



# Jackknife Pale Ale

⚠ If your kit has **liquid yeast**, put it in the refrigerator as soon as possible.

We include 8.75 lb of 2-row brewer's malt, steeping grains 1 lb. Special Roast malt and 1/2 lb. Crystal 40L malt for the malt backbone, and 5 total oz. of Centennial and Citra hops to give the beer plenty of bitterness and a very distinct citrus aroma. If you haven't tried Citra hops yet, by the end of a few of these beers, you'll be hooked. The American Ale yeast should finish clean and let the hops shine. Enjoy!

**Calculated Approximate: O.G.: 1.052 F.G.: 1.013 ABV: 5.1% IBU: 59 SRM: 11**

**Please Note: This recipe and these instructions assume a 5 gallon batch size with 70% efficiency for a standard homebrewing setup. You may want to tweak the numbers to fit your brewhouse.**

**The gravity, IBU, and SRM stats are approximations, so don't worry if you are a few points high or low.**

## Kit Ingredients

- 8.75 lb 2-Row Brewers malt
  - 1 lb Special Roast malt
  - 1/2 lb Caramel 40L malt
- 3 oz Centennial pellet hops
- 2 oz Citra hop pellets
- 1 cup corn sugar (for bottling)
- US-05, Wyeast 1056, WLP001, OYL-004, or GY001

⚠ Please make sure that your kit contains these items. Please call us at 608-257-0099 before brewing if any item is missing. Thanks!

## Directions

**Sanitize everything well! Remember to stir periodically throughout the boil!**

0. If you are using liquid yeast, about three to six hours before you are going to brew, remove the liquid yeast from the refrigerator. If it is a Wyeast pack, break the nutrient pack inside the yeast package according to the directions on the package. Leave the yeast out at room temperature until it is time to pitch your yeast into your beer.
1. Fill your kettle with 3.75 gallons of water and heat it to 163F. Pour crushed **grain** into your mash tun and add the water. Check the temperature, make sure it is 151F. If it is too low, add hot water to bring up the temperature. Mash the grains for 60 minutes.
2. While your grains are mashing, heat 4.5 gallons of water to 170F in a separate pot. After the mash, vorlauf (drain 1-2 liters, or until wort is running clear and return this liquid to the mash tun) and drain the liquid from the grain. Then, sparge (rinse) the grains with the 4.5 gallons of hot water, collecting the runnings in your boil kettle. Then turn on the heat and bring the mixture to a boil. You will be boiling the mixture, called wort, for a total of 60 minutes. However, keep reading, because you'll be adding hops during that time.
3. Upon initial boil the wort may foam up (called a "hot break"). If this happens, reduce the heat until the foam recedes, then turn up the heat, bring back to a boil, and maintain a rolling boil. Start your 60 minute

- timer at this point in the brewing process. Add **1 oz of Centennial** hop pellets and boil the wort for 40 minutes. This hop addition will impart most of the bitterness to your beer.
4. Time for another hop addition. Add **1 oz Citra** hop pellets and continue to boil for 18 more minutes. After these 18 minutes (58 minutes total), add **1 oz Centennial** hop pellets and boil for 2 more minutes (60 minutes total). You are now done boiling your beer, so it's time to turn off the heat.
  5. Sanitize fermentor, stopper, and air lock with sanitizing material according to its directions.
  6. Cool your hot wort down to around 70-80F by placing your pot carefully into a sink of ice water or by using a wort chiller. Carefully pour the hot wort into the cold water in the fermentor. If necessary, top up to 5 gallons with cold water.
  7. Take a temperature reading of the wort. If the wort mixture in the fermentor is below 80°F (not warm to the touch), give the wort a good shake or a good stir with a sanitized metal or plastic spoon. Here you are trying to aerate the wort, which will help your yeast get going. This is also a good time to take a hydrometer reading. The number from this reading is your starting gravity. Add your beer yeast. Instructions are on the yeast package.
  8. Seal your fermentor. Attach the fermentation lock half filled with water. Ferment at 60°-72°F for around 14 days. Note that it can take up to 24 hours for active fermentation to be visible. If you don't see any activity in the air lock or foam on the surface of beer after 24 hours, call us at 608-257-0099. If doing a double stage fermentation, siphon the beer into the glass carboy after 5-7 days in the primary fermentor (the beer may be transferred to the glass carboy as soon as the foam has fallen far enough so the carboy will not overflow).
  9. However you ferment, add **1 oz Centennial hop pellets** and **1 oz. Citra** hop pellets to your beer after 7 days of fermentation (if doing two-stage fermentation, add these hops when you siphon your beer into the secondary fermentor).
  10. After around 14 days, if your beer has ceased fermentation, you can go ahead and bottle or keg your beer. Whether you bottle or keg, sanitize everything that will contact the beer during packaging, including bottles, caps, kegs, siphon tubing, bottle filler, etc. Also, now is a good time to take a hydrometer reading. This would be your beer's final gravity.
    - a. **Bottling, Single-Stage Fermentor:** Siphon beer into sanitized bottles. Pour just under 1 tsp. corn sugar in each bottle. Cap and turn bottles upside down several times to mix in sugar.
    - b. **Bottling, 2-Stage Fermentor:** Rack the beer carefully off the sediment into a sterilized fermentor or bottling bucket from the carboy. Bring  $\frac{3}{4}$  pint of water to a boil. Turn off heat. Dissolve 1 cup of corn sugar in this hot water and stir gently into the beer. Bottle and cap.
    - c. **Kegging:** Siphon the beer into your sanitized keg, purge the oxygen from the head-space, hook up to your CO2, wait, and enjoy!
  11. Store upright at room temperature (~70F) for 14 days to carbonate. Beer may then be stored at cooler temperatures to age. Beer may be consumed at any time, though it will continue to improve for several weeks.