



NORTHERN BREWER

O.G.	ABV	IBU	BREW TIME: 6 WEEKS
1.064	7.0%	35	Primary: 2 Weeks
			Secondary: 2 Weeks
			Bottle Conditioning: 2 Weeks

STARGAZER HAZY DOUBLE IPA

This hazy double IPA was formulated to showcase the tropical and juicy aromas from BSG Hops' Zamba™ blend and the minty and green-apple aroma notes from German Polaris hops. The grist is typical for the style, with a little boost from sucrose to increase wort gravity without adding non-fermentables or additional malt flavor. The hopping schedule and yeast strain are intended to set the stage for aroma retention and biotransformation while keeping hop bitterness in check. Recipe creator Ashton Lewis says, "The name is also a bit odd and was inspired by the recent Great Conjunction and the use of North Star Pils™ malt and Polaris (a.k.a. the North Star) hops."

KIT INVENTORY

GRAIN BILL & OTHER

FERMENTABLES

- 6.5 lbs Rahr North Star Pils™ Malt
- 3.25 lbs Rahr Red Wheat
- 1.5 lbs Flaked Oats
- 1 lb Corn Sugar

PREMIUM HOPS

- 0.5 oz Polaris **60 min**
 - 0.5 oz Zamba™ **60 min**
 - 1 oz Polaris **Steep**
 - 1 oz Zamba™ **Steep**
 - 3 oz Polaris **Dry hop**
 - 3 oz Zamba™ **Dry hop**
- Note: The total amount of dry hops is split between two equal additions.*

SUGGESTED YEAST

YEAST

- DRY YEAST:
Lallemand LalBrew Köln
 Optimum Temp: 54°- 68°F
- LIQUID YEAST OPTION:
Omega Yeast OYL-044 Kolsch II
 Optimum temp: 65°- 69°F
- Imperial Yeast G03 Deiter**
 Optimum temp: 60°- 69°F

BEFORE BREW DAY

- Upon arrival, unpack kit.
- Read all instructions before starting.
- Be sure you have all items listed in the Kit Inventory.
- Refrigerate liquid yeast.
- If making a yeast starter, we suggest 24-48 hrs.
- Contact us if you have any questions or concerns.

YOU WILL NEED

- Homebrewing equipment for brewing 5 gallon batches.
- All-grain equipment kit with mash tun and hot liquor tank
- Boiling kettle (at least 8 gallon capacity).
- Approx. 2 cases of 12 oz or 22 oz pry-off beer bottles.
- **Optional** - 5 gallon carboy, with bung and airlock, to use as secondary fermentor.

A FEW HOURS BEFORE BREW DAY

Remove liquid yeast package from the refrigerator. Leave in warm place (~70°F). Check yeast instructions on packet.

BREWING NOTES

KEY STATS

Brew Day Date: _____

Secondary: _____

Important Additions: _____

Bottling/Kegging: _____

Fermentation Temp: _____

Yeast Strain #: _____

Measured OG: _____ FG: _____

MASH SCHEDULE

SINGLE INFUSION

If you are new to all-grain, we suggest starting with 1.5 quarts of water per pound of grain for strike water volume. This mash thickness can be adjusted for future brews as you become more comfortable with your equipment.

Saccharification Rest: 154° F for 60 minutes

Mashout: 170° F for 15 minutes (optional)

To raise the temp for mashout, gently apply direct heat while stirring well (if using a kettle), or add near boiling water until target temp is reached.

Prepare sparge water in hot liquor tank at 1 quart per pound of grain. Perform a fly sparge until you reach pre-boil volume (6.5-7 gallons) in your kettle. Sparge should take about an hour for optimal extraction efficiency. You should end with extra sparge water in hot liquor tank. Use this hot water to clean later on.

BOIL ADDITIONS & TIMES

Total time: 70 mins

- | | |
|-----------------------------|------------------------------------|
| - 0.5 oz Polaris
60 min | - 1 oz Polaris
Steep for 10 min |
| - 0.5 oz Zamba™
60 min | - 1 oz Zamba™
Steep for 10 min |
| - 1 lb Corn Sugar
60 min | |

PRIMARY FERMENTATION

- Within 48 hours Active fermentation begins.**
The optimum temp. for this beer is 60°- 68°F.
- On day 2 of active fermentation, add **1.5 oz Polaris** and **1.5 oz Zamba™** to the fermenting beer.
- On day 4 of active fermentation, add the remaining **Polaris** and **Zamba™** to the fermenting beer.
- Within 2-3 weeks active fermentation ends.**
Proceed to next step when:
 - Cap of foam falls back into the beer.
 - Bubbling in airlock slows down or stops.
 - Specific gravity as measured with a hydrometer is stable.

SECONDARY FERMENTATION (OPTIONAL)

NOTE: You may skip secondary fermentation and simply add 2 weeks to primary fermentation before bottling.

- Sanitize siphoning equipment, airlock, carboy bung or stopper. Siphon beer from primary fermenter into secondary.
- Allow beer to condition in secondary fermenter for 2 weeks before proceeding with the next step. Timing is now somewhat flexible.

AFTER THE BOIL

- When 70 minute boil is finished, remove from heat.
- Cool wort to 60°-68°F ASAP.
- Sanitize fermenting equipment and yeast pack: While wort cools, sanitize fermenting equipment (fermenter, lid or stopper, airlock, funnel, etc) along with yeast pack.
- Transfer cooled wort into primary fermentation vessel using valve on boil kettle, siphoning from boil kettle, OR pouring wort into fermenter.
- Aerate wort. Seal fermenter and rock back and forth to splash for a few minutes, or use an aeration system and diffusion stone.
- Measure specific gravity of wort with a hydrometer. Record. Target gravity for this kit is 1.064.
- Add yeast once temp of wort is between 60°-68°F. Sanitize and open yeast pack. Carefully pour contents into primary fermenter.
- Seal fermenter. Add 1 tbsp of sanitizer or clean water to sanitized airlock. Insert airlock into rubber stopper or bucket lid. Seal fermenter.
- Move fermenter to a warm, dark, quiet spot until fermentation begins.

BOTTLING DAY (ABOUT 4 WEEKS AFTER BREWING DAY)

- Sanitize siphoning and bottling equipment.
- Mix a priming solution (sugar dissolved in water; carbonates bottled beer). Use the following amounts, depending on which type of sugar you use:
 - Corn sugar (dextrose) 2/3 cup in 16oz water.
 - Table sugar (sucrose) 5/8 cup in 16oz water.Bring solution to a boil. Pour into bottling bucket.
- Siphon beer into bottling bucket and mix with priming solution. Stir gently to mix
 - *do not splash.*
- Fill and cap bottles.

CONDITIONING (ABOUT 6 WEEKS AFTER BREWING DAY)

- Condition bottles at room temp. for 1-2 weeks. After this point, store bottles cool or cold.
- Serving: Pour into a clean glass. Be careful to leave any sediment at the bottom of the bottle. Cheers!

WE'VE GOT YOUR BATCH

We're so confident in the quality of our beer kits, we'll replace any kit, anytime, no questions asked.

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