

# West Coast Pale Ale

O.G. = 1.049 F.G. = 1.010-1.014 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 mild relative to the aggressive hop flavor and the balance is towards bitterness. Caramel flavor is low.

**Please note this beer differs from our other kits by using a late extract addition for greater hop utilization and a lighter color.**

Extracts:	1 lbs. Light - Dry malt extract	Hops:	2/3 oz. Millennium (bittering)
	1 lbs. Corn Sugar		1 oz. Willamette (flavor)
	<b>4 lbs. Light - Liquid malt extract (late addition)</b>		1 oz. Cascade (aroma)
Grains:	1/2 lbs. Crystal Malt 10°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 (end of boil) and 2 oz Summit pellet hops (dry hop) or more!			

**BRV-97 (dry):** BRV-97 American West Coast Yeast was selected for its quick start and vigorous fermentation. Medium to high attenuation and a flocculent strain. Settling can be promoted by cooling and use of fining agents and isinglass. The aroma is slightly estery, almost neutral and does not display malodours when properly handled. It may tend, because of flocculation, to slightly reduce hop bitter levels. Best when used at traditional ale temperatures. **Recommended 17° to 22°C (62° to 72°F) fermentation temperature range.**

**Wyeast1056 – American Ale Yeast (liquid):** Very clean, crisp flavor characteristics with low fruitiness and mild ester production. A very versatile yeast that works well in a wide range of styles: American Pale Ale, Porters, Stouts, high gravity beers and Holiday Beers. This yeast will leave the beer clear.

**Attenuation: 73-77% Flocculation: Moderate Optimum Fermentation Temp.: 60-72°F Alc. tolerance: Medium-High**

**NorCal Ale #1 GY001 (liquid – 2bil cells):** Clean Fermenting, versatile strain from one of the most famous California Pale Ales. Neutral flavor profile creates a crisp beer and allows hops to shine. Strong attenuator and good flocculation perfectly suited for a large variety of styles. Good choice for high gravity beers. Twice as much yeast as the other liquid strains, a starter is not required.

## Step by Step

1. Remove all ingredients from fridge or other storage. Fill your kettle with 3 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 to 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, turn off heat and add the Dry Malt Extract and Corn Sugar only (not the LME), 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 30 minutes, add your “flavor” hops. You will boil these for the remaining 30 minutes of the boil.
8. 15 minutes after flavor hop addition, turn off heat and add the Liquid Malt Extract and whirlfloc (irish moss) tablet (also add the Pilsen DME if brewing an IPA), then return to a boil. Boil for the final 15 minutes.
9. After the final 15 minutes, add your “aroma” hops and remove from heat.
10. Cool the wort as quickly as possible to 70-75°F. An ice bath works well if you don't have an immersion chiller.
11. Transfer the cooled wort to the carboy using a siphon or funnel and top off with cold, clean water to 5 gallons.
12. Pitch the yeast into the carboy, secure with an airlock and allow to sit in a cool, dark place.
13. 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.
14. 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.) A secondary is recommended for dry-hopping.
15. After you have reached your target final gravity, begin bottling:
  - a. Boil 1/2 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.)