

American IPA in 2012

<http://destroy.net/brewing/IPA-2012.pdf>

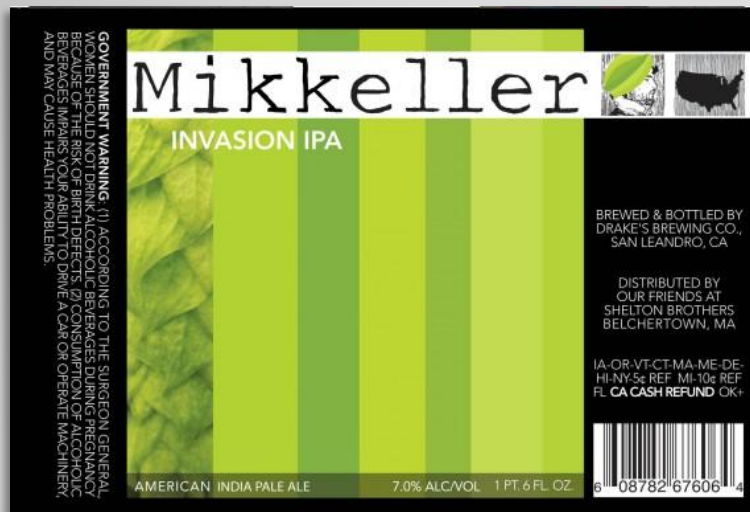


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IPA Takeover

- **Another American IPA? Sigh..**
- **IPA 40% of the craft beer market in the U.S.**
- **IPA is the signature style of U.S. brewing.**





IPA Takeover

- **Is the idea played out?**
- **What is the current state of American IPA?**
- **West Coast IPA Brewing ideas.**
- **New ideas for the style?**



IPA from Yakima's perspective

- **US hop acreage has been doubling for: Centennial, Cascade, Simcoe, Citra.**
- **Breeding programs focus on new qualities: tropical fruit, berry, melon. Not just another super Cascade.**
- **Growing techniques to enhance hop oil content and quality.**



- **Harvesting 2011 Simcoe at Loftus Ranch. Yakima, WA**



- **New blends from Hopunion to fill the void of demand for Simcoe, Amarillo, Citra, and new products.**
- **Hopunion retail packaging for the nano/homebrew market.**



- **New pelletizing and storage methods to retain more essential oils.**
- **Hopunion old pellet die. Soon to be replaced.**



New-School West Coast IPA

- **Sometimes you come across this..**
 - ***"Aggressively hopped! Our copper-colored IPA features a powerful malt backbone to balance the assertive bitterness. For hop-heads only! Over 100 IBU."***
- **Instead, let's think about..**
 - **Moderate bitterness.**
 - **Well attenuated beer with low residual sweetness.**
 - **Big hop flavor & aroma.**
 - **Highlight volatile hop oils as much as possible, move everything else out of the way.**



IPA Brewing Foundation

- **Starting point: A clean, well attenuated, IPA with moderate bitterness, moderate malt character and low residual sweetness.**
- **Save your signature, hard to find varieties for the flame-out/whirlpool/dry hop.**
- **Keep it simple - don't over-engineer the beer.**



American hops - typical flavor & aroma components

- **Citrus:**
 - **Grapefruit:** Cascade, Amarillo
 - **Lime zest/Fruit Loops:** Centennial, Ahtanum*
 - **Lemon:** Citra, Sorachi Ace
 - **Tangerine:** Summit *
- **Pine:** Chinook*, Simcoe, Apollo.
- **Berry/Melon/"Fruity":** Citra (gooseberry/lychee), Simcoe, Summit*, HBC 346, Centennial*, Willamette.
- **Peaches, Apricot:** Glacier, Newport.
- **Dank:** Summit*, Columbus*, Apollo.
- **Pepper:** Apollo, Crystal, Santiam, Liberty, Mt. Hood.
- **Floral:** Crystal, Sterling, Mt. Rainier, Palisade.
- **Woody, Minty:** U.S. Northern Brewer, Millennium*.



Cat piss? Garlic? Really?

- **Everyone loves to hate...**
 - **Cat piss/cat box (ribes/blackcurrant)** = Simcoe
 - **Raw garlic/onions (DMTS)** = Summit, Columbus*, Apollo.
 - **Grassy** = Cascade
 - **Turpentine** = Amarillo, Chinook*.
 - **Sulfur** = Palisade
 - **Lemon rind** = Citra, Sorachi Ace
- **Challenge your assumptions.**
- **Each crop year varies. Sometimes significantly.**
As dry hopping rates increase, this matters more.
- **Hop Storage conditions are critical.**



Late & Dry hopping. What and how much?

- **How much? Jen Talley says.. (Squatters/Red Hook)**
- **8 different commercial IPAs, scaled down to 5gal.**
- **Whirlpool/flame out: 2.25oz.+**
- **Dry hop: 4oz.+**
- **Consider multiple dry hop additions.**
- **Blend hops for maximum impact.**
- **Start by blending hops of similar alpha acid ranges, oil content and intensity.**
- **Super high alpha hops can easily dominate.**
- **Hyper-complex vs. simple dry hopping. Only use a few hop varieties that reinforce what's already been used in the kettle?**



Late & Dry hopping. What do the pros do?

- **Pliny The Elder: Columbus, Centennial, Simcoe.**
- **Green Flash West Coast: Amarillo, Centennial, Columbus, Simcoe.**
- **Bear Republic Racer 5: Centennial, Amarillo, Coumbus.**
- **Firestone Walker Union Jack: Cascade, Centennial, Simcoe, Amarillo.**
- **Bells Two Hearted and Stone IPA: Centennial**
- **Lagunitas IPA: Cascade, Centennial.**



Fermentation & Hop oils

- **Yeast Selection: Clean, neutral California Ale yeast recommended as a starting point.**
- **Increased esters & phenols = clash with Pine & DMTS.**
- **Hop perception influenced by hop-like fermentation byproducts:**
- **Less yeast in solution = more aroma when dry hopping.**



Brewing Ideas

What's Next? IPA Goes to 11.

- **New hop varieties**
 - **Australian & New Zealand hops:**
 - **Motueka*** - Tropical fruit
 - **Galaxy** - Passion fruit
 - **Nelson** - Sauvignon Blanc
 - **Pacific Gem** - Blackberry & floral oak
 - **Riwaka** - Grapefruit
 - **German hops: Herkules*, Saphir, Opal, Merkur*, Emerald, Taurus**



Questions/Comments?

- **Contact**

- nate@destroy.net
- **Twitter:** @nathanhomebrew

- **Links**

- <http://destroy.net/brewing>
- **This talk**
- **Double IPA slides**
- **Hop flavor & Aroma chart.**





Blending by Hop Oils

- **Create your own blends using hop oils as the guide.**
- **Use the published oil statistics as a guide.**
- **Most significant monoterpenoids by the numbers:**
 - **Myrcene – Spicy, Petroleum**
 - **Linalool – Floral, citrus**
 - **Geraniol – Floral, rose**
 - **Limonene – Citrus, Fruity**
 - **Nerolidol – Apple, Rosewood**
 - **Beta-Pinene – Pine, Spicy**
 - **Cirtral – Citrus, Lemon**
 - **Cadinene - Citrus**



IPA Brewing Ideas

Malt and mashing

- 80+% Base malt.
 - Domestic 2-row pale majority, small amounts of Maris Otter, Vienna, Munich, Pils OK. 1% Wheat OK. Experiment with only base malt.
- 3-7% crystal/dextrin malts: Domestic Crystal 10-40, Briess Carapils.
 - Rogue I2PA, Dogfish 90 minute.
- Guess who said this: *"Too much crystal malt muddies up the hop flavors, use lower % of crystal malts for a crisp, clean hop flavor. Crystal malt clashes with bitter hop flavors. 1% crystal malt on our Double IPA, 0% crystal malt on our Triple IPA"*
 - (Vinnie Cilurzo, The Brewing Network 8/14/2005).
- 5-10% Simple sugar to help promote dryness.
- Mash for attenuation: promote beta-amylase enzyme activity (148-152F).



IPA Takeover

Negative aspects?

- Enough acreage to go around?
 - Of the new 725+ new breweries in planning, can they all do a Two Hearted, Pliny, Ruination, Maximus or Maharaja?
- US macro beer production continues to decrease
= Overall acreage of hops in the US shrinking.
 - All of this despite the increased use of hops in the craft segment. More growers get out of the business every year. Cost to expand acreage: \$4500 per acre in land, \$1500 per acre in irrigation.
- Proprietary breeding and patents will dominate new variety research.
 - Amarillo example. One grower, more risk for that variety?