

FRESH HOP

RECIPE BOOK

BATCH #2



CROSBY HOPS™

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DIMENSIONAL CASCADE

Pale Ale 5.6% ABV

Charleston, SC



Cascade Fresh Hops
Cascade T-90
Cascade Cryo Hops®

CROSBY HOPS™

BATCH SIZE

35 BBL

GRAIN BILL

2-Row	92%
Briss C-60	8%

MASH TEMP

150°F / 65.6°C

FERMENTATION

Fuller's BSI-2 English Ale 1

ADDITIONAL NOTES

We added the fresh hops to a pressurize-able infusion tank at the tail end of fermentation and let them steep/recirculate them for over 24 hours. Next time, we'll go longer. The limiting factor for the volume of fresh hops we used is the size of that tank.



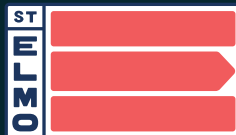
Have you experimented with different brewing techniques or styles specifically for fresh hop beers?

The biggest concern for us is timing. We're on the East Coast, so having the beer(s) ready to receive the hops right when they get delivered is paramount. We've used them hot side in years past, and we're fortunate enough to have a 6" out on our kettle and a hop back for such purposes. If we didn't, hotside would be a real trick, probably using nylon bags. Cold side is another big consideration. Dropping them into the FV (or racking on top of them) is asking for trouble, both in transfer and cleanup, though not insurmountable. Prior to our infusion tank, we bought a giant stainless steel chain we would hang from the dry hop port inside the tank and would zip tie fresh hops in nylon bags onto it, then rack the beer on top. Generally speaking, we're always trying to figure out how to get more and more fresh hop character into the beers that use them.

CROSBY FRESH HOP STRATA® IPA

IPA 6.8% ABV

Austin, TX



Strata® Fresh Hops

Strata® CGX™

Strata® T-90 (an Indie Hops variety)

CROSBY HOPS™

BATCH SIZE

15 BBL

GRAIN BILL

Gambrinus Pale Ale	85%
Weyermann Carahell	4%
Flaked Wheat	4%
Flaked Barley	4%
Acidulated Malt	2%
Simpson Crystal Medium	1%

MASH TEMP

155°F / 68.3°C

HOP SCHEDULE

Strata® Fresh Hops (10lbs) - Mash Hopping

Kettle Addition

Strata® Fresh Hops (70lbs) - Whirlpool

Dry Hop

Strata® T-90 (22lbs)

Strata® CGX™ (11lbs)

FERMENTATION

Wyeast 2565

ADDITIONAL NOTES

Mash-in at 155°F (68.3°C) while slowly adding loose Fresh Hop Strata during entire mash-in process (make sure well-homogenized with mixer/rakes). Allow to rest for 20 minutes. Vorlauf until crystal clear and runoff to kettle. Boil for 90 minutes. Once boil is over, start whirlpool immediately and add 70lbs of bagged Fresh Hop Strata – you may need to add weights to bag or submerge with paddle. Allow fresh hops to get fully-saturated with wort. Whirlpool and rest for approximately 30 minutes total. Send wort to fermentor at 66°F (18.9°C) and pitch yeast. Once beer is terminal for two days, do a healthy yeast knockoff from the cone added Strata dry-hop additions. Rouse daily through cone two days in a row. Following that, knockoff hops from cone daily.



How would you describe the flavor and aroma profile of this fresh hop beer?

Crosby Estate-Grown Strata gives off such a well-rounded fruit flavor and aroma, with some soft dankness that never overpowers. The real magic shows up in the mouthfeel, though. The hop oil-hop polyphenol interaction gives such a unique sensory experience – one that melds the hop mouthfeel, taste, and aroma. It's difficult to replicate that drinking experience from processed hops.

HOP VOYAGE

West Coast IPA 7% ABV

Santa Cruz, CA



Strata® Fresh Hops
Centennial T-90
Citra® T-90

CROSBY HOPS™

BATCH SIZE

10 BBL

GRAIN BILL

Rahr North Star Pils 92%
Rahr Wheat Malt 8%

MASH TEMP

150°F / 65.6°C

FERMENTATION

Chico

ADDITIONAL NOTES

*Purge mash tun with CO2 to use as hop back. Introduce wort at 180°F (82.2°C). Ferment at 67°F (19.4°C)

HOP SCHEDULE

Kettle Additions

No true kettle additions
Strata® Fresh Hops (300lbs) Hop Back*

Dry Hop

Centennial T-90 (11lbs)
Citra® T-90 (11lbs)



What inspired you to use this fresh hop variety to create this beer?

Strata has been a favorite of ours for a while and we thought it would be a unique one to use in fresh whole cone form.



Can you share any memorable experiences from your journey of brewing fresh hop beers?

The aroma that fills the brewery is unmatched and such a great nostalgic aroma that we get to experience every year.

MINUS THE MIDDLE

IPA 6.5% ABV

Gilbert, AZ



Centennial Fresh Hops
Strata® Fresh Hops

CROSBY HOPS™

BATCH SIZE

15 BBL

GRAIN BILL

Sinagua Base Malt	92%
Sonoran White Wheat	5%
Crystal 20	3%

MASH TEMP

150°F / 65.6°C

FERMENTATION

Cal Ale

HOP SCHEDULE

Centennial Fresh Hops (25lbs)-
Mash Hopping

Kettle Addition

35-40 IBU (60 min)
Centennial Fresh Hops (200lbs) -
Hop Back*

Dry Hop

Strata® Fresh Hops (400lbs)**

ADDITIONAL NOTES

*Utilized mash tun as hop back

**Dry hop recirculated through a Grundy tank



How would you describe the flavor and aroma profile of this fresh hop beer?

Juicy fruit with strawberry and the classic grassy-ness from fresh hops round out the aroma profile. Slightly bready notes, present but not firm bitterness.



Can you share any memorable experiences from your journey of brewing fresh hop beers?

I wanted to create a beer where I could bring a sensory aspect from hop harvest to consumers who don't know how special of an experience that is. I also wanted to tell the story of how beer is an agricultural product and the relationship of brewer to farmer should be present.

FRESH HOP



HOT SIDE

BENEFITS

- Shorter extraction time compared to cold side.
- Wort temperature inhibits potential microbial load present on fresh hops.

APPLICATION

Kettle/Whirlpool

- Use at least 5-7lbs/BBL of fresh hops to achieve effects comparable to T90s.
- DO NOT add fresh hops loosely to the boil or whirlpool as they will clog anything and everything, from your whirlpool arm to your kettle outlet to your heat exchanger.
- Add fresh hops to large mesh bags along with any type of heavy stainless steel object, such as a valve, and then tie the mesh bag to your manway so the bag has the ability to steep in the kettle/whirlpool without touching the bottom to avoid scorching.
- If the weight is not heavy enough, use your clean mash paddle to dunk the bags until they are saturated and sink below the wort surface.
- Increasing boil/whirlpool times is not necessary. Keep fresh hop bags suspended in the kettle/whirlpool until knockout is complete.
- Do not overstuff mesh bags and use as many mesh bags as is reasonable so that the wort can easily saturate the fresh hops.

Mash/Lauter Tun

- Make sure the mash/lauter tun is as clean as possible.
- Once boil is complete, transfer wort from kettle to mash/lauter tun. Be sure to underlet the false bottom with hot wort so the fresh hops begin to float. Then, you can alternate between sending wort through the Vorlauf arm or sprayball as well as the underlet, however you see fit, in order to saturate the fresh hops.
- If your mash/lauter tun has rakes, turn them on. If not, use your clean mash paddle to mix in fresh hops.
- Once wort transfer from the kettle to the mash/lauter tun is complete, you can choose to steep your wort in the fresh hops for a longer period of time or you can begin knocking out from your mash/lauter tun through the heat exchanger into your fermenter.
- If using a variable speed pump, start your knockout slowly to avoid clogging your false bottom, and ramp up accordingly.

BREWING TIPS



COLD SIDE

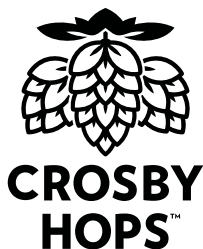
BENEFITS

- Can produce a finished/packaged fresh hop beer within a few of days of receiving fresh hops.

APPLICATION

Bright Tank

- Brew and ferment beer, adding T90 or CGX dry hop charge as normal. Fresh hops should not affect the amount of hot/cold side pellets used.
- Place 2-3lbs/BBL fresh hops in mesh bags with stainless steel weights like described on the previous page to assist in beer/fresh hop contact.
- If appropriate, this would be the stage to flash freeze your fresh hops with liquid nitrogen and shatter the material to expose as much lupulin as possible. Feedback about using this process indicates it seems to lend more varietal specificity, but this is a bit subjective.
- Purge bright tank then transfer finished beer from FV into BT for contact with either frozen/shattered or wet hops.
- Constantly test the liquid at least every 12 hours for sensory as the flavor reaches a peak and can turn 'over-vegetal' between morning and night. Typical contact times are 42-78 hours, depending on the varieties used and recipe goal.
- Pull mesh bags prior to final carbonation and packaging.



Hopped up on Freshies this year?

**PREORDER YOUR
FRESH HOP VARIETIES**

HERE

SPICOLI'S WILD RIDE

West Coast IPA 6.3% ABV

Kill Devil Hills, NC



Idaho 7® Fresh Hops
CTZ T-90

CROSBY HOPS™

BATCH SIZE

10 BBL

GRAIN BILL

Rahr 2-Row	54.6%
Crisp Maris Otter	15.6%
Weyerman Pils	15.6%
Rahr Dextrin Malt	7.8%
Dextrose	4.3%
Crystal 15	2.1%

MASH TEMP

150°F / 65.6°C

HOP SCHEDULE

Kettle Additions

CTZ T-90 (8oz) 60 min
Idaho 7® Fresh Hops (15lbs) 15 min
Idaho 7® Fresh Hops (65lbs) Hop Back*

FERMENTATION

US-05

ADDITIONAL NOTES

*Utilize mash tun to hop back. After a few runs of this recipe, we have been happy with a fifteen-minute, 15lbs addition of fresh hops that we bag and tie off to the kettle. Then, at whirlpool, we move over through a transfer hose through the manway in our mash tun that is full of 65lbs of fresh hops. We run through the heat exchanger to drop the temperature to around 180°F (82.2°C). Once hops are covered (rakes on very slow), we laut back to the kettle and KO to the fermenter at 66°F (18.9°C). We then ferment at 68°F (20°C), drop temperature to 55°F (12.8°C) after passing VDK test, dump or harvest yeast, and drop to 35°F (1.7°C) until ready to package.



What inspired you to use this fresh hop variety to create this beer?

Idaho 7 is such a classic hop that we used often in the beginning of Swells'a due to the familiarity from homebrewing. The punch of citrus, hint of tropical fruit, and a balanced pine contribute to a great IPA. We weaned off the variety for a bit and then had a sample of the Crosby Idaho 7, and we're blown away with the aroma. The timing of just opening and catching the last Idaho 7 harvest of the season contributed a little bit, too. We've continually used this hop and tweaked this particular recipe since we opened in 2021.

WHOLE LOTTA STRATA®

Double IPA 8% ABV

Atlanta, GA



Strata® Fresh Hops

Strata® CGX™

Strata® T-90 (an Indie Hops variety)

CROSBY HOPS™

BATCH SIZE

3 BBL

GRAIN BILL

Crisp Maris Otter	62%
Rahr Premium Pils	20.5%
Rahr Dextrin Malt	10%
Simpsons Golden Naked Oats	7.5%

MASH TEMP

152°F / 66.7°C

FERMENTATION

Chico

ADDITIONAL NOTES

Target OG: 17 Plato / Target FG: 3 Plato

Water profile targets: ~150 ppm Sulfate, ~200 ppm Chloride

*WP at 175°F (79.4°C) for 30 minutes. **Fresh hops in the mash tun might not add much in terms of final product in a big hoppy beer like this, but they do make the graining out process smell amazing! Fresh hops were thrown into the WP in a bag to eliminate pump clogging issues. By cooling down our wort before whirlpooling, we are able to add more fresh hops without over-bittering.

Make sure to clean out the MLT extremely well during the boil and keep the wort above 165°F to avoid picking up any critters in the hop resting process. We were also particularly gentle moving our wort from the WP to the MLT to minimize any hot side oxygen pickup.



What are the key differences in your brewing process when using fresh hops compared to T-90 or CGX?

We used them all for this one, T-90s and CGX were used similarly, with T-90s favored on the terminal DH and in the kettle for a small bittering charge. I love the CGX as a way to really punch through on that mid-ferm dry hop. The fresh Strata was super fun to play with.

THE BRIXTON SUN

British Blonde Ale 4.7% ABV

Lexington, VA



HELIOTROPE

BREWERY



Cascade Fresh Hops
Cascade CGX™

CROSBY HOPS™

BATCH SIZE

5 BBL

GRAIN BILL

All Murphy & Rude Malting Co.

Pils	43.9%
English Pale	43.9%
Vienna	8.8%
Biscuit	3.4%

MASH TEMP

152°F / 66.7°C

HOP SCHEDULE

Kettle Additions

Cascade CGX™ (1lb) 30min
Cascade Fresh Hops (60lbs) Hop Back*

Dry Hop

Cascade CGX™ (1lb)

FERMENTATION

Imperial A38

ADDITIONAL NOTES

*Use mash tun as hop back. Fresh hops are added to the mash tun after the boil. The wort is chilled to 175°F (79.4°C) and transferred onto them. We run the rakes for 20 minutes before knocking out into the fermenter.

Cask condition, spund, or force carbonate to approximately 1.8 volumes, and serve via a beer engine at around 55°F (12.8°C).



What inspired you to use this fresh hop variety to create this beer?

This beer was inspired by a recent month spent in London pubs, happily drinking every cask beer I could get my hands on. I thought it was interesting how many otherwise traditional blonde ales in the UK are made with American C-hops. I wanted to recreate that drinking experience as best I could, and Cascade was the perfect hop choice: relatively low alpha acids, and nice and citrusy without the pine or tropical notes of other varieties.

DOUG E. FRESH HOP (IDAHO 7®)

West Coast IPA 7% ABV

Elk Grove Village, IL



Idaho 7® Fresh Hops

Idaho 7® T-90

Simcoe® T-90

CROSBY HOPS™

BATCH SIZE

15 BBL

GRAIN BILL

Rahr Premium Pils	76%
Rahr 2-Row	22%
Best Chit Malt	2%

MASH TEMP

149°F / 65°C

HOP SCHEDULE

Kettle Addition

Simcoe® T-90 (0.25lbs/bbl) 60 min
Idaho 7® Fresh Hops (13.3lbs/bbl)
Hop Stand*

Dry Hop

Idaho 7® T-90 (2lbs/bbl) @ Day 7

FERMENTATION

SafAle US-05

ADDITIONAL NOTES

Water: 100(ish) ppm SO4 / 40(ish) ppm CL

*Utilize mash tun to hop back. For the fresh hop process, our 15 BBL mash tun is the ideal vessel to manage the density of 200lbs of whole cone hops. It is equipped with rakes that we use to gently mix the hops once they are introduced into the wort. While we are boiling, we CIP the mash tun and rinse with cold water to allow the vessel to get as cool as possible. In turn, the temperature of the wort being knocked-out into the mash tun is roughly 190°F. We've found this hop-stand temperature to work best for our West Coast IPA's, as it appears to allow for maximum extraction of flavor and aroma while limiting isomerization of alpha acids (but still contributing enough bitterness that is desired in this style). We do a 20 minute hop-stand before knocking-out into the FV.



Can you share any memorable experiences from your journey of brewing fresh hop beers?

Every brew day we've had with fresh hops has been full of excitement. We are always eager to receive the hops from the delivery truck so we can take a big whiff from their boxes, admire their individual shapes and sizes, and take fun pictures. Once the hops have met their destiny and taken a dunk in the wort, the whole brewery is redolent of a hop farm on a warm day. This is the reason we enjoy brewing. Even though the brew day is long and the clean-up is messier, it's all worth it. I'd brew with fresh hops every day if I could.



CROSBY HOPS™

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