

HAZE

Citra Pale Ale – 5.5 Gal - OG 1.051 – FG 1.010 – ABV 5.3% - IBU 40 – SRM 4

We LOVE hazy IPAs here at KJ, and we're not alone. More and more breweries are making super juicy, hop forward beers. Hell, we have 3-4 recipes that are all like that. One thing all of these delicious hazy beers have in common is their high ABV. They tend to range from 6.5-8.5%, but sometimes you simply don't want a beer with that much booze in it. Enter HAZE, designed and brewed by our very own Jeremy Morris. HAZE has the same super juicy, hop forward notes of NEIPAs but in a sessionable package. Registering in at 5.3%, it is just that bit lighter from its bigger hazy brothers.

It's a very simple recipe, with just 6 ingredients: Maris Otter, Flaked Wheat, Acidulated Malt, Citra, Ebbegarden Kveik and Water! The high amount of flaked wheat, along with the addition of calcium chloride at mashing lends to this almost glowing level of haze in the finished product. Our staff have had it on tap at home for 3 weeks as of this writing as it is as hazy as the day it was kegged.

A special note on hop additions. This recipe has zero hops added in the boil. All of the hops are added once the heat is turned off. Please pay special attention to the instructions and timing of adding hops as this is where the great balance of hop flavour and aroma come from!

Ingredients

Grains

	Amount (lbs)
Maris Otter	7.0
Flaked Wheat	3.0
Acidulated Malt	0.2

Hops

	Amount (oz)	POST Boil Schedule (minutes)
Citra (13.2%)	2.5	10 @ Flameout, do NOT cool
Citra (13.2%)	3.5	DRY HOP – Add 4 days into Fermentation

Yeast

Ebbegarden Kveik – Escarpment Labs	1 Package
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Extras

Calcium Chloride	(4g) or 0.8 tsp in mash	<i>Helps make the beer hazy</i>
DME/Dextrose	150g (1/2 cup) at bottling for priming	<i>Check a priming calculator to confirm correct amount</i>

Important Tips on Brewing

- Be extra cautious when cleaning! Once you have stopped boiling your wort everything that gets in contact with the beer MUST be sanitary.
- The temperature of your mash is ABSOLUTELY CRITICAL. Not being in the 150-155f range can drastically affect your beer. Make sure you correct the temperature ASAP once all of the grain has been added to the mash.
- Always let your beer ferment for 10 days! Do not disturb it, do not open the lid (unless dry hopping). It is absolutely natural for the airlock to stop bubbling after a few days, it is still fermenting though.
- When racking your beer, **we recommend attaching a nylon or muslin bag around the siphon output to catch any hop residue.** This is especially important if kegging. One hop chunk can clog up your entire keg line.
- Oxidization: Airspace is always something to consider. When undergoing primary fermentation airspace is needed so that the beer can bubble up and ferment vigourously without leaking out of the container. The fermentation creates a layer of CO2 that remains in the pail due to the airlock. Once primary fermentation is over, and the lid has been opened, the layer of CO2 dissipates, and oxygen replaces it. That airspace can ruin your beer.
- Before bottling, make sure you use a priming calculator (many can be found online) to verify the amount of sugar that needs to be added.

Instructions

Mashing -> converting the grain into a fermentable liquid.

- 1) Bring 6 gallons of water in your brew pot to 155°F. This is our strike temperature. Turn off the heat to the pot.
- 2) If you are using standard Guelph tap water, add 4 grams, or 0.8 of a teaspoon of Calcium Chloride to the water. *This will double the calcium to sulfate ratio which brings the HAZE.*
- 3) Wrap the muslin/nylon bag around the brew pot and slowly pour all the milled grains into the bag. Stir them in while adding to prevent clumps. The addition of grain should drop the temperature down to 150-155°F.
- 4) We want to mash the grain at 154°F for 60 minutes. It is very important to hold the temperature at 154°F. If the temperature rises above 155°F it hurts the fermentation, or if it dips below 149°F it can lead to a thinner tasting beer.
 - a. The first 15-30 minutes are essential for the success of your brew. The temperature HAS TO BE IN THE RANGE OF 150-155°F. Sometimes adding the grain to the strike water does not lower the temperature enough, in this case add a little bit of cold water to bring the temperature down. Cover the pot with your lid and let it sit.
 - b. Most brew pots will be able to maintain 154°F without adding heat for 20 minutes, we recommend checking the temperature every 15 minutes, and if it drops add more heat to bring it up. We recommend opening the lid and using a thermometer in the liquid.
- 5) After 60 minutes, bring the temperature of the mashing grain up to 170°F and hold for 10 minutes. This is our mash out.
- 6) Time to remove the grain. Lift the bag full of grain out of the brew pot. Let the liquid in the bag dribble into your wort. Once that is done, put the bag inside of a brewing pail, or another empty pot. There will be about 4 gallons of wort in the brew pot, we need to get it to 6 gallons before we can begin the next stage.
- 7) Run warm water through the grains in the bag, aim for 170°F – let it run through the grains and add to the brew pot. Add until you reach 6 gallons.
 - a. PSA: It is natural to think that the grains need to be squeezed to get all of the liquid out of them, **DO NOT DO THIS**. Aggressively squeezing the grains will lead to tannin extraction and a doughy taste in your beer. Lightly pressing the bag is fine, but do not try to squeeze every last drop out.

Boiling -> Sterilizing the wort time.

- 1) Bring 6 gallons of your wort to a rolling boil, and let it boil for 5 minutes, this is called the hot break. Start a 60-minute timer. Keep the wort boiling (212°F) and uncovered.
- 2) With 15 minutes left in the timer you would normally add Irish Moss, this time we are recommending to **not add it**. We want the beer to be hazy, Irish Moss will do the opposite. If you have a wort chiller, we recommend adding it at the 15-minute mark.
- 3) When your timer goes off, turn off the heat, and now it's time to add hops!

Cooling & Whirlpooling -> Let's Get Hoppy

- 1) We do not want to cool the beer down yet. We want to add hops and let them **sit for 10 minutes**. This gives the perfect balance of flavour and aroma additions, along with proper bitterness to make an IPA.
- 2) So, when the timer goes off, turn off the heat and immediately add 2 ½ ounces of Citra. If you have a wort chiller in the pot, do not use it yet, let it sit.
- 3) Set a timer for 10 minutes, once again, **do not** actively cool the beer.
- 4) After 10 minutes have passed, it is now time to start cooling the beer. Cool the beer down to 25°C.

Fermentation -> Turning the wort into beer

- 1) After the boil is done it is time to be extra careful in regard to sanitation. We recommend using a no-rinse sanitizer called Starsan. Mix ¼ tsp of it with water in a 500ml spray bottle. **Before we touch any part of the beer, we spray it with Starsan.**
- 2) Transfer the cooled wort into your fermenting pail or carboy. Run it through a strainer to catch any hop or grain residue. With all of the hop matter in this beer, it might take a while to strain through all the hops.
 - a. It is also an important time to take a hydrometer reading. It should be around 1.051 give or take a few points.
- 3) Make sure the wort has been cooled to at least 30c!!! Adding yeast at a higher temperature will likely kill it.
- 4) Once the beer is in the fermenter, shake up and pour in the package of Ebbegarden Kveik yeast.
- 5) Put the bung and airlock in the hole (make sure there is water filled up to the line in the airlock). If using a pail, make sure the lid is sealed tight. Put the pail in a room that is in the range of 21-30°C. Ebbegarden Kveik yeast likes a warmer area to ferment in. *Kveik yeasts can ferment safely in temperatures nearing 35°C!*
- 6) **DRY HOP TIME**: Fermentation will be quite vigorous for the first couple of days, we want it to slow down before adding dry hops. Add the 3 ½ ounces of Citra four days into fermentation. Let the dry hops sit in the beer for 6 days until day 10 of the fermentation.
- 7) After 10 days have passed, take a hydrometer reading. It should be somewhere between 1.010-1.015.
- 8) Lately, we have been of the opinion that secondary is an unnecessary step. Unless you are kegging, we recommend proceeding to the bottling stage. Clarification can occur in the bottle rather than in a carboy, and the risk of oxidization is greatly reduced.

Bottling -> We're getting close to Beer Time now.

- 1) Rack the now fermented beer into a bucket.
 - a. Because of how many hops are in the beer, we recommend wrapping a muslin bag with a zip tie on the output of your siphon tube. This will catch any hop debris in the pail.
- 2) At the same time, mix the priming sugar with 300ml of boiling water and add to the beer. Stir it in VERY gently.
- 3) Rack the beer into your bottles or growlers. Then, let them sit for 2-3 weeks at room temperature. Chill and enjoy!