

Recipe Development

Colin Crowley

Different Approaches for Recipe Formulation

New Ingredient/Technique to try

Final product concept

Flavor

Product Feature

Theme

Experience

Kitchen Sink

Clear the inventory

Want to brew what do I have

Style



Style Formulation

Alt/Baltic Porter

Study Style Parameters

BJCP (<https://www.bjcp.org/bjcp-style-guidelines/>)

Alt

A cold-conditioned, top-fermenting beer from Düsseldorf that has a cleaner and smoother palate than is typical for most ales. “Alt” refers to the “old” style of brewing (using top-fermenting yeast) that was common before bottom-fermenting lager brewing became popular.

Baltic Porter

A strong, dark, malty beer with different interpretations within the Baltic region. Smooth, warming, and richly malty, with complex dark fruit flavors and a roasted flavor without burnt notes



Style Formulation

Alt/Baltic Porter

Look at Style Metrics

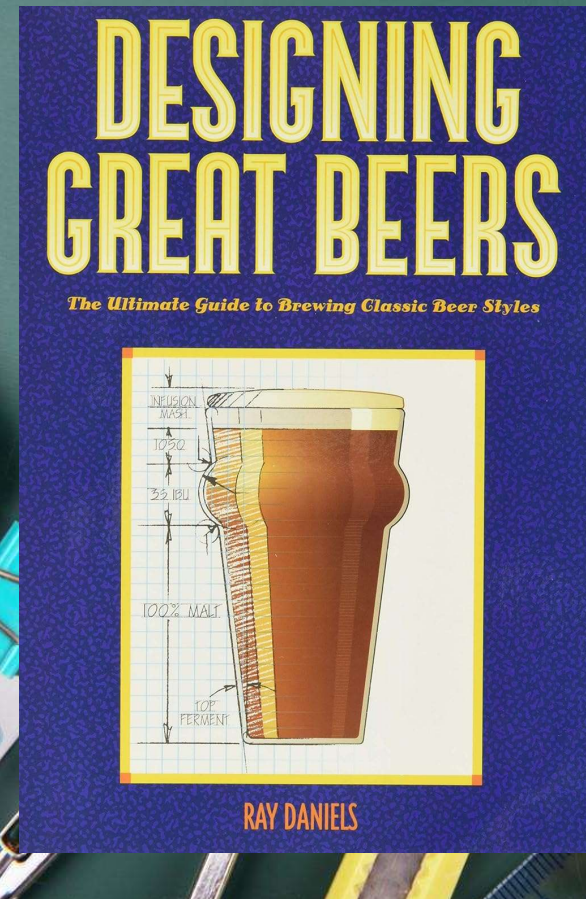
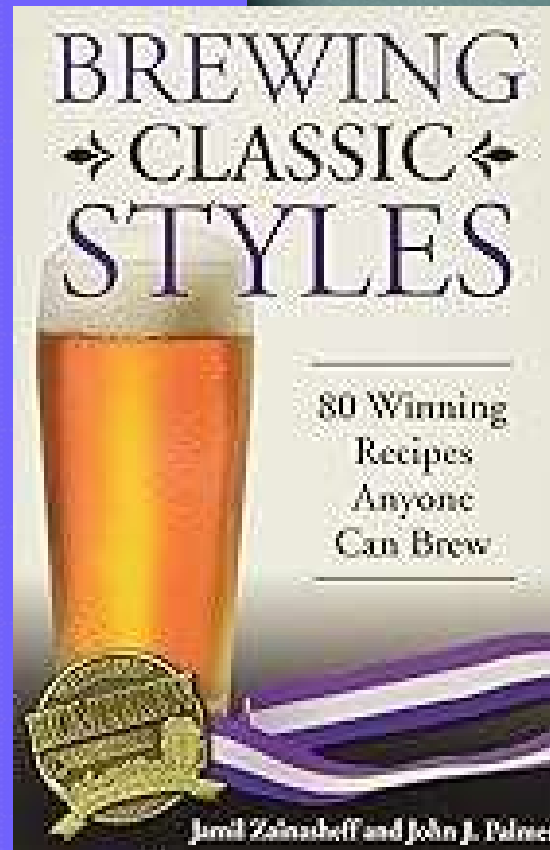
Alt

Vital Statistics: OG: 1.044 – 1.052
IBUs: 25 – 50 FG: 1.008 – 1.014
SRM: 9 – 17 ABV: 4.3 – 5.5%

Baltic Porter

Vital Statistics: OG: 1.060 – 1.090
IBUs: 20 – 40 FG: 1.016 – 1.024
SRM: 17 – 30 ABV: 6.5 – 9.5%

Look for Sample Recipes



Recipe Questions

What yeast are you going to use?

Alt = Ale

Baltic Porter = Ale or Lager = Ale

Is the beer going to be malty or dry?

Alt = Dry

Baltic Porter = Malty

Dry = Pilsener Malt, Maris Otter, Low Mash Temp, High Attenuation

Malty = Vienna Malt, Golden Promise, High Mash Temp, Low Attenuation

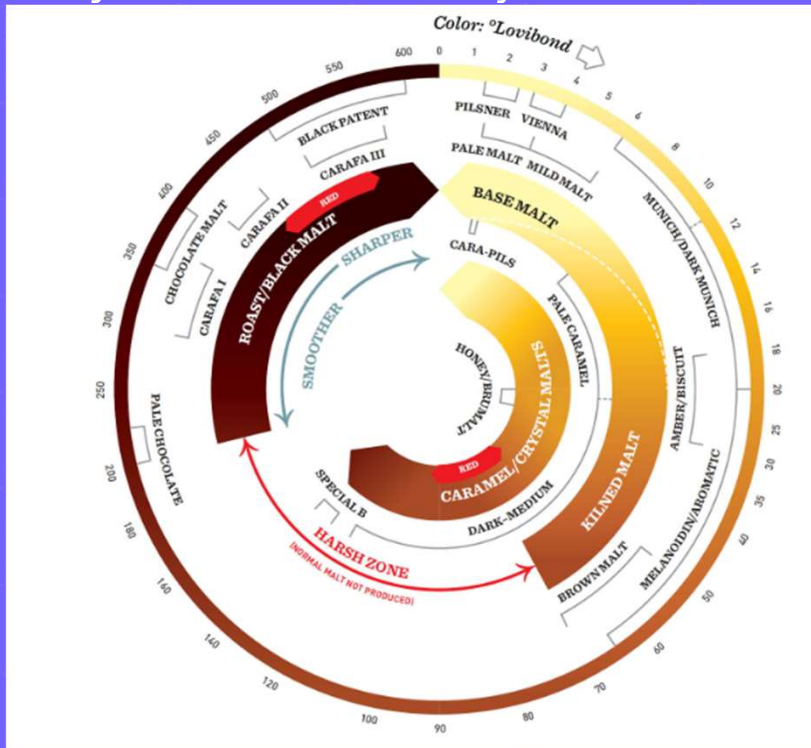


Malt Questions

What flavors/color do you want?

Any Acidity added?

Any fermentable adjuncts?



Malts

Alt

Pilsner = Dry Base

Munich II = Malt Aroma and Color

Caramunich II = Hint of Caramel

Carafa II = Roasty Notes and Color

Baltic Porter

Viking Golden Ale Malt = Malty Base

Viking Munich Malt Dark = Light Caramel

Special B Malt = Extreme Caramel

Viking Caramel 100 = Melanoidan/Brown Notes

Viking Caramel 600 = Roast Notes/Color

Viking Chocolate Light Malt =
Chocolate/Coffee without bitter notes



Hop Questions

How much bitterness do you want?

- BU/GU Balance

How much hop complexity do you want?

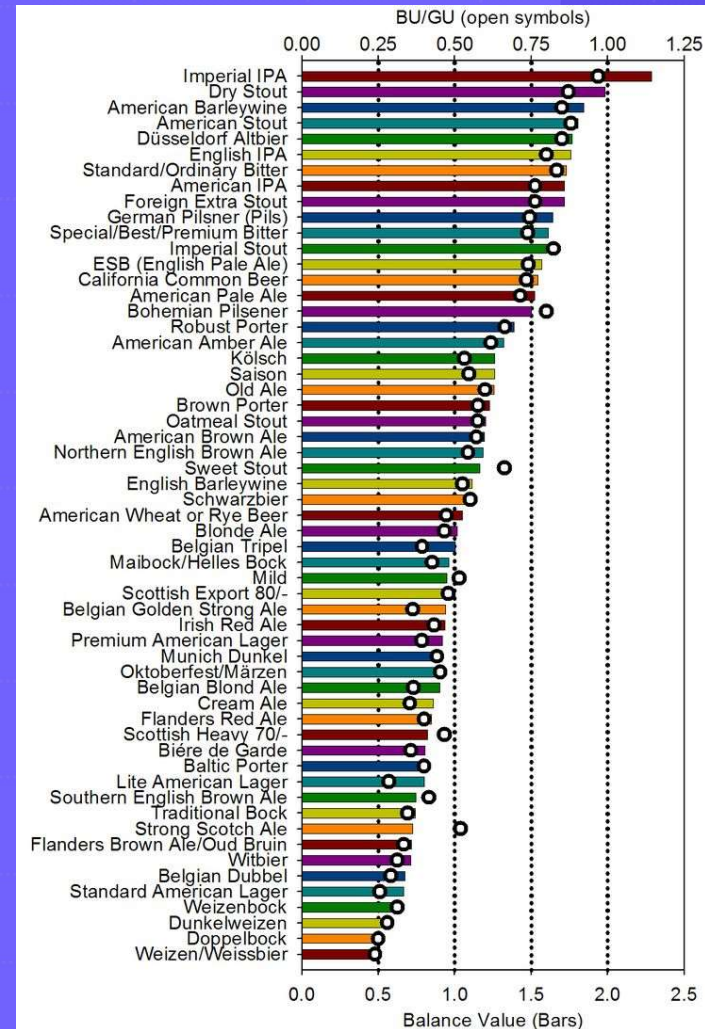
- Multiple additions

How much hoppiness do you want?

- Late Hopping

Alt = Noble Flavor, Balanced Bitterness

Baltic Porter = Balance Bitterness



Hops

Alt

Hallertau Magnum = Bitterness with high AA to deliver BUGU target

Spalter Select = Provide Noble Hop Notes

Baltic Porter

Nordgaard = Bitterness with high AA to deliver BUGU target

Lomik = Provide Spicy Herbal Notes to Balance Malt/Coffee Notes



Other Ingredients

- Yeast

Alt = Ale, Low Temp = Dusseldorf Ale Yeast

Baltic Porter = Ale, Low Temp, High Alcohol
= Lutra

- Water

Set on Color and Sulfate-Chloride Ratio

Alt = $S/C = 1.8$, Brown Dry

Baltic Porter = $S/C = 1.0$, Black Full

- Others

Whirlfloc = Reduces trub, clarity

Clarity Ferm = Gluten Reduces Beer

Yeast Starter = Improves Yeast Count/Health

Oxygen = Improves Yeast Health



Additive	Alt	Baltic Porter
Clarity Ferm	X	X
Oxygen		
Whirlfloc	X	X
Yeast Starter	X	X

Process

- Mash

Alt = Dry = Low Temp/Long Time = 150 F/90'

Baltic Porter = Low Temp = 152 F/60'

- Fermentation

Alt = Lager Like Temp = 60 F

Baltic Porter = Lager Like Temp = 60 F

- Adjust to available ingredients

LHBS Supply

Hop Garden

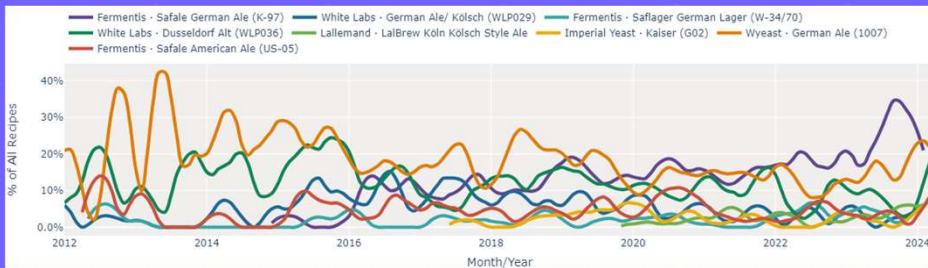
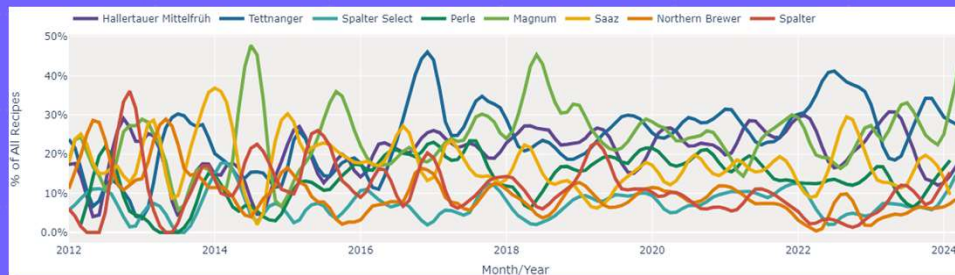
Freshness



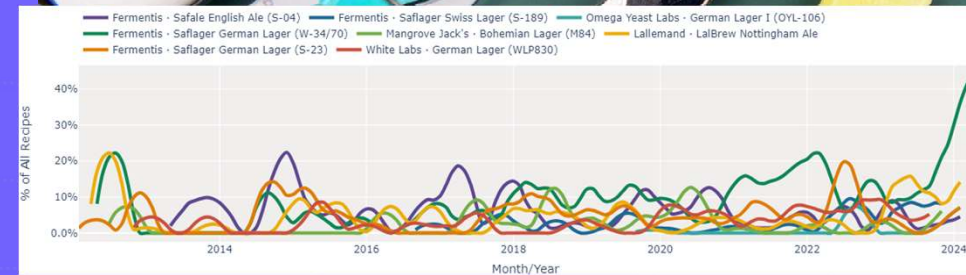
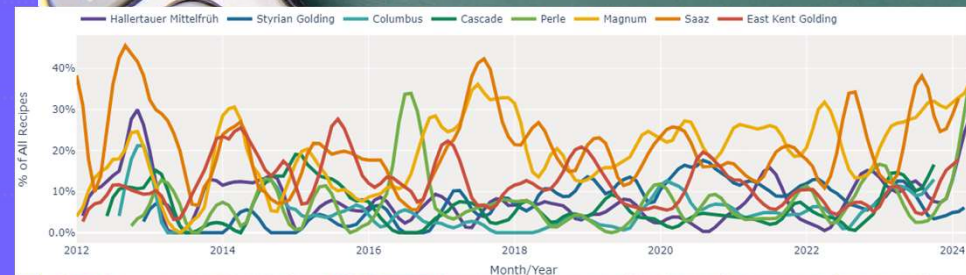
Colin's Lab = New Tools

- Beer Analytics
- <https://www.beer-analytics.com/hops/>

Alt



Baltic Porter



Colin's Lab = New Tools

- Beer Maverick
- <https://beermaverick.com/hops/tag/>

Hop Aroma Search

Browse 150+ Hop Aromas:

Beer hops are known to have hundreds of different [flavors and aromas](#).

Every hop is unique in its flavor profiles. Some hops are intense, while others are mild. Some are fruity while others are more resinous and pine flavored.

Search our database of over 250 hops by specific aroma and flavor descriptors.

Yakima Valley bred Ahtanum™ is sweet and peppery with a piney-citrus aspect. Warmly aromatic and moderately bittering, Ahtanum™ is a hop of distinction. It is often likened to Cascade though without going that far, it makes more sense to say that Cascade may be an acceptable substitute. In comparison, Ahtanum is less bitter, its alpha acids are lower and its grapefruit essence is significantly more pronounced. It really is more akin to Willamette, with its notes of lemon and grapefruit. Ahtanum's distinct citrus character led to it being used as the singular hop in Dogfish Head's Blood Orange Hefeweizen and Stone Brewing's Pale Ale.

Homebrewer's Comments

Less grapefruit than Cascade but otherwise very similar. I started using it as a replacement for Cascade in my House IPA and stuck with it because it gives a mellower, more balanced flavor that more people can get on board with. (*PtreeCreekBrew via homebrewtalk.com*)

Characteristics	Distinct citrus character with notes of grapefruit
Purpose	Aroma
Alpha Acids	4-6.3%
Beta Acids	5-6.5%
Cohumulone	30-35%
Country	US
Proprietary	Yes
Cone Size	Small
Cone Density	Compact

Coli

- Hop
- http

Name Study:

Style: SELECT FROM LIST

Batch Volume [lts]:

Original Gravity:

IBU: 35

BU/OG: 0.46

THL: 1.57

HQ: 2.1

SAHA: 0.49

BITTER QUALITY: 76%

Hop Utilization: MYRCENE, HUMULENE, CARYOPHYLLENE, LINALOOL, GERANIOL

HOP STYLE HOP AROMA: Resin/Pine, Tropical Fruit, Stone Fruit, Berry, Floral, Green

Hop Utilization Coefficient 2:

Type 2:

TOTAL HOPPY LEVEL

Sensory perception of total hoppy content (in a scale from 0 to 5) according to Machado's equation

OK

Revised Alt

Alt

Pilsner (Avangard) = Dry Base

Munich (Avangard) = Malt Aroma and Color

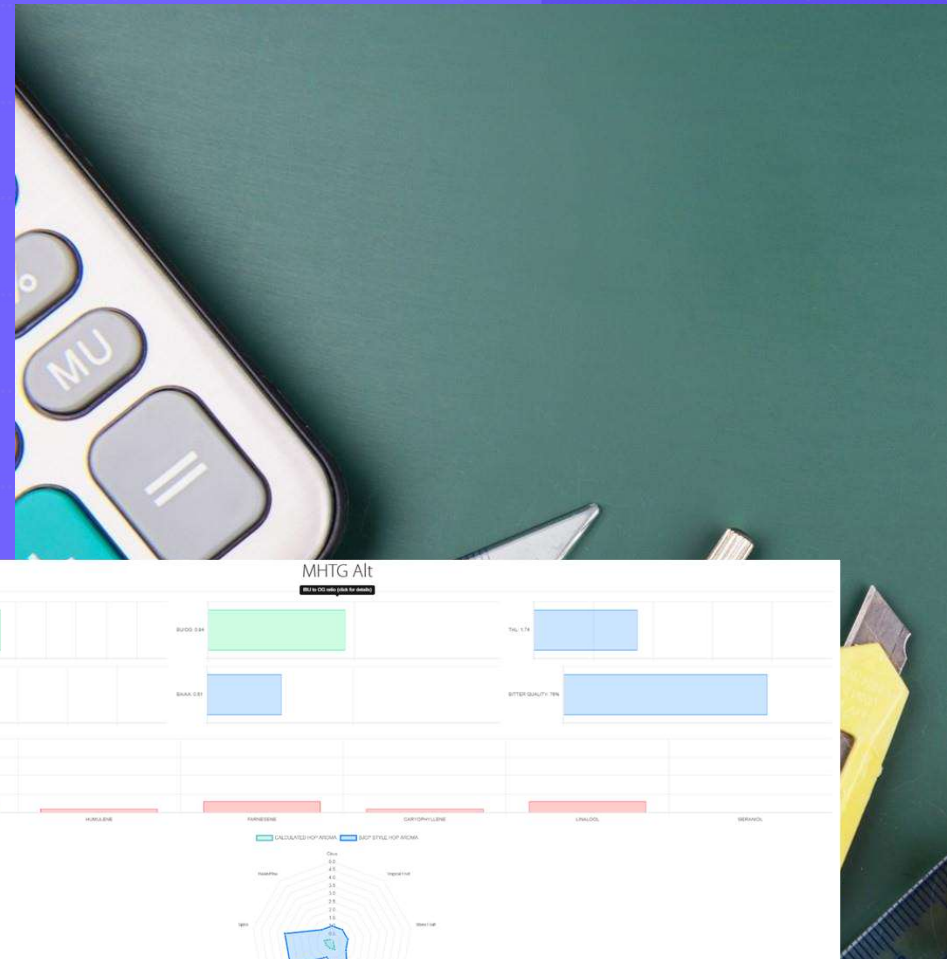
Caramel Munich (Briess) = Hint of Caramel

Black Malt (Briess) = Roasty Notes and Color

Columbus = Bitterness with high AA to deliver BUGU target

Spalter Select = Provide Noble Hop Notes

Yeast = WLP036 Dusseldorf Alt



Revised Baltic Porter

Baltic Porter

Pale Ale Malt (Dingemans) = Malty Base

Cara 8 (Dingemans) = Light Caramel

Special B Malt = Extreme Caramel

Cara 45 (Dingemans) = Melanoidan/Brown Notes

Debittered Black Malt (Dingemans) = Roast
Notes/Color

Chocolate Wheat Malt (Swaen) =
Chocolate/Coffee without bitter notes

Magnum = Bitterness with high AA to deliver BUGU target

Northern Brewer= Provide Spicy Herbal Notes to Balance Malt/Coffee Notes

Yeast = OYL-071 Lutra

