

# SUPERFOG

## Technical Data Sheet



Harness the super punch of haze, big tropical flavours, and smooth body.

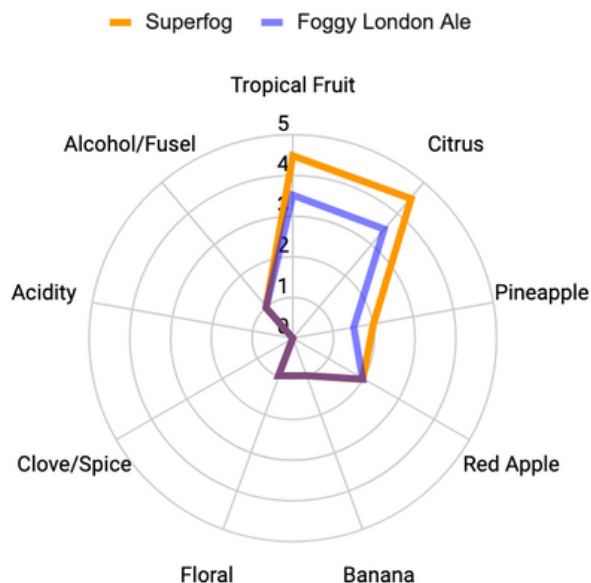
- Enhanced tropical and citrus aroma and flavour
- Stable haze retention for worry-free haze
- Smooth mouthfeel with elevated body

**Meet SUPERFOG, the hero your hazy IPA deserves.**

Based on our popular *Foggy London Ale* yeast strain, SUPERFOG enhances thiol biotransformation to amplify tropical fruit aromas like passionfruit and grapefruit, while elevated glycerol production delivers a smooth, full-bodied mouthfeel. Its consistent haze retention ensures your beers stay beautifully cloudy from brew day to the last pour. Whether you're brewing juicy hop flagships or experimenting with haze-forward styles, Superfog guarantees bold flavours, stable haze, and a silky finish that sets your beer apart.



### Key Characteristics



Attenuation:	70-80%
Temperature Range:	16-22°C (61-72°F)
Recommended Pitch Rate:	0.5-0.7 million cells/mL/°P
Diastatic (STA1+):	No
Fermentation Rate:	Medium (FG within 5-7 days)
Flocculation:	Medium (chain-forming)
Alcohol tolerance:	Medium (10%)
Phenolic (POF+):	No
Biotransformation:	High (thiol favouring)
Flavour Profile:	Citrus, Tropical Fruit, Orchard Fruit
Suitable Beer Styles:	Hazy IPA, DIPA, NEIPA, Pale Ale



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### Best Practices/FAQ

- **Mash Temperature:** This strain is highly responsive and dynamic to wort fermentability. On average, our testers found the attenuation to be similar to Foggy London Ale (average 75%)
- **Oxygenation:** This strain benefits from high rates of wort dissolved oxygen (>12PPM, ideally 20PPM).
- **Fermentation temperature:** A slightly cooler fermentation (17-18°C or 63-65°F) may favour thiol expression but will result in a slower fermentation.
- **Yeast Nutrients:** Ensure sufficient nutrient availability, pay particular attention to zinc, magnesium, and B vitamins.
- **Water Profile:** Balance your wort with some magnesium to balance the calcium if you are adding high rates of calcium chloride before fermentation.
- **Pitching Rate:** A lower pitching rate (0.5-0.7 million cells/mL/degP) benefits expression of thiol aromas.
- **Fermentation Time and Hop Creep:** As with any yeast, allow for complete fermentation including “hop creep” fermentation resulting from dry hopping.
- **Yeast Blending:** This yeast can be blended with aroma active, haze neutral strains to make a flavour profile all your own and retain the stable haze and biotransformation. Suggestions: Thiol Libre (more guava), Elysium (more pineapple), Pomona (more peach).
- **Comparison with Thiol Libre:** Compared to Thiol Libre (Escarpment Labs), Superfog has lower attenuation, higher haze stability, higher formation of 3-MH (grapefruit) and lower formation of 3-MHA (guava).

### The Nerdy Details

- **Strain Background:** This is a variant of our popular Foggy London Ale strain, modified with a fully functioning yeast *IRC7* beta lyase enzyme gene, introduced into a region of naturally high gene expression.
- **GMO Status:** This strain is considered self-cloned as it has only been modified with DNA from a different *Saccharomyces cerevisiae* strain. Self-cloned organisms are considered GMO in certain jurisdictions. Contact us for more information if required.
- **Species and family:** *Saccharomyces cerevisiae*, British sub-clade of “Beer 1” family.
- **FAN consumption:** 150-175 ppm FAN consumption, target 200-220ppm total wort FAN
- **Lab QC Specs:** Wrinkled appearance on WLN or UBA agar. Chain-forming oblong cells under the microscope. No growth on LCSM, MRS, LMDA, HLP, WLD, or any other medium containing cycloheximide or copper sulfate as selective agents.



**Appearance on WLN Agar:**  
Rough/matte white or pale green colonies



**Microscopic Appearance:**  
Large, oblong cells forming chains



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### Tips for Recipe Design

#### Balance Nutrition

Using wort with the right amount of FAN (not too much, not too little) can potentially maximize thiol expression without creating excessive hydrogen sulfide (rotten egg). This encourages the expression of the IRC7 enzyme to release bound thiols.

Supplying your fermentation with enough micronutrients (including zinc, amino acids, and B vitamins) can help avoid off flavours and can help improve the production of volatile esters and thiols. We recommend Yeast Lightning Nutrient at the standard dosage rate.

#### Grain Bill Composition

Malting, kilning, and genetics impact the FAN and thiol precursor availability in malts. Lower kilned malts like Pilsner malt or malts made from European barley varieties can, therefore, help enhance thiol production. Barley contributes more thiol precursors compared to wheat and oats.

#### Hop Additions

Mash hopping can significantly increase thiol precursors in the wort. This is particularly effective when combined with a step mash that includes a protease step (~50°C). Use hops high in thiol precursors (e.g. Cascade, Calypso, Motueka) at a rate of 0.5-1 lb/bbl (200-400g/hL) of wort.

Whirlpool additions using hops with high thiol precursors can further increase the potential for thiol expression. Effective varieties include: Cascade, Alora, Calypso, Motueka, Chinook, and any other varieties containing bound thiols.

#### Additional Suggestions

- Cold fermentation temperatures around 16-18°C (62-65°F) can enhance thiol production.
- Consider using Phantasm powder, derived from Sauvignon Blanc grape skins, to add additional thiol precursors.

#### Additional resources:

<https://beerandbrewing.com/brewing-techniques-balanced-aroma-adjusting-the-thiol-dial>  
<https://scottjanish.com/the-locksmith-utilizing-bioengineered-yeast-and-high-bound-thiol-precursors-hops-and-phantasm-powder-to-thiol-drive-beer/>  
<https://escarpmentlabs.com/blogs/resources/thiol-libre-how-to-liberate-thiols-in-your-beer>  
<https://www.hopculture.com/top-hops-for-thiols/>  
<https://www.wildabout hops.nz/guide-to-thiolised-yeast.html>

