



7 Classic Firestone Walker Clone Recipes



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FIRESTONE WALKER BREWING CO.'S DOUBLE BARREL ALE CLONE (ALL-GRAIN)

(5 gallons/19 L, all-grain)
OG = 1.051 FG = 1.013
IBU = 33 SRM = 13 ABV = 5%

Ingredients

5 lbs. (2.27 kg) US 2-row pale malt
5 lbs. (2.27 kg) British pale ale malt
12 oz. (0.33 kg) Munich malt (10 °L)
10 oz. (0.29 kg) crystal malt (80 °L)
3.5 oz. (99 g) crystal malt (120 °L)
1.5 oz. (43 g) chocolate malt (350 °L)
3.5 AAU Magnum hops (60 min.)
(0.25 oz./7 g at 14% alpha acids)
5 AAU East Kent Golding hops (30 min.)
(1 oz./28 g at 5% alpha acids)
2.5 AAU East Kent Golding hops (0 min.)
(0.5 oz./14 g at 5% alpha acids)
2.3 AAU Styrian Golding hops (0 min.)
(0.5 oz./14 g at 4.6% alpha acids)
1 oz. (28 g) East Kent Golding hops (dry hop)
1 oz. (28 g) medium toast American oak cubes (in primary)
½ Whirlfloc® tablet
White Labs WLP013 (London Ale), Wyeast 1028 (London Ale)
or Lallemand Nottingham yeast
¾ cup corn sugar (if priming)

Step by Step

This is a multi-step infusion mash. Mix the crushed grains with 3.5 gallons (13 L) of water to stabilize the mash at 145 °F (66 °C) and hold for 60 minutes. Raise temperature of mash to 155 °F (68 °C) and hold for 15 minutes. Raise the mash to 168 °F (76 °C) and begin to lauter.

Collect 6.5 gallons (24.6 L) of wort to begin your 60 minute boil. Add hops per the schedule. At the end of the boil, you should have 5.5 gallons (21 L) in your kettle. After the boil, give your wort a stir to create a whirlpool, then let the wort settle for 30 minutes prior to chilling. Cool to 66 °F (20 °C) for fermenting, aerate well, then pitch yeast along with the oak cubes. After 7 days, rack the beer into a secondary vessel, then add the dry hops and wait 3–4 days. Bottle or keg as usual.

Tips for Success:

The team at Firestone Walker Brewing Co. created one of the only, if not the only, union brewing method in the United States. Inspired by the Burton union systems made popular by the breweries in Burton-Upon-Trent, Firestone Walker Brewing Co. dubbed their barrel union the “Firestone Union.” Using 60-gallon (227-L) American oak barrels, 20% of Double Barrel Ale is barrel-fermented for 6 days in these barrels before being blended back into the main batch. The remaining 80% is fermented in stainless conicals. This system makes it nearly impossible to duplicate the Firestone Union process at home. Instead homebrewers can opt to add 1 oz. (28 g) of American oak cubes in primary fermentation to simulate the barrel fermentation profile. Unfortunately for most of us, the only place to try Double Barrel Ale in its unblended, 100% barrel fermented state is at their brewery in Paso Robles or their Taproom Restaurant in Buellton.

Matt Brynildson is known for dry hopping his beers prior to the termination of primary fermentation to try to take advantage of biotransformations, which hop oils can undergo in the presence of yeast. The goal is to add the hops with just a few gravity points left in fermentation. Also be aware of “beer volcanoes” as the hops can create a nucleation point to release dissolved CO₂, creating a volcano effect on the beer, which can lead to a significant amount of beer loss and a giant mess. If you do go ahead with this form of dry hopping, be aware of this potential downfall.

FIRESTONE WALKER BREWING CO.'S DOUBLE BARREL ALE CLONE (EXTRACT WITH GRAINS)

(5 gallons/19 L, extract with grains)
OG = 1.051 FG = 1.013
IBU = 33 SRM = 13 ABV = 5%

Ingredients

2.5 lbs. (1.13 kg) extra light dried malt extract
3.3 lbs. (1.5 kg) Maris Otter liquid malt extract
10 oz. (0.29 kg) crystal malt (80 °L)
3.5 oz. (99 g) crystal malt (120 °L)
1.5 oz. (43 g) chocolate malt (350 °L)
3.5 AAU Magnum hops (60 min.)
(0.25 oz./7 g at 14% alpha acids)
5 AAU East Kent Golding hops (30 min.)
(1 oz./28 g at 5% alpha acids)
2.5 AAU East Kent Golding hops (0 min.)
(0.5 oz./14 g at 5% alpha acids)
2.3 AAU Styrian Golding hops (0 min.)
(0.5 oz./14 g at 4.6% alpha acids)
1 oz. (28 g) East Kent Golding hops (dry hop)
1 oz. (28 g) medium toast American oak cubes (in primary)
½ Whirlfloc® tablet
White Labs WLP013 (London Ale), Wyeast 1028 (London Ale)
or Lallemand Nottingham yeast
¾ cup corn sugar (if priming)

Step by Step

Place crushed grains in a muslin bag and then add to 3 gallons (8 L) water when the temperature hits 160 °F (71 °C) and hold for 20 minutes. Remove the grain bag and wash with 2 qts. (2 L) hot water. If your kettle can hold the water, top off to 6.5 gallons (24.6 L) and add all the malt extract. If your kettle can only do a partial boil, then add the liquid malt extract during the final 15 minutes of the boil. Total boil time is 60 minutes. Add hops per the schedule in the ingredients list.

Following the boil, give your wort a stir to create a whirlpool, then let the wort settle for 30 minutes prior to chilling. Cool your wort to 66 °F (20 °C), top off to 5.5 gallons (21 L), aerate the wort then pitch your yeast along with the oak cubes. After seven days, rack the beer into a secondary, then add the dry hops and wait 3–4 days. Bottle or keg as usual.

**FIRESTONE WALKER BREWING CO.'S
805 CLONE
(ALL-GRAIN)**

(5 gallons/19 L, all-grain)
OG = 1.046 FG = 1.011
IBU = 19 SRM = 5 ABV = 4.7%

Ingredients

8 lbs. 3 oz. (3.7 kg) Rahr Standard 2-row malt
12 oz. (340 g) honey malt
12 oz. (340 g) wheat malt
3.7 AAU Willamette hops (60 min.)
(0.85 oz./24 g at 4.5% alpha acids)
0.85 oz. (24 g) Willamette hops (0 min.)
7 g calcium chloride (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Mill the grains and mix with 3.6 gallons (13.75 L) of 166 °F (74 °C) strike water and optional calcium chloride to reach a mash temperature of 154 °F (68 °C). Hold this temperature for 60 minutes. Vorlauf until your runnings are clear. Sparge the grains with enough 168 °F (76 °C) water to collect 6 gallons (23 L) of 1.039 wort. Boil for 60 minutes, adding the hops according to the ingredients list. After the boil turn off the heat and chill the wort to slightly below fermentation temperature, about 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch yeast. Ferment at 68 °F (20 °C). Once at terminal gravity (approximately 7 days total) bottle or keg the beer and carbonate as usual.

Tips for Success:

Firestone Walker runs all their brewing liquor through a reverse osmosis system. They then add back calcium to reach 100 ppm for yeast health and to avoid beer scale formation on equipment. This is done with calcium chloride for malt-focused beers and with equal parts calcium chloride and calcium sulfate for hop-focused beers.

If you're homebrewing with hard water, you can dilute your water with distilled water or add some acid to drop the pH of the wort. Adding some lactic acid or phosphoric acid to the mash and sparge water will help this blonde ale have the proper crisp character. If left untreated, hard water could lead to an astringent, harsh, and flabby/thin-bodied beer. If you are not sure of the hardness of your water, it may be time to find out. Try to contact your local water department for a water report (which are free). Or, if you have a well or other water source, there are many water test kits and laboratories that can provide this number for you.

**FIRESTONE WALKER BREWING CO.'S
805 CLONE
(EXTRACT WITH GRAINS)**

(5 gallons/19 L, extract with grains)
OG = 1.046 FG = 1.011
IBU = 19 SRM = 5 ABV = 4.7%

Ingredients

5 lbs. 6 oz. (2.4 kg) golden liquid malt extract
12 oz. (340 g) honey malt
12 oz. (340 g) wheat malt
3.7 AAU Willamette hops (60 min.)
(0.85 oz./24 g at 4.5% alpha acids)
0.85 oz. (24 g) Willamette hops (0 min.)
7 g calcium chloride (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Place the milled grains in a muslin bag and steep in 3 quarts (2.8 L) of 149 °F (65 °C) water for 30 minutes. Remove the grain and rinse with 1 gallon (3.8 L) of hot water. Add water to reach a volume of 5.4 gallons (20.4 L) and heat to boiling. Turn off the heat, add the liquid malt extract and optional calcium chloride, and stir until completely dissolved. Top up if necessary to obtain 6 gallons (23 L) of 1.039 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. After the boil turn off the heat and chill the wort to slightly below fermentation temperature, about 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch yeast. Ferment at 68 °F (20 °C). Once at terminal gravity (approximately 7 days total) bottle or keg the beer and carbonate as usual.

FIRESTONE WALKER BREWING CO.'S VELVET MERLIN CLONE (ALL-GRAIN)

(5 gallons/19 L, all-grain)
OG = 1.061 FG = 1.020
IBU = 29 SRM = 44 ABV = 5.6%

Ingredients

8.75 lbs. (4 kg) Rahr Standard 2-row malt
1 lb. 9 oz. (0.71 kg) flaked oats
1 lb. 9 oz. (0.71 kg) Briess roasted barley (300 °L)
14 oz. (400 g) caramel malt (120 °L)
5 oz. (140 g) Carapils® malt
4 oz. (113 g) caramel malt (80 °L)
4 oz. (113 g) Weyermann Carafa® Special III malt
3.8 AAU Fuggle hops (60 min.)
(0.85 oz./24 g at 4.5% alpha acids)
3.8 AAU Fuggle hops (30 min.)
(0.85 oz./24 g at 4.5% alpha acids)
7 g calcium chloride (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Mill grains and mix with 5 gallons (19 L) of 156 °F (69 °C) strike water and optional calcium chloride to reach a mash temperature of 145 °F (63 °C). Hold this temperature for 15 minutes. Raise the mash temperature to 155 °F (68 °C) and hold for 30 minutes. Raise the temperature to a mash out of 168 °F (76 °C). Vorlauf until your runnings are clear. Sparge the grains with enough 168 °F (76 °C) water to collect 6 gallons (23 L) of 1.051 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. Turn off the heat and chill the wort to slightly below fermentation temperature, about 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch yeast. Ferment at 68 °F (20 °C). Once at terminal gravity (approximately 7 days total) bottle or keg the beer and carbonate as usual.

Tips for Success:

For all-grain brewers: Oats contain a lot of large beta-glucan gums and contain a lot of undegraded proteins. While this is great for adding mouthfeel, a large percentage of oats can contribute to a stuck sparge. At 12% flaked oats in this recipe, adding a handful of rice hulls is a good idea if you often experience sticky mashes. Add them in prior to starting your lauter to save you some time and a headache later.

DESCHUTES BREWERY'S BACHELOR BITTER CLONE (EXTRACT WITH GRAINS)

(5 gallons/19 L, extract with grains)
OG = 1.061 FG = 1.020
IBU = 29 SRM = 44 ABV = 5.6%

Ingredients

5 lbs. (2.27 kg) golden liquid malt extract
1.5 lbs. (0.68 lbs.) US 2-row malt
1 lb. 9 oz. (0.71 kg) flaked oats
1 lb. 9 oz. (0.71 kg) Briess roasted barley (300 °L)
14 oz. (400 g) caramel malt (120 °L)
5 oz. (140 g) Carapils® malt
4 oz. (113 g) caramel malt (80 °L)
4 oz. (113 g) Weyermann Carafa® Special III malt
3.8 AAU Fuggle hops (60 min.)
(0.85 oz./24 g at 4.5% alpha acids)
3.8 AAU Fuggle hops (30 min.)
(0.85 oz./24 g at 4.5% alpha acids)
7 g calcium chloride (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Place the milled 2-row malt and flaked oats in a muslin bag and steep in 10 qts. (9.5 L) of 149 °F (65 °C) water for 45 minutes. Remove the grains and rinse with 1 gallon (3.8 L) of hot water. Add the remaining crushed grains in separate muslin bag and steep an additional 15 minutes. Add water to reach a volume of 5.4 gallons (20.4 L) and heat to boiling. Turn off the heat, add the liquid malt extract and optional calcium chloride, and stir until completely dissolved. Top up to obtain 6 gallons (23 L) of 1.051 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. Turn off the heat and chill the wort to slightly below fermentation temperature, about 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch yeast. Ferment at 68 °F (20 °C). Once at terminal gravity (approximately 7 days total) bottle or keg the beer and carbonate as usual.

**FIRESTONE WALKER BREWING CO.'S
UNION JACK CLONE
(ALL-GRAIN)**

(5 gallons/19 L, all-grain)
OG = 1.070 FG = 1.015
IBU = 70 SRM = 7 ABV = 7.5%

Ingredients

12 lbs. 5 oz. (5.6 kg) Rahr Standard 2-row malt
1 lb. 6 oz. (0.6 kg) Great Western Munich malt (10 °L)
11 oz. (310 g) Carapils® malt
5 oz. (140 g) UK light crystal malt (38 °L)
11.4 AAU German Magnum hops (60 min.)
(1.04 oz./29 g at 11% alpha acids)
1.9 AAU Cascade hops (30 min.)
(0.4 oz./11 g at 4.5% alpha acids)
3.6 AAU Centennial hops (30 min.)
(0.4 oz./11 g at 8.5% alpha acids)
1.9 AAU Cascade hops (10 min.)
(0.4 oz./11 g at 4.5% alpha acids)
3.6 AAU Centennial hops (10 min.)
(0.4 oz./11 g at 8.5% alpha acids)
1 oz. (28 g) Cascade hops (first dry hop)
1 oz. (28 g) Centennial hops (first dry hop)
0.4 oz. (11 g) Amarillo® hops (second dry hop)
0.4 oz. (11 g) Citra® hops (second dry hop)
0.4 oz. (11 g) Chinook hops (second dry hop)
0.4 oz. (11 g) Simcoe® hops (second dry hop)
3.5 g calcium chloride (if using reverse osmosis water)
3.5 g gypsum (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Mill grains and mix with 5.5 gallons (21 L) of 156 °F (69 °C) strike water and optional brewing salts to reach a mash temperature of 145 °F (63 °C). Hold this temperature for 15 minutes. Raise the temperature to 155 °F (68 °C) and hold for 30 minutes. Raise the temperature to a mash out of 168 °F (75 °C). Vorlauf until your runnings are clear. Sparge the grains with enough 168 °F (75 °C) water to collect 6 gallons (23 L) of 1.058 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. After the boil, turn off the heat and chill the wort to 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch the yeast. Ferment at 68 °F (20 °C). After 4 days add the first dry hop addition. After 7 days add the second dry hop addition. Once at terminal gravity (~10 days) bottle or keg the beer and carbonate.

**FIRESTONE WALKER BREWING CO.'S
UNION JACK CLONE
(EXTRACT WITH GRAINS)**

(5 gallons/19 L, extract with grains)
OG = 1.070 FG = 1.015
IBU = 70 SRM = 7 ABV = 7.5%

Ingredients

6 lbs. (2.7 kg) golden liquid malt extract
3.3 lbs. (1.5 kg) Briess Munich liquid malt extract
6 oz. (310 g) Carapils® malt
5 oz. (140 g) UK light crystal malt (38 °L)
11.4 AAU German Magnum hops (60 min.)
(1.04 oz./29 g at 11% alpha acids)
1.9 AAU Cascade hops (30 min.)
(0.4 oz./11 g at 4.5% alpha acids)
3.6 AAU Centennial hops (30 min.)
(0.4 oz./11 g at 8.5% alpha acids)
1.9 AAU Cascade hops (10 min.)
(0.4 oz./11 g at 4.5% alpha acids)
3.6 AAU Centennial hops (10 min.)
(0.4 oz./11 g at 8.5% alpha acids)
1 oz. (28 g) Cascade hops (first dry hop)
1 oz. (28 g) Centennial hops (first dry hop)
0.4 oz. (11 g) Amarillo® hops (second dry hop)
0.4 oz. (11 g) Citra® hops (second dry hop)
0.4 oz. (11 g) Chinook hops (second dry hop)
0.4 oz. (11 g) Simcoe® hops (second dry hop)
3.5 g calcium chloride (if using reverse osmosis water)
3.5 g gypsum (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Place the milled grains in a muslin bag and steep in 5 quarts (4.7 L) of 149 °F (65 °C) water for 15 minutes. Remove the grain and rinse with 1 gallon (3.8 L) of hot water. Add water to reach a volume of 5.4 gallons (20.4 L) and boil. Turn off the heat, add the malt extract and brewing salts, and stir until dissolved. Top up to 6 gallons (23 L) of 1.058 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. After the boil, turn off the heat and chill the wort to 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch the yeast. Ferment at 68 °F (20 °C). After 4 days add the first dry hop addition. After 7 days add the second dry hop addition. Once at terminal gravity (~10 days) bottle or keg the beer and carbonate.

**FIRESTONE WALKER BREWING CO.'S
WOOKEY JACK CLONE
(ALL-GRAIN)**

(5 gallons/19 L, all-grain)
OG = 1.076 FG = 1.016
IBU = 75 SRM = 33 ABV = 8.3%

Ingredients

13 lbs. 3 oz. (6 kg) Rahr Standard 2-row malt
1 lb. 6 oz. (0.63 kg) rye malt
9 oz. (255 g) Weyermann Cararye® malt (70 °L)
6 oz. (170 g) caramel malt (80 °L)
6 oz. (170 g) Briess Midnight Wheat malt
6 oz. (170 g) Weyermann Carafa® Special III malt
9.1 AAU German Magnum hops (60 min.)
(0.8 oz./22 g at 11% alpha acids)
6.3 AAU Citra® hops (30 min.)
(0.4 oz./11 g at 15% alpha acids)
3.6 AAU Amarillo® hops (30 min.)
(0.4 oz./11 g at 9% alpha acids)
6.3 AAU Citra® hops (10 min.)
(0.4 oz./11 g at 15% alpha acids)
3.6 AAU Amarillo® hops (10 min.)
(0.4 oz./11 g at 9% alpha acids)
0.4 oz. (11 g) Citra® hops (first dry hop)
0.4 oz. (11 g) Amarillo® hops (first dry hop)
0.4 oz. (11 g) Citra® hops (second dry hop)
0.4 oz. (11 g) Amarillo® hops (second dry hop)
3.5 g calcium chloride (if using reverse osmosis water)
3.5 g gypsum (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Mill grains and mix with 6 gallons (23 L) of 156 °F (69 °C) strike water and optional brewing salts to reach a mash temperature of 145 °F (63 °C). Hold this temperature for 15 minutes. Raise the temperature to 155 °F (68 °C) and hold for 30 minutes. Raise the temperature to a mash out of 168 °F (75 °C). Vorlauf until your runnings are clear. Sparge the grains with enough 168 °F (75 °C) water to collect 6 gallons (23 L) of 1.063 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. Turn off the heat and chill the wort to slightly below fermentation temperature, about 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch the yeast. Ferment at 68 °F (20 °C). After 4 days of fermentation add the first dry hop addition. After 7 days fermentation add the second dry hop addition. Once at terminal gravity (approximately 10 days) bottle or keg the beer and carbonate.

**FIRESTONE WALKER BREWING CO.'S
WOOKEY JACK CLONE
(EXTRACT WITH GRAINS)**

(5 gallons/19 L, extract with grains)
OG = 1.076 FG = 1.016
IBU = 75 SRM = 33 ABV = 8.3%

Ingredients

7 lbs. (3.2 kg) extra light dried malt extract
1 lb. 6 oz. (0.63 kg) rye malt
9 oz. (255 g) Weyermann Cararye® malt (70 °L)
6 oz. (170 g) caramel malt (80 °L)
6 oz. (170 g) Briess Midnight Wheat malt
6 oz. (170 g) Weyermann Carafa® Special III malt
9.1 AAU German Magnum hops (60 min.)
(0.8 oz./22 g at 11% alpha acids)
6.3 AAU Citra® hops (30 min.)
(0.4 oz./11 g at 15% alpha acids)
3.6 AAU Amarillo® hops (30 min.)
(0.4 oz./11 g at 9% alpha acids)
6.3 AAU Citra® hops (10 min.)
(0.4 oz./11 g at 15% alpha acids)
3.6 AAU Amarillo® hops (10 min.)
(0.4 oz./11 g at 9% alpha acids)
0.4 oz. (11 g) Citra® hops (first dry hop)
0.4 oz. (11 g) Amarillo® hops (first dry hop)
0.4 oz. (11 g) Citra® hops (second dry hop)
0.4 oz. (11 g) Amarillo® hops (second dry hop)
3.5 g calcium chloride (if using reverse osmosis water)
3.5 g gypsum (if using reverse osmosis water)
White Labs WLP002 (English Ale) or
Wyeast 1968 (London ESB Ale) yeast
¾ cups corn sugar (if priming)

Step by Step

Place the milled rye malt in a muslin bag and steep in 4 quarts (3.8 L) of 149 °F (65 °C) water for 45 minutes. Remove the grain and rinse with 1 gallon (3.8 L) of hot water. Add the roasted and caramel malts in a second bag and steep for 15 minutes. Remove that grain bag, then add water to reach a volume of 5.4 gallons (20.4 L) and heat to boiling. Turn off the heat, add the liquid malt extract and optional brewing salts, and stir until completely dissolved. Top up if necessary to obtain 6 gallons (23 L) of 1.063 wort. Boil for 60 minutes, adding hops according to the ingredients list. Turn off the heat and chill the wort to slightly below fermentation temperature, about 66 °F (19 °C). Aerate the wort with pure oxygen or filtered air and pitch the yeast. Ferment at 68 °F (20 °C). After 4 days of fermentation add the first dry hop addition. After 7 days fermentation add the second dry hop addition. Once at terminal gravity (approximately 10 days) bottle or keg the beer and carbonate.

**FIRESTONE WALKER BREWING CO.'S
PIVO PILS CLONE
(ALL-GRAIN)**

(5 gallons/19 L, all-grain)
OG = 1.046 FG = 1.009
IBU = 40 SRM = 3 ABV = 5%

Ingredients

9 lbs. 6 oz. (4.3 kg) Weyermann Pilsner malt
8.3 AAU German Magnum hops (60 min.)
(0.75 oz./21 g at 11% alpha acids)
2.3 AAU German Spalt Select hops (30 min.)
(0.5 oz./14 g at 4.5% alpha acids)
0.8 oz. (22 g) German Saphir hops (0 min.)
0.8 oz. (22 g) German Saphir hops (dry hop)
7 g calcium chloride (if using reverse osmosis water)
White Labs WLP830 (German Lager) or
Wyeast 2124 (Bohemian Lager) yeast
¾ cups corn sugar (if priming)

Step by Step

Mill grains and mix with 3.5 gallons (13 L) of 156 °F (69 °C) strike water and optional calcium chloride to reach a mash temperature of 145 °F (63 °C). Hold this temperature for 15 minutes. Raise the mash temperature to 155 °F (68 °C) and hold for 30 minutes. Raise the temperature to a mash out of 168 °F (75 °C). Vorlauf until your runnings are clear. Sparge the grains with enough 168 °F (75 °C) water to collect 6 gallons (23 L) of 1.038 wort. Boil for 60 minutes, adding hops according to the ingredients list. Turn off the heat and chill the wort to slightly below fermentation temperature, about 48 °F (9 °C). Aerate the wort with pure oxygen or filtered air and pitch yeast.

Ferment at 50 °F (10 °C). After 4 days of fermentation add the dry hop addition. After 7 days total slowly raise the temperature to 60 °F (16 °C) for three days for a diacetyl rest. Then slowly lower the beer to 34 °F (1 °C). Once at terminal gravity (approximately 14 days total) bottle or keg the beer and carbonate. Lager at 34 °F (1 °C) for approximately one month before serving.

**FIRESTONE WALKER BREWING CO.'S
PIVO PILS CLONE
(EXTRACT WITH GRAINS)**

(5 gallons/19 L, extract with grains)
OG = 1.046 FG = 1.009
IBU = 40 SRM = 4 ABV = 5%

Ingredients

6.5 lbs. (2.9 kg) Pilsen liquid malt extract
8.3 AAU German Magnum hops (60 min.)
(0.75 oz./21 g at 11% alpha acids)
2.3 AAU German Spalt Select hops (30 min.)
(0.5 oz./14 g at 4.5% alpha acids)
0.8 oz. (22 g) German Saphir hops (0 min.)
0.8 oz. (22 g) German Saphir hops (dry hop)
7 g calcium chloride (if using reverse osmosis water)
White Labs WLP830 (German Lager) or
Wyeast 2124 (Bohemian Lager) yeast
¾ cups corn sugar (if priming)

Step by Step

Bring 5.5 gallons (21 L) of water and optional calcium chloride to boil, turn off flame, and stir in liquid malt extract until completely dissolved. Top up if necessary to obtain 6 gallons (23 L) of 1.038 SG wort. Boil for 60 minutes, adding hops according to the ingredients list. Turn off the heat and chill the wort to slightly below fermentation temperature, about 48 °F (9 °C). Aerate the wort with pure oxygen or filtered air and pitch the yeast.

Ferment at 50 °F (10 °C). After 4 days of fermentation add the dry hop addition. After 7 days total slowly raise the temperature to 60 °F (16 °C) for three days for a diacetyl rest. Then slowly lower the beer to 34 °F (1 °C). Once at terminal gravity (approximately 14 days total) bottle or keg the beer and carbonate. Lager at 34 °F (1 °C) for approximately one month before serving.

Tips for Success:

The biggest key to making this beer (and any good Pilsener) is to start with soft water. Firestone Walker runs all their brewing liquor through a reverse osmosis system. They then add back calcium to reach 100 ppm for yeast health and to avoid beer scale formation on equipment. This is done with calcium chloride for malt-focused beers and with equal parts calcium chloride and calcium sulfate for hop-focused beers.

**FIRESTONE WALKER BREWING CO.'S
'LIL OPAL
(ALL-GRAIN)**

(5 gallons/19 L, all-grain)
OG = 1.043 FG = 1.010
IBU = 15 SRM = 5 ABV = 4.2%

Firestone Walker Brewing Company: "Summer is all about outdoor activity and the beers of summer typically fit this theme and should provide refreshment. That doesn't mean bland or without character. A refreshing beer can be full of character and still be a part of a sunny summer day."

Ingredients

4 lbs. (1.8 kg) Pilsner malt or domestic 2-row pale malt
2 lbs. 3 oz. (1 kg) wheat malt
2 lbs. 3 oz. (1 kg) torrified wheat
3 oz. (86 g) Weyermann Cara-Wheat malt
3 oz. (86 g) Weyermann acidulated malt
1 oz. (28 g) Mt Hood whole hops (mash)
2.7 AAU Mt. Hood hops (60 min.)
(0.54 oz./15 g of 5% alpha acids)
1.8 AAU Mt. Hood hops (30 min.)
(0.36 oz./10 g of 5% alpha acids)
1 oz. (28 g) French oak chips soaked in white wine
Wyeast 3724 (Belgian Saison) or
White Labs WLP565 (Belgian Saison I) yeast
¾ cups corn sugar (if priming)

Step by Step

Rice hulls or mash hops (whole) can be added to aid in run off. In the case of mash hops, this can add hop complexity to the finished beer without additional bitterness. Mash in at 145 °F (63 °C) for 30 min and raise mash temperature up to 156 °F (69 °C) to finish saccharification. Ramp up to 168 °F (76 °C) before running off. Mash at 5.2–5.4 pH (acidify if needed). Adjust finished wort to 5.2 pH with lactic or phosphoric acid. Boil time is 75 minutes. Pitch yeast at 72 °F (22 °F) and allow to free-rise up to 80 °F (27 °C). Age with French oak chips soaked in white wine.

**FIRESTONE WALKER BREWING CO.'S
'LIL OPAL
(EXTRACT WITH GRAINS)**

(5 gallons/19 L, extract with grains)
OG = 1.043 FG = 1.010
IBU = 15 SRM = 5 ABV = 4.2%

Ingredients

1 lb. 10 oz. (0.75 kg) wheat malt
3 oz. (86 g) Weyermann Cara-Wheat malt
3 oz. (86 g) Weyermann acidulated malt
1.5 lbs. (0.68 kg) light dried malt extract
3 lbs. (1.4 kg) light liquid malt extract
2.7 AAU Mt. Hood hops (60 min.)
(0.54 oz./15 g of 5% alpha acids)
1.8 AAU Mt. Hood hops (30 min.)
(0.36 oz./10 g of 5% alpha acids)
1 oz. (28 g) French oak chips soaked in white wine
Wyeast 3724 (Belgian Saison) or
White Labs WLP565 (Belgian Saison I) yeast
¾ cups corn sugar (if priming)

Step by Step

Place crushed grains in a steeping bag. In a large soup pot, submerge bag in 3 qts. (2.8 L) of water at 159 °F (71 °C). Steep at 148 °F (64 °C) for 45 minutes. Begin heating 2 gallons (7.6 L) of water in your brewpot. Also, heat 1.5 qts. (1.4 L) of water to 170 °F (77 °C) in a small soup pot. After steep, lift grain bag into colander placed over brewpot. Pour "grain tea" through grains (to strain out grain solids), then rinse with water from small soup pot. Stir in dried malt extract and bring to a boil. Boil for 60 minutes, adding hops at times indicated. Stir in liquid malt extract at end of boil and let brewpot sit, covered, for 5 minutes before cooling wort. Transfer wort to fermenter and top up to 5 gallons (19 L). Aerate well and pitch yeast. Ferment starting at 72 °F (22 °F), but allow to rise up to 80 °F (27 °C). Add oak chips after primary fermentation.

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