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Craft Brewers Go High-Tech

Once relegated to industrial brewing, hop extracts are the secret behind some of today's briskest craft beers

Nature scenes rule on craft beer labels—mountains, streams, even a yeti or two. But you won't see a pressurized supercritical carbon-dioxide hop extraction chamber on a label anytime soon.

The dirty secret behind today's IPAs: There's little dirty about them. Brewers are sourcing their signature bitterness in sterile labs, not muddy hop fields.

The hop plant contains oils and resins that give beer its bite; lab-made extracts of those flavorful and bitter oils and resins were once relegated to Big Beer's industrial toolbox, while craft brewers stuck to cramming whole cones of the hop vine into the brewing kettle. No more.

Not that industrial hop extraction is anything new. In the 1870s, the New York Hop Extract Company supplied brewers with hop resins made by soaking flowers in gasoline. Today, labs use liquid CO₂ as a solvent, boiling hops to extract oils and then venting the gas away. The liquid that remains is clean, shelf-stable and concentrated, easy to preserve and to ship. "Extracts have better longevity [than raw hops], particularly in countries with developing logistics or harsher climates," said Alex Barth, CEO of John I. Haas, part of the Barth-Haas Group, supplier of hops and hop products world-wide.

While smaller brewers love variations in flavor among different hop varieties and crops, those wrinkles are risks. Extracts, measured by the bitter alpha acid they contain, let brewers dial in bitterness to the decimal point—and crank it up. Lagunitas brewmaster Jeremy Marshall said making the intense Hop Stoopid with cones meant losing about 40% of each batch to absorption.

Most commercial extracts don't come in degrees of dankness or pungency. "They're just generic alpha acid," said Mr. Marshall. So Lagunitas had theirs custom-made, using subtler but more flavorful hops. Sierra Nevada extracted from their beloved Cascades strain with steam distilling equipment borrowed from a nearby mint farm.

"Alpha isn't the point anymore," said Mr. Barth, citing his company's line of Pure Hop Aromas, in blends such as "Citrusy" and "Floral." Still, the new wave of extraction is small. Robert Bourne of Extractz makes variety-specific extractions in an Ohio garage. He supplies a few local brewers but admitted he's on the fringes: "It's more of a home-brew thing."

Even when they come from a garage, extracts haven't quite shed their industrial associations. The Hop Stoopid label shows a rustic barn; the fine print proclaims the "mountain of extracts" in the beer. "People read the label and call us up saying they won't drink it," Mr. Marshall said. "They think it's some industrial, nonnatural thing." Others maintain that whether from a leaf or a vial, flavor trumps all. Try these extract-brewed beers and judge for yourself.

1. **Sierra Nevada Brewing Co. *Hop Hunter*** (6.2% ABV) Made with hop oils distilled minutes after harvest, Hop Hunter sizzles with tangy citrus.
2. **Lagunitas Brewing Co. *Hop Stoopid*** (8.0% ABV) A mandarin meteor of citrus zest and fruit with a syrupy afterburn.
3. **Russian River Brewing Co. *Pliny the Elder*** (8% ABV) The easier-to-find but only slightly less potent sibling to cult IPA Pliny the Younger, Russian River's flagship is a head-clearing burst of orange soda.
4. **Mikkeller *ApS 1000 IBU*** (9.6% ABV) This Danish entry uppercuts with sour and kicks low with dark fruit, like grapefruit crossed with blood orange.
5. **Stone Brewing Co. *Enjoy By IPA*** (9.4% ABV) A deeper, richer IPA, tart, sweet and warming as a syrupy peach cobbler.

THNX, Hank