

# HOP VARIETY INSIGHTS



## NZ CASCADE™ V US CASCADE

Here we take a look at how New Zealand (NZ) grown Cascade differs to United States grown Cascade. And differ it does.

### ANCESTRY

Cascade was a product of the USDA breeding program and released to the public in 1972. Initially known by its number designation of USDA 56013, Cascade originated as a cross between Fuggle and the Russian hop Serebrianka.

### GEOGRAPHY

Cascade is known as a classic American hop variety and is currently one of the more prominent varieties in the US.

It is also grown in all major (and minor) growing areas across the globe, and, most notably, the Southern Hemisphere.

### THE MATTER AT HAND

Given how long Cascade has been in cultivation, its wide-ranging geographies, terroir, harvest windows and growing practices, it's difficult to define Cascade in anything other than relatively wide ranges.

But we're going to take a shot at unpacking a practical comparison of NZ grown Cascade and United States grown Cascade, and what that means for brewers.

### BREWING VALUES

When looking at "brewing values",  $\alpha$ -acid,  $\beta$ -acid, Total Oil and HSI, the differences are relatively minor and NZ Cascade™ is very much at home with US grown Cascade, its values falling within the comparatively wide ranges as reported by the major US grower/merchant organisations.

To understand the differences between NZ Cascade™ and US Cascade is a bit more nuanced but they can have a significant influence on the flavor, quality and character of beer.

### FLAVOR AND AROMA PROFILE

#### US

The classic American Cascade is known for its floral, citrus/grapefruit, woody, spicy aromas. It is most often used in pale ales and IPAs, providing a balanced flavor profile when used appropriately. It is the signature of some classic examples of early American craft brewing.

#### NZ

NZ Cascade™, while it shares a name and some chemistry with its US counterpart, brings unique flavor and aroma characteristics to the glass. NZ grown Cascade presents more pronounced tropical fruit, notes of passionfruit, papaya, stone fruit and sweet grapefruit, complimenting Cascade's familiar citrus, woody and herbal characteristics. The characteristic citrus, which is absolutely present, comes through in beer softer, smoother and fruitier, while leaning more towards fleshy and sweet rather than pithy and resinous.

# IN THE BREWHOUSE AND THE CELLAR

## US

With moderate  $\alpha$ -acid and co-humulone in the low 30s, US Cascade typically imparts a mild and pleasant bitterness when applied in balance. It makes US Cascade a very versatile, “Swiss Army Knife” multi-purpose hop suitable for bittering, flavor and aroma additions in a variety of beer styles, including IPAs, pale ales and stouts.

## NZ

NZ Cascade™, too, is quite versatile with an  $\alpha$ -acid content ranging from 6-9%, and it's also quite appropriate as a dual-purpose workhorse. However, NZ Cascade™ shows its true colors in late kettle and/or whirlpool additions as well as in dry hopping due to its vibrant aroma and flavor character. NZ Cascade™ shines brightest in hop-forward styles like New Zealand IPAs and Juicy/Hazy IPAs where the tropical fruit and sweet citrus notes can be showcased.

## ANALYTICS: THE NUMBERS

Much of the preceding section is anecdotal (much brewer feedback over the years), touching on different parameters from an entirely subjective, arguably hedonistic, perspective. We acknowledge it may or may not be reflected in hop chemistry.

Combing through “public” information around terpenes, in particular, we find that US Cascade tends to be higher in Myrcene and Caryophyllene whereas NZ Cascade™ shows up with more Farnesene and Humulene. None of which goes far to explain the differences between NZ and US provenance.

- **Myrcene**, oversimplified, is generally described as fresh, green and herbaceous, or characteristically “hoppy”.
- **Caryophyllene** imparts Cascade's familiar woody, herbal, spicy aromas.
- **Farnesene** is commonly associated with herbal, citrus and floral aromas.
- **Humulene** is also associated with a general “hoppy” character and directionally spicy woody.

The readily available public data shows differences in compounds that occupy a space of herbal, floral, spicy and “hoppy” on a spider-web diagram. It's also worth noting that these compounds are highly volatile and may not survive the brewing process.

A deeper dive is necessary to fully understand NZ Cascade's™ unique tropica and softer, smoother character. A broader survey of minor terpenes, thiols (analysis of which requires specialised equipment) and brewing practices is necessary.

For now, we'll chalk it up to the magic that is Aotearoa (Māori word for New Zealand) and its terroir, which lends hops, and virtually every horticultural and agricultural product of New Zealand provenance, something special.

Try out for yourself by ordering NZ Cascade™ through our website or contact your local Clayton Hops representative.



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