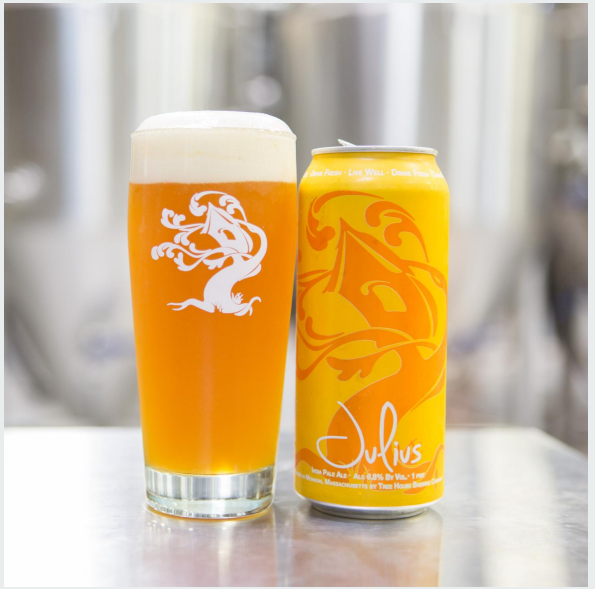
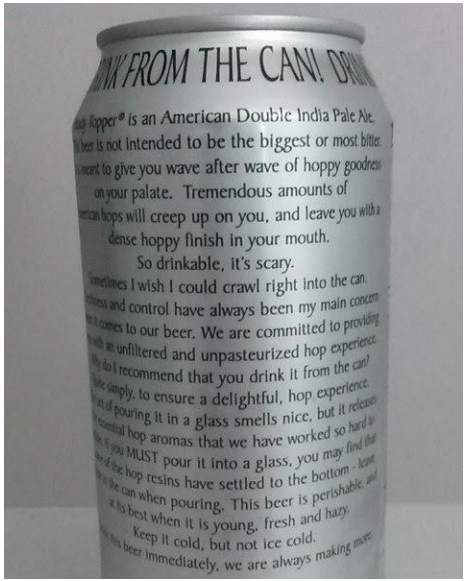
New England IPA

NEIPA, Juicy and West-Coast Hazy IPAs



History

- John Kimmich opened the Alchemist in 2003 and started producing the double IPA Heady Topper, widely considered the first New England IPA.
- Customers would bottle pints in the bathroom and sell them online.
- Around 2011, Heady Topper was becoming widely known outside of New England as one of the best IPAs in the world.
- Described by many as an unpolished, flawed IPA, it was often compared unfavorably to Pliny the Elder due to unsightly turbidity and flocs at the bottom of cans.
- Kimmich implored customers to “Drink From The Can” and was confident that flavor and aroma were superior if people weren’t distracted by the turbidity.



History

- From 2010 to 2013, some of the biggest players in hoppy beer would open in New England, like Vermont's Hill Farmstead (2010), central Massachusetts' Tree House (2011) and Boston's Trillium (2013).
- Within a few years, the new style of IPA would be attempted and imitated by every craft brewery on the planet, and soon thereafter largely displacing West Coast IPA as the dominant hop-lover's craft beer.
- In 2018, the Brewer's Association would add "Juicy or Hazy Ale Styles" to the GABF and the BJCP would add the 21B New England IPA style.

BJCP Style 21B: New England IPA

Aroma

- Intense Hop Aroma
- Fruity Hops (Stone Fruit, Tropical, Citrus)
- Neutral Malt Background
- Possible Light Bready Sweetness
- Neutral to Fruity Fermentation Character

Appearance

- Straw to yellow (Hazy West Coast), sometimes with an orange hue
- Hazy to opaque
- Medium to rocky meringue white head
- No particulates
- High to very high head retention

Flavor

- High to very high hop flavor
- Hop flavor similar character to hop aroma (stone fruit, tropical, citrus)
- **Perceived bitterness** low to medium-high
- Aftertaste should not be sharp or harsh
- Low to medium malt flavor
- Sometimes bready, grainy, slightly sweet
- Noticeable toast or caramel is a flaw
- Fermentation neutral to fruity
- Creamy, starchy, sugary-sweet flavors inappropriate
- High ester level and lower bitterness can give the impression of moderate sweetness

Mouthfeel

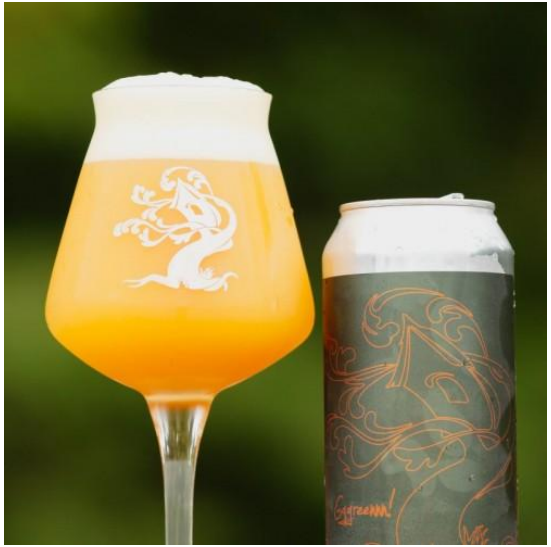
- Medium to medium-full body
- Smooth character
- No harsh hop-derived astringency
- Medium carbonation (often medium-low)
- Should not have a creamy or viscous mouthfeel (most good examples do to a degree)

Keys to New England IPA

1. Very high hop flavor and aroma
2. Tropical, citrus and stone fruit character
3. Neutral to slightly sweet malt background
4. Soft, pillowy mouthfeel
5. Clean to slightly fruity fermentation

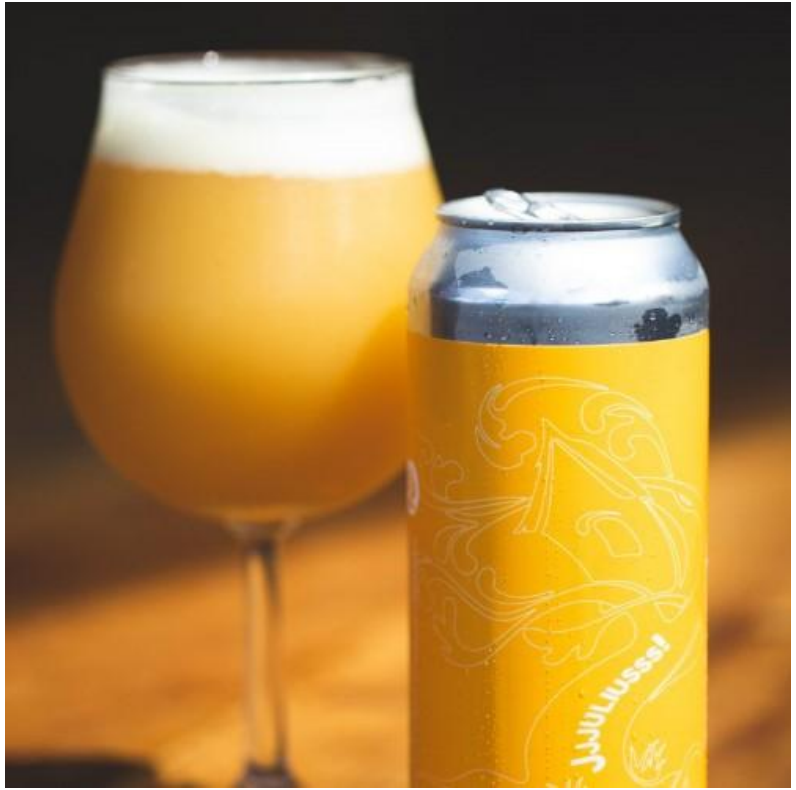
New England vs. Hazy IPAs


HAZY
JUICY HAZY IPA
HAZY
JUICY HAZY IPA



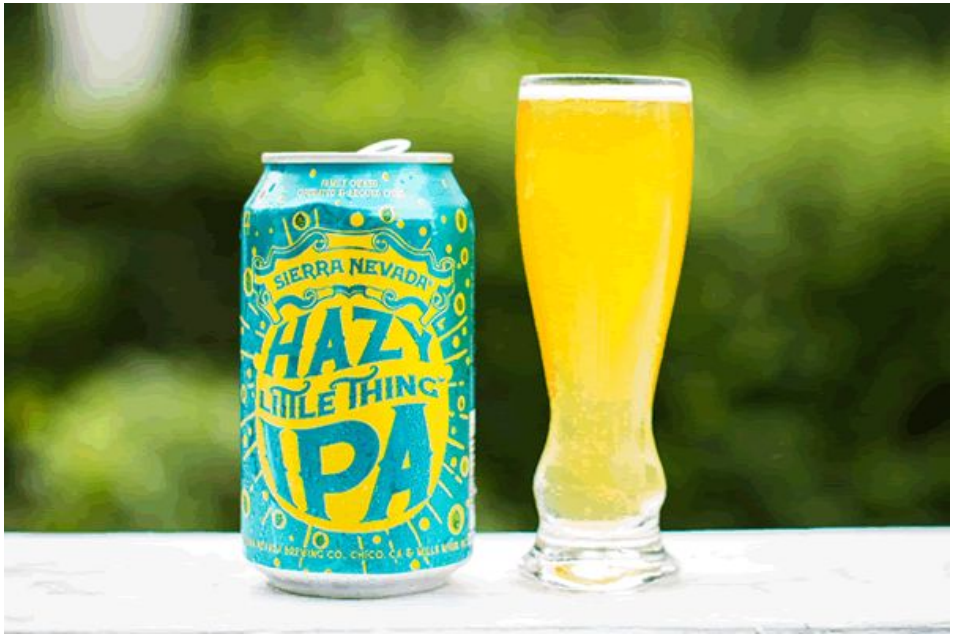
New England IPA

- Very intense hop flavor and aroma
- Less perceived bitterness
- Usually with a softer, pillowy mouthfeel
- Usually with a malty flavor profile
- Usually leaning in the gold to orange in color
- Full body
- Often with a denser turbidity



Hazy IPA

- Intense hop flavor and aroma
- Higher perceived bitterness than NEIPA
- Lower bitterness than traditional IPA
- Usually drier body
- Low, clean malt flavor
- Straw to gold in color
- Usually medium body
- Moderate to high turbidity



Techniques and Pitfalls

Hop Aroma and Flavor

- Add copious amounts of hops (but not too much for its part of the recipe)
  - Small or no bittering addition
  - Small or no late additions
  - Low to high whirlpool additions
  - Possible high temperature and low temperature whirlpool additions
  - Possible early dry hop addition (biotransformation)
  - High dry hop addition, sometimes broken into two or even three parts (double dry hop, triple dry hop)
- Do not overbitter (actual or perceived bitterness)
  - Dry hop additions do contribute bitterness
  - Keep in mind that hop astringency increases perceived bitterness
  - Softening mouthfeel lowers perceived bitterness
  - Higher bitterness can be partially canceled out by higher final gravity

Creating Full Bodied and Malty NEIPA

- Always add proteinaceous malt to grist, or start from a high protein or full bodied base malt
- Higher chloride vs. sulfate in brewing liquor
- Higher temperature, single infusion mash
- Use lower attenuative, maltier yeast strains such as English strains
- Use different base malts and find what's ideal for you and the recipe

Creating Turbidity

- No need if you're seeking the aroma/flavor/mouthfeel of a New England IPA
- Caused by protein-polyphenol formation, mostly from contact between malt proteins and hop polyphenols in late boil, whirlpool and dry hop
- Certain hops such as Galaxy are known to give higher haze levels
- Turbidity should not be hard to achieve with proper hopping rates and grist.
- Turbidity isn't the *goal* of the New England IPA, rather a byproduct of necessary **higher hopping rates** coupled with **higher protein malts**

Pitfalls

- Oxidation
  - Use of flaked oats increases beta-glucan (intended effect) and manganese (side-effect). Higher solution concentrations of metals such as iron, copper or manganese help convert oxygen in solution to reactive oxygen species (ROS), leading to increased rate of oxidation.
  - Solution:
    - Minimize O2 pickup to minimize ROS formation, especially when using flaked oats.
- Hop-derived astringency
  - Increased contact with hop plant matter in solution leads to increased solution polyphenols.
  - Solutions:
    - Avoid over-hopping (test various rates)
    - Fully precipitate dry hop with longer cold crash periods
    - Lower plant matter in boil, whirlpool and/or dry hop by using some concentrates

Pitfalls

- Dry hop creep / Late Diacetyl
  - Use of massive dry hop amounts increases levels hop enzymes, which lead to a second fermentation when those enzymes work on residual dextrin in solution.
  - This second fermentation, like the primary, produces some diacetyl which requires “cleanup”
  - Solutions:
    - Dry hop after yeast has been crashed and finished beer is kept at a temp below the yeast’s active range (maintained level of attenuation)
    - Allow enough time post-dry-hop for yeast to scrub out diacetyl (higher attenuation)

Example Recipe

Recipe Formulation

- Use fresh malts and *especially* fresh hops
- Use mostly a simple base malt or base blends(70-85% of grist)
  - Pilsner, pale malts from all maltsters, English pale malts, Maris Otter, Vienna
- Use higher protein malts and adjuncts (15-30% of grist)
  - Malted / flaked wheat, oats
- Possible use of very small amounts of light (<= 40 Lov) caramel malts (0-3% of grist)
- Use of the most stone-fruity, tropical and citrusy hops
  - El Dorado, Mosaic, Citra, Galaxy, Rakau, Wai-iti, Simcoe, Amarillo, Cashmere, Azacca, Denali, Idaho 7, etc.
- Use hops mostly in whirlpool and dry hop
- Use of maltier, less attenuative, fruitier ale yeast strains (and possibly higher fermentation temperatures and/or lower pitch rates)
  - Conan, English ale strains

Weldworks Juicy Bits (Between Hazy IPA and NEIPA)

Batch: 5 Gallon

OG: 1.062

IBU: 45

SRM: 4.5

FG: 1.012

4lb 2-row pale malt

4lb Pilsner malt

1lb Dextrin malt

12oz Wheat malt

12oz Flaked Wheat

12oz Flaked Oats

6oz Dextrose

Weldworks Juicy Bits (Between Hazy IPA and NEIPA)

0.33oz Magnum 14%AA FWH

0.33oz Citra 12.5%AA FO 40m

0.33oz El Dorado 15.7%AA FO 40m

0.33oz Mosaic 13.1%AA FO 40m

0.66oz Citra 12.5%AA FO+10 30m

0.66oz El Dorado 15.7%AA FO+10 30m

0.66oz Mosaic 13.1%AA FO+10 30m

1oz Citra 12.5%AA FO+20 20m

1oz El Dorado 15.7%AA FO+20 20m

1oz Mosaic 13.1%AA FO+20 20m

0.5oz Citra 12.5%AA DH 9day (1.020)

0.5oz El Dorado 15.7%AA DH 9day (1.020)

0.5oz Mosaic 13.1%AA DH 9day (1.020)

Weldworks Juicy Bits (Between Hazy IPA and NEIPA)

1oz Citra 12.5%AA DH 6day Terminal+

1oz El Dorado 15.7%AA DH 6day Terminal+

1oz Mosaic 13.1%AA DH 6day Terminal+

0.5oz Citra 12.5%AA DH 3day Terminal+

0.5oz El Dorado 15.7%AA DH 3day Terminal+

0.5oz Mosaic 13.1%AA DH 3day Terminal+

Epsom Salt

Calcium Chloride

Wyeast 1318 London Ale III