

# American Pale Ale

O.G. = 1.052 F.G. = 1.012-1.018 A.B.V. = 5%

This is a highly hopped, citrusy, floral pale ale with some pungent hop flavor, including some piney notes. Malt flavor is moderate relative to the aggressive hop flavor and the balance is towards bitterness. Caramel flavor is moderate.

Extracts:	6 lbs. Munich - Liquid malt extract	Hops:	¾ oz. Millennium (bittering)
	1 lbs. Light - Dry malt extract		1 oz. Willamette (flavor)
Grains:	½ lbs. Crystal Malt 45°L		1 oz. Cascade (aroma)
	½ lbs. Crystal Malt 77°L	This kit also includes a disposable grain bag, a whirlfloc (irish moss) tablet, priming sugar, and the yeast options listed below.	
To change this kit from a Pale into an IPA, add 1 lb Pilsen (dry) malt extract and 2 oz Apollo (pellet) hops			

**Nottingham Ale Yeast (dry):** The Nottingham strain was selected for its highly flocculant & relatively full attenuation properties. It produces low concentrations of fruity and estery aromas and has been described as neutral for ale yeast, allowing the full natural flavor of malt & hops to develop. **Recommended 14° to 21°C (57° to 70°F) fermentation temperature range.**

**WLP001 – California Ale Yeast (liquid):** This yeast is famous for its clean flavors, balance and ability to be used in almost any style ale. It accentuates the hop flavors and is extremely versatile.

**Attenuation: 73-80% Flocculation: Medium Optimum Fermentation Temp.: 68-73°F Alc. tolerance: High**

**WLP002 – English Ale Yeast (liquid):** A classic ESB strain from one of England's largest independent breweries. This yeast is best suited for English style ales including milds, bitters, porters, and English style stouts. This yeast will leave a beer very clear, and will leave some residual sweetness.

**Attenuation: 63-70% Flocculation: Very High Optimum Fermentation Temp.: 65-68°F Alc. tolerance: Medium**

## Step by Step

1. Remove all ingredients from fridge or other storage. Fill your kettle with 2.5 gal of cold water and add heat.
2. Be sure your grains are cracked and place them in the provided bag. Suspend the grain in the water without letting it touch the bottom of the kettle. Allow to steep as your water heats, at no higher than 165°F.
3. Once your kettle reaches 165°F, remove your grains and bring the solution to a boil.
4. Once boiling, remove from heat and add your dry and liquid extract, while stirring well.
5. Once the extract has dissolved, return to heat again and bring the solution (the “wort”) to an aggressive boil while being careful not to boil over (it will foam due to the “hot break”).
6. Once the hot break has settled and you have a steady boil, add your first “bittering” addition of hops. You will boil these hops for 60 minutes total.
7. After 45 minutes, add your “flavor” hops. You will boil these for the remaining 15 minutes of the boil.  
NOTE: Also add your whirlfloc (irish moss) tablet into the boil at this time.
8. After 15 minutes, add your “aroma” hops and remove from heat.
9. Cool the wort as quickly as possible to 70-80°F. An ice bath works well if you don't have an immersion chiller.
10. Transfer the cooled wort to the carboy using a siphon or funnel and top off with cold water to 5 gallons.
11. Pitch the yeast into the carboy, secure with an airlock and allow to sit in a cool, dark place.
12. Once activity begins, the temperature should be held at around 65°F. Primary fermentation can last 2-3 weeks or longer. Do not bottle or transfer to secondary (optional) until final gravity is reached.
13. If brewing the IPA, add the rest of the hops after fermentation and allow to sit an additional 4-5 days minimum (11 days maximum.)
14. After you have reached your target final gravity, begin bottling:
  - a. Boil ½ cup of water and dissolve the priming sugar.
  - b. Carefully “rack” (siphon, to minimize splashing) the beer into the bottling bucket and mix in the sugar.
  - c. Bottle the beer, cap and allow to sit in a dark place at a moderate temperature. Try a bottle in 2-3 weeks to see how they are progressing. It may take 6 weeks or more before your beer reaches peak flavor.)