

# TROPICS™

Tropics will have beers bursting with pungent guava and passionfruit – taking any Juicy, Hazy or even a Cold IPA to another level. Tropics allows the following ale and lager yeast strains to produce the most active thiol-liberating enzyme known to nature. The enzyme under the hood is a carbon-sulfur-lyase (CSL), which converts flavorless precursor molecules in malt and hops into flavorful free thiols.

## Available parent strains:

London Ale, GY Vermont IPA, Hornindal Kveik, and Augustiner Lager

## Benefits:

Produces a CSL enzyme to release bound thiols from hops and malt into free thiols flavor-active that taste like guava and passionfruit

## Usage and storage:

We size the pitch according to your recipe specification, accounting for the volume of the batch and the starting gravity. Our general recommended pitch rate is 750,000 cells/mL/°P for ales under 18°P and 1,000,000 cells/mL/°P – 1,500,000 cells/mL/°P for ales 18°P and above. We recommend pitching at a rate of 1,500,000 cells/mL/°P for lagers. Pitch yeast directly into the fermenter at recommended temps.

As a best practice, please store the yeast in refrigerated conditions upon arrival. We recommend using the pitch as soon as possible or within 48 hours. If not possible, store cold and if noticeable pressure is building within containers, slowly twist open the lid while lightly pressing down on the container to release gas. While maintaining positive pressure, close the lid tightly and continue to store cold.

With Tropics strains, we don't recommend mash hopping. It has been suggested that mash hopping might help convert Glut-3MH to Cys-3MH prior to fermentation. Tropics strains already express enzymes that convert Glut-3MH to Cys-3MH during fermentation, and mash hopping is prone to creating astringent, bitter, and vegetal off-flavors.

## Performance data:

### Fermentation Curves for Tropics Strains

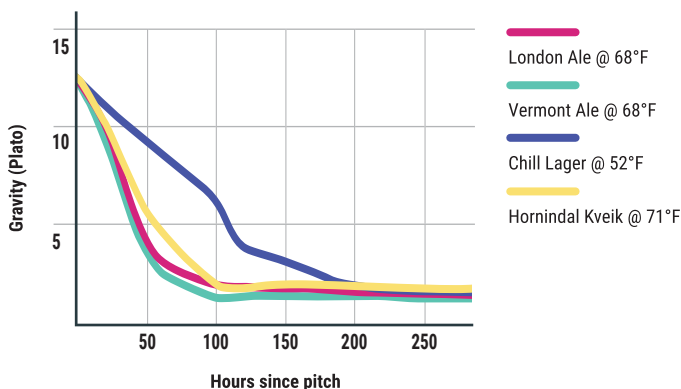


Figure 1: Fermentation curves using Berkeley Yeast's standard wort.

### Thiol Concentration Data

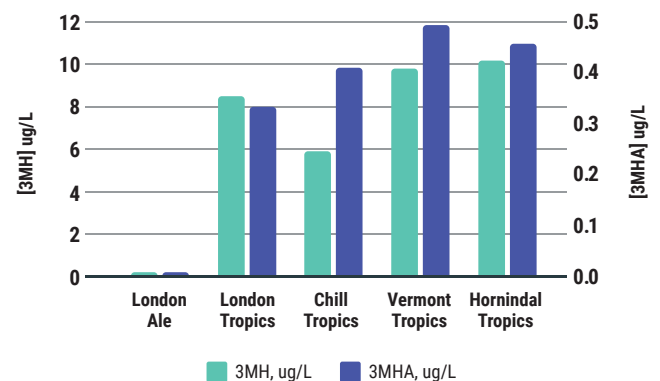


Figure 2: Thiol production data of Tropics yeast strains bioengineered with the CSL gene. This chart also provides a direct comparison of London Ale (not bioengineered) strain vs. London Tropics



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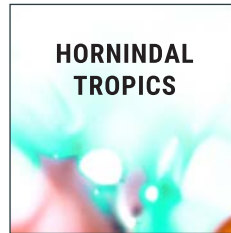
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## Available yeast strain comparison



### LONDON TROPICS

**Parent strain:** London Ale  
**Temp range:** 64–72°F  
**Attenuation:** 70–75%  
**Flocculation:** Medium  
**Haze:** High



### HORNINDAL TROPICS

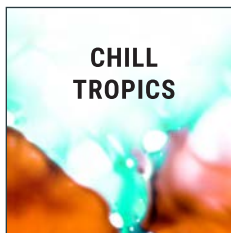
**Parent strain:** Hornindal Kveik  
**Temp range:** 64–98°F\*  
**Attenuation:** 75–83%  
**Flocculation:** High  
**Haze:** Low–Med

\* Note: higher temperatures will increase the rate of fermentation



### VERMONT TROPICS

**Parent strain:** GY Vermont IPA  
**Temp range:** 64–72°F  
**Attenuation:** 74–82%  
**Flocculation:** Medium  
**Haze:** High



### CHILL TROPICS

**Strain type:** Augustiner Lager  
**Temp range:** 50–62°F  
**Attenuation:** 72–75%  
**Flocculation:** Medium  
**Haze:** Low



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