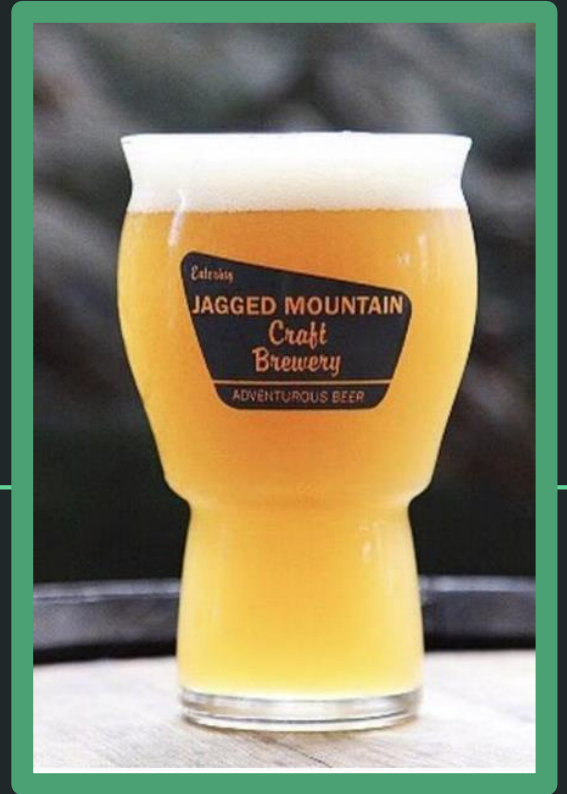


Secrets of the New England IPA

Alyssa Thorpe



Style Guidelines at a Glance

Color- Low to very high degree of cloudiness

Aroma- medium high to very high hop aroma

Bitterness- low to medium. Soft and well integrated into overall balance and may differ significantly from measured or calculated IBU levels

Body- medium low to medium high. Silky to full mouthfeel.

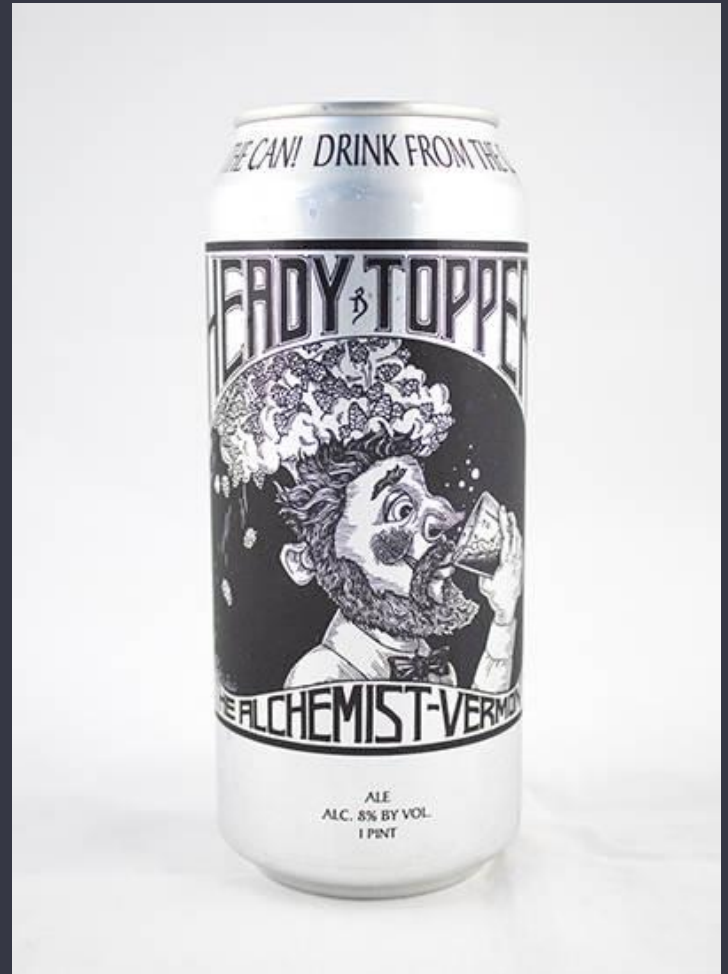
Measurements- OG 14.7-17.1 °P FG 2-5 °P IBU 30-60 (May differ significantly from perceived bitterness) Color SRM 4-9 ABV 6-9%

History

The Alchemist Brewery in Vermont, USA were brewing hazy IPAs starting in the 90's

It wasn't until they started packaging Heady Topper when the beer and the style caught popularity and consumers started asking for them.

Great American Beer Festival made it an official style under the category "Juicy or Hazy Indian Pale Ale"



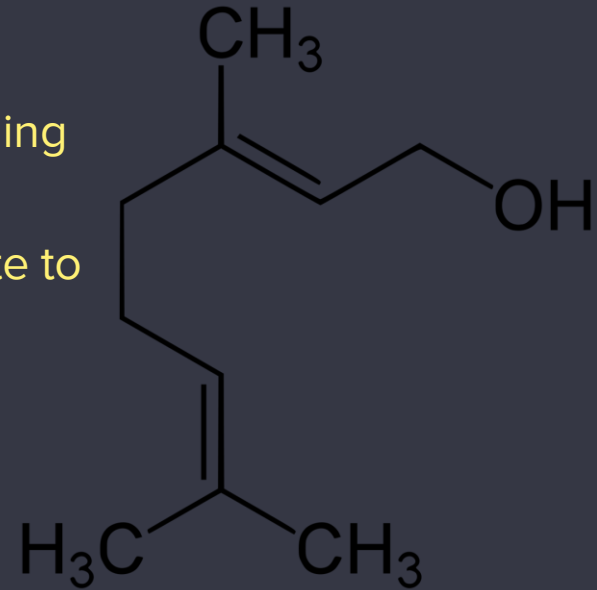
What is the Haze?

According to a study done by John Paul Maye and Robert Smith published with the Master Brewers Association the haze itself is mostly made up of polyphenols and proteins. The proteins are likely from the use of high protein adjuncts like wheat and oats used in the grain bill. This haze acts as a carrier for nonpolar hop compounds contributing to the unique smell and soft flavor typical of NEIPAs

- Prolamins bonding with polyphenols from barley and hops to form beer haze
- Wheat and Oats contain high levels of prolamins
- No significant data pointing towards suspended yeast as a haze contributor
- High concentrations of hop acids can add to haze, but only about 10%

Biotransformation

- Interaction between a hop compound and yeast leading to a new aromatic compound
- β -glucosidase high yeasts work the best to contribute to biotransformation
- Transforms hop compounds such as geraniol into citronellol
- Adds to the complexity of NEIPAs
- Works best dry hopping when yeast is in active fermentation, usually when almost complete to avoid hop oil absorption and aromatics loss due to CO₂ stripping
- Yeast selection is important when making NEIPAs for a complex “juicy” hop profile



Geraniol

Recipe Development



Malt Bill

- **Standard base malt, Pilsner or 2-row**
- **Avoid any crystal malts**
- **You can add a small amount (5-8%) of biscuit or honey malt for complexity**
- **High percentage (10-20%) of wheat to add prolamins (haze promoter)**
- **Flaked grains such as flaked wheat or rye**
- **Oats for a silky, smooth mouthfeel**
- **Avoid step mashes, Mash in high, 150-152 for body**



Water Adjustments

- For a softer mouthfeel do a higher dose of Calcium Chloride
- Low on Gypsum to avoid dry bitterness
- 2:1 ratio seems to work well for most

Yeast Choices

- B-glucosidase high yeasts
- Low attenuating, low flocculating, and high ester producing strains
- Some popular yeast strains are:

White Labs Burlington Ale

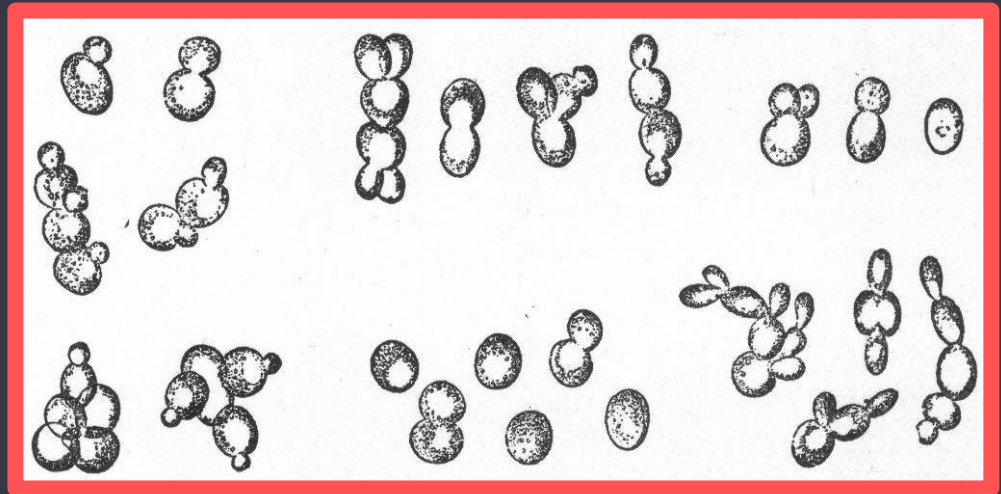
Omega Yeast OYL-052 DIPA

The Yeast Bay Vermont Ale

Lallemand Dry New England

Wyeast London Ale III

Any strain labeled “Conan”



Hops and Bitterness

- **Fruit forward varieties such as Citra, Amarillo, Galaxy, Mosaic**
- **Little to no early bittering additions**
- **Primarily large whirlpool additions anywhere from 1.5–1.75 lb/bbl (680–794 kg/bbl)**
- **Low temp whirlpool/hopstand at 180 degrees to avoid extracting bitterness**
- **Low bitterness below 60 IBU**
- **Two stage dry hop, about 1–2.5 lb/bbl (454 g–1.13 kg/bbl) first at end of fermentation (for biotransformation) and the second at terminal**
- **Be sure to only let these hops sit in the fermenter 2-3 days to avoid vegetal and grassy characters**

Conditioning

- Longer conditioning times
- Crash as normal, pulling off hops from the cone to make sure you aren't sitting on hops (max 3 days)
- Do not recommend repitching yeast due to the hops added during fermentation
- Some NEIPAs may take 1-3 weeks to condition and get rid of the "hop burn"



Shelf Life and Haze Stability



- Very Low shelf life
- Haze stability decreases more than 50% after one month
- Introduction of oxygen can rapidly accelerate this process
- Be aware of “Hop Creep” due to the large amount of dry hops

Conclusion

- NEIPAs are actually very complex beers!
- Crafting the appropriate grain bill with high prolamins is key to producing haze
- Selecting a low flocculating yeast strain high in B-glucosidase
- Knowing how to utilize biotransformation with fruit forward dry hoppings
- Little to no bittering additions, all cooler temp whirlpool hops
- Adjusting water for a softer, rounder mouth feel

References

- (1) <https://www.thrillist.com/drink/nation/new-england-ipas-best-beer-style>
- (2) <https://www.mbaa.com/publications/tq/tqPastIssues/2018/Documents/TQ-55-4-1218-01.pdf>
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- (4) <https://beerandbrewing.com/unlock-the-secrets-of-new-england-style-ipas/>
- (5) <http://dev.bjcp.org/beer-styles/21b-specialty-ipa-new-england-ipa/>

Q & A

