

Using Distilled Hop Oils

A Big Picture Perspective



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New Realm Brewing



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My Perspective



A Fair Bit of Experience

- 30 years in the business
- AB, Stone and now New Realm
- Serious love of hoppy beers
- Innovation with hops is fueling the growth of IPA
- BA Book Author:
 - *IPA Brewing Techniques*
- An award or two

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My Experience

My Experience Brewing with Distilled Hop Oil

- Test brews at Refuge Brewery in a Triple IPA
- Our New Realm Radegast Triple IPA
- New Realm “Technohop IPA”
- Rescuing a beer

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Distilled Hop Oils:

Long-Term Potential

The BIG Picture

- Can be used in stand alone dry-hop replacement, but IMO best as a supplement to other hopping protocol
- Can increase yield per batch
- Can be used in whirlpool to increase BH yield
- Extend shelf life of IPA
- Provide unique flavor components to your beer

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Yield Increase



- Cold Wort Yield (aka brewhouse extract recovery):
 - Typically 90-95% on non-hoppy beers
 - Typically 85% on very hoppy beers
 - Supplementing late hopping with some Distilled Hop Oil in the whirlpool can improve yield a few percentage points

Yield Increase

Bright Beer Yield

- Defined as:

Bright beer Bbls recovered from fermentor
BBLs cold wort into the fermenter

- Typically 90% plus for non dry-hopped beers
- 75-85% for dry-hopped beers
- Distilled Hop Oil supplement to the dry hop can reduce the pellet dry-hopping rate from 1.5-2 lbs/bbl to less than 1 lb/bbl while maintaining hop flavor intensity
- Can result in 2-3% yield increase

Extending Shelf Life

Hop-forward Beers

- American hop flavor typically “*drops off a cliff*” at 30-60 days. Volatile oils relationship?
- Using Distilled Hop Oil could potentially extend shelf life from 90 days to potentially 120-150 days
- IPA hop flavor drop-off mitigated by using as little as 2 ml/bbl added to bright beer
- Needs further study

Point of Differentiation and Relevance



- Many successful new IPAs driven by unique & new hop character
 - Hardest to source include:
 - Citra, Mosaic
 - NZ Nelson, Australian Galaxy
- *Distilled Hop Oil adds a distinctly different and more intense hop flavor to beer*

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Embracing New Hop Technology



- **Efficiencies from removing Biomass**
 - Freight
 - Storage
 - Labor
 - Reduce Losses/Increase Yield
 - Decrease IBU losses
- **Reducing Carbon Footprint**
- **Competitive Advantages**

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