer brewing process.

Malting Houses do this work and then breweries buy the grain from them and also brew stores. Also after the grain has been malted, it needs to be crushed, this is another crucial step (so make sure that if you buy a brew kit, the grained has been already crushed), if not you have to do that and also correctly. The grain has to crush just so so... You can buy a manual mill too, those are usually preset for the correct crush settings.

When you brew beer from extracts and skip this stage, you really only need 1 brew kettle, but when you go through the extraction process, you will need additional equipment.

In addition to the kettle, you will need another kettle with a built in thermometer, and this is called a mash tun; because you will literally be mashing the grain with some big spoon.

You will also need another 3rd container that will hold the strike water, that is water that has been heated to the proper temperature that you will introduce to the start of the extraction process, later steps also.. so 3 total kettles of some sort.

All of this is covered here:
<http://en.wikipedia.org/wiki/Lautering>

Here is an example of a product picture to show:



A lot of people buy kegs and cut holes in the top and install valves in order to turn them into brew keggles. These are 15.5 gallons so you can brew smaller batches or bigger ones, all the way to up to 12 gallons, leaving some head room for the brewing process.

How to make a keggel without killing your self (that's another article left for another frosty day), just know that brew

pots, especially the bigger ones are not cheap, you are talking about \$250 and up, sometimes even \$500; but a used keg can be bought for \$50 +/- (craig list) and converted with little effort, and people swear by those, including us here at Kodiak Brewing! they are made like a tank and will last you a life-time and after you die, someone else can continue to brew in them, enough said...

Also most kegs are made from stainless steel, this is the preferred metal, but also aluminum pots are used, this metal is cheaper/lighter metal and will stain black when used, stainless steel stays nice and clean and does not get discoloration, but is heavier. We have brewed in aluminum pots and this is as far as we know, only a visual thing, it does not affect the quality of the beer or change its color.

If you are not good making things, just buy a converted keggie, people make them! :-) check your local craigslist. < picture coming up >...

So when you buy an all-grain kit, it will come with instructions, how much strike water to start out with, and the mash temperatures and durations, sparge (a hot shower), etc... I recommend getting a kit and following the instructions.

Once you have successfully brewed a few times, then you can assemble your own ingredients and make your own instructions and mix and match your grains. Never be afraid to experiment, because that is in fact how the craft brew industry got to the point where it is now.

The basics of a grain brew from start to finish is (but varies of recipe and instructions)...

- pre-heat the right volume of starting water (strike water) and transfer that into the mash tun
- add all our grains into the mash tun and mix it (mashing begins)
- after the right time, transfer the hot sweet liquid from

the mash tun to the brew kettle

- for efficiency reasons, you want to re-mash or sparge the grain a 2nd time (various techniques exist), batch sparging is popular and attains about 85% extraction efficiency+ batch sparging is an older method that is undergoing a revival – Google...
- you also maybe want to employ a re-circulation technique, this turns the grain into a filter and allows clean liquid to exit from the mash tun
- once the mashing phase is done, that's when the brewing actually starts, you will again follow the recipe and add other ingredients (spices, various different types of hops) at different times into the brew time
- Once the brew time is over, you want to cool the wort (unfermented beer) as quickly as possible (again various equipment and style exist)
- Don't forget to take a OG water gravity reading, write that down (later you have to take a FG reading, to find out how much alcohol will end up in the beer) – read the other article here in the Blog
- then you want to transfer the wort to a fermentor and pitch the yeast (again various different methods exist for pitching the yeast, some yeast is dry and some is wet, sometimes you make starters and sometimes you don't), different people swear by different techniques. We here at Kodiak have made lots of great beer simply by pitching dry yeast, but if you were a commercial brewer and you wanted consistency, you would cultivate your own yeast and maintain the strains :-) Many books exist just on the subject of yeast and it is just as important as any ingredient

After the fermentation is over, you might want to consider secondary fermentation. You can naturally carbonate the beer with priming sugar or transfer to kegs and use CO₂ gas.

Some people bottle, some don't, some use kegs, some use

growlers, its up to you!

At Kodiak Brewing we don't bottle (because that just takes way too much time), we keg all our beer, unless we are going to give our the beer as gifts for other people to try, then we would bottle into 1 pint bottles.

From our experience, aging the beer is very important, good beer only comes with age. Different styles of beer require different aging times, some 2 months, some 3, 6 and some even a year.

Commercial breweries also use filters to speed up the aging process, but there is a Pros and Cons to everything in life, including using filters.

If this sounds like an overwhelming article, it's not. You just have to go through to process a few times and the stars will slowly start to align, you will fall deeper and deeper into brewing.

There is no better way to learn than through experience, so go out there and don't be afraid.

This article does not cover everything, or other fancy terms; that you will learn once you decide to roll up your sleeves and take the plunge; but it covers almost all the basics that you will need.

Also a good read is this Wiki:
<http://en.wikipedia.org/wiki/Mashing>

You also want to learn about enzymes, Alphas and Betas and why temperatures are important during the mashing phase. Also look into pH, learn that and the fact that proper pH matters for the extraction efficiency, so that also leads to water quality.

Is your water soft or hard ? Are you on city water or well water like we are ? Should you have your water analyzed or

not ? What about trace elements, do you have the right amount or not ?

Duration and [pH](#) variances also affect the sugar composition of the resulting wort!

<http://en.wikipedia.org/wiki/Brewing>

Fin.

Paint Stencil on Your Beer Keg



So this is actually my first ever stencil, I am not a Pro at all, I have never done this before until this article 30 minutes prior.

I started by viewing a few HowTo videos on YouTube, and then decided to try it using a basic method first.

Steps:

#1 Print the image

#2 Cut out the inside of the image with household scissors

#3 transfer the cut out to harder paper (pizza box card-board used)

#4 cut out the pizza box card-board using scissors again

#5 tape the template to keg (after carefully choosing its final location)

#6 using a paint can, shake it well first and using steady uniform strokes paint

Tip: move the paint can using horizontal uniform strokes, don't spray in one spot for too long (pain will run)