

Breweries & Beers Analysis

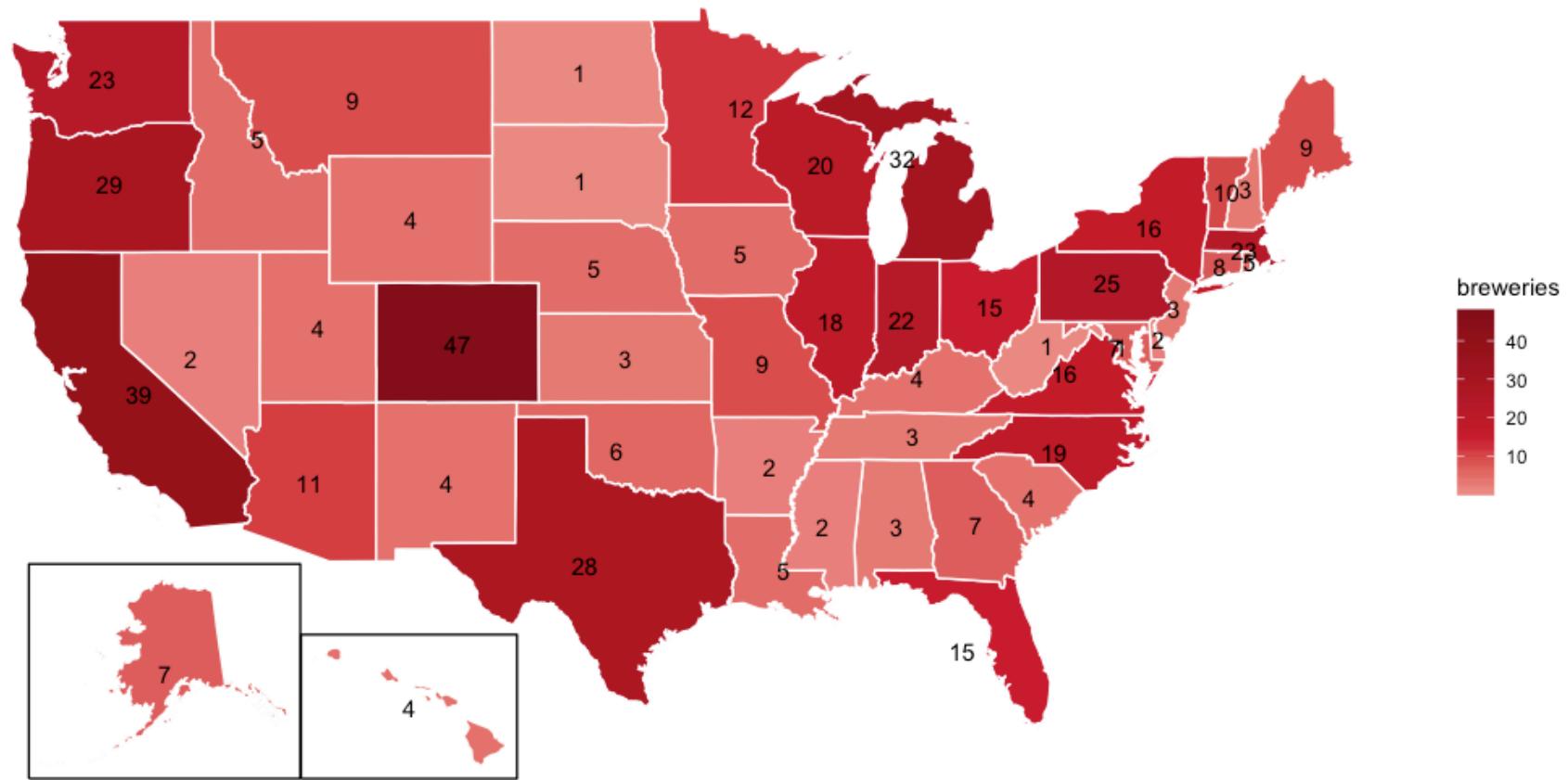
Michael Weatherford & Hollie Gardner



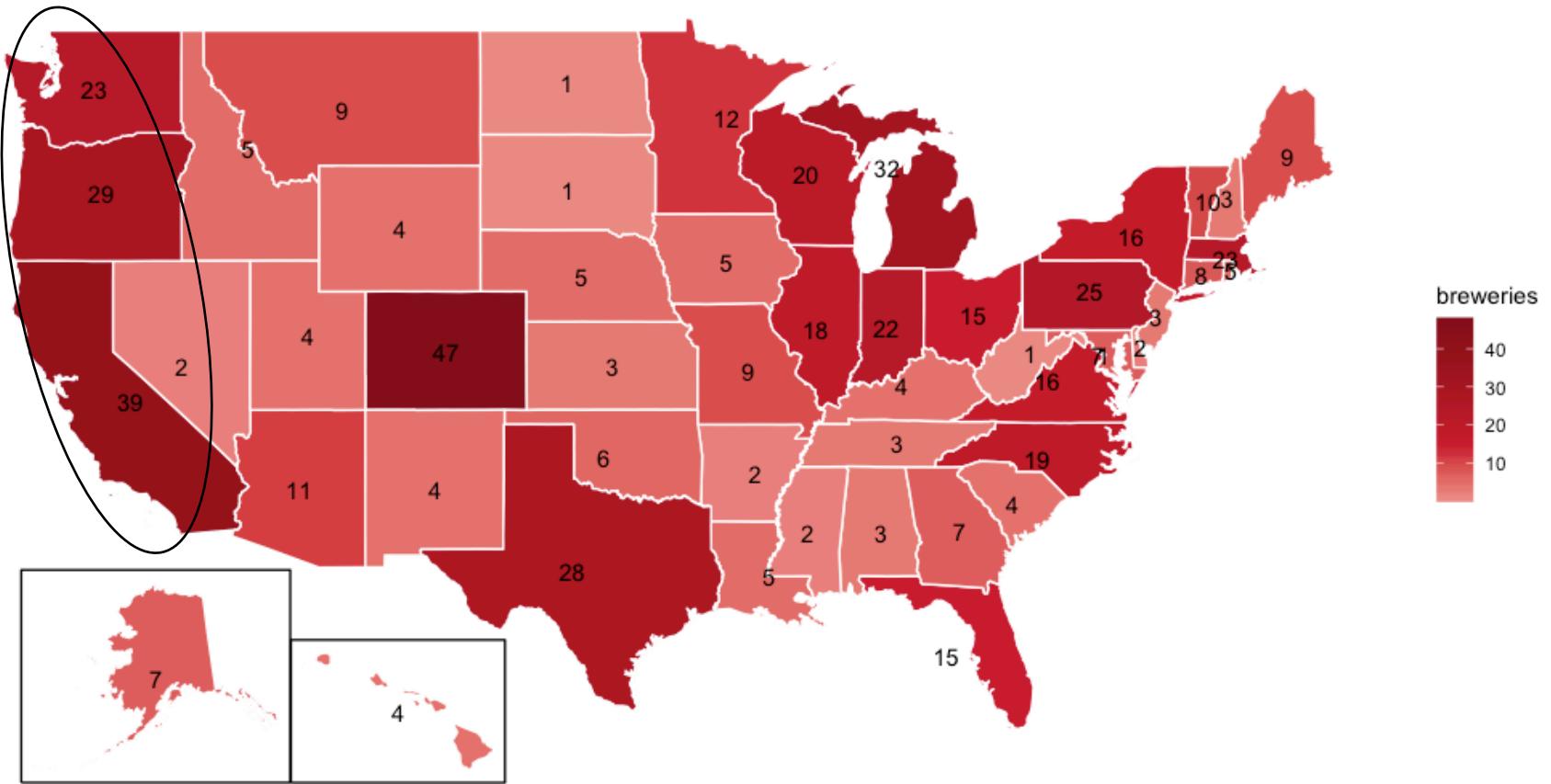
Where are the Breweries?



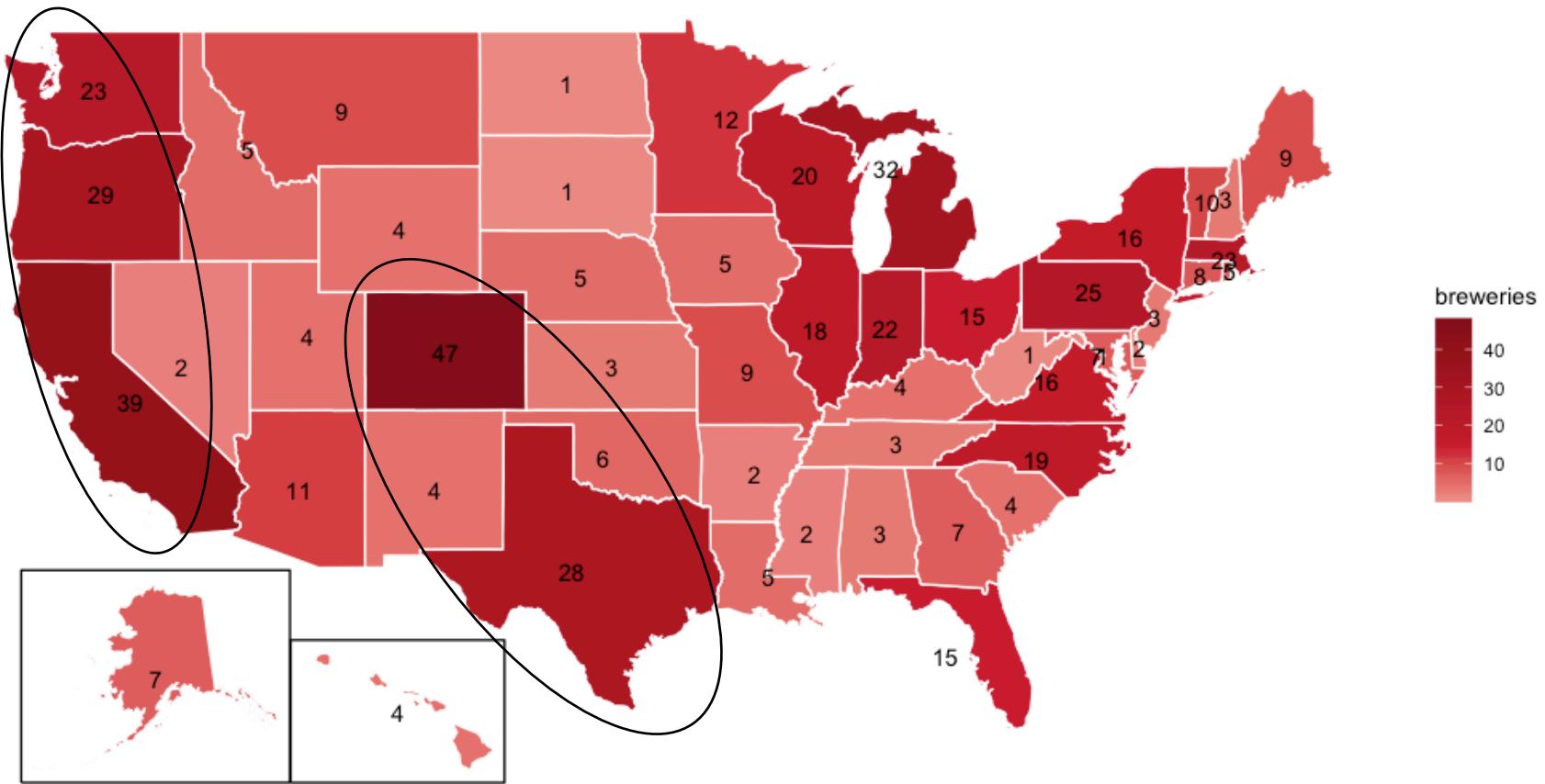
Number of Breweries by State



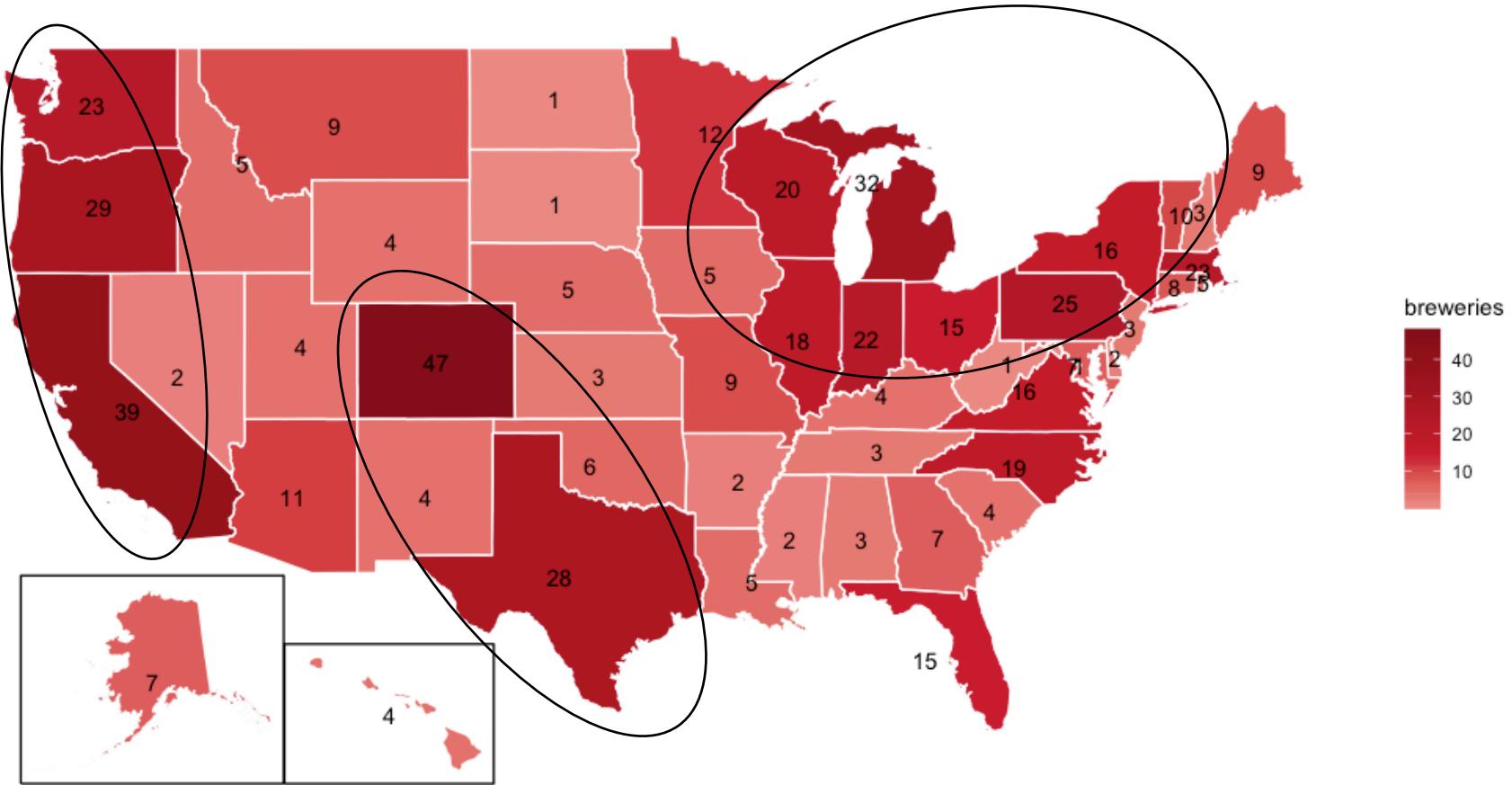
Number of Breweries by State



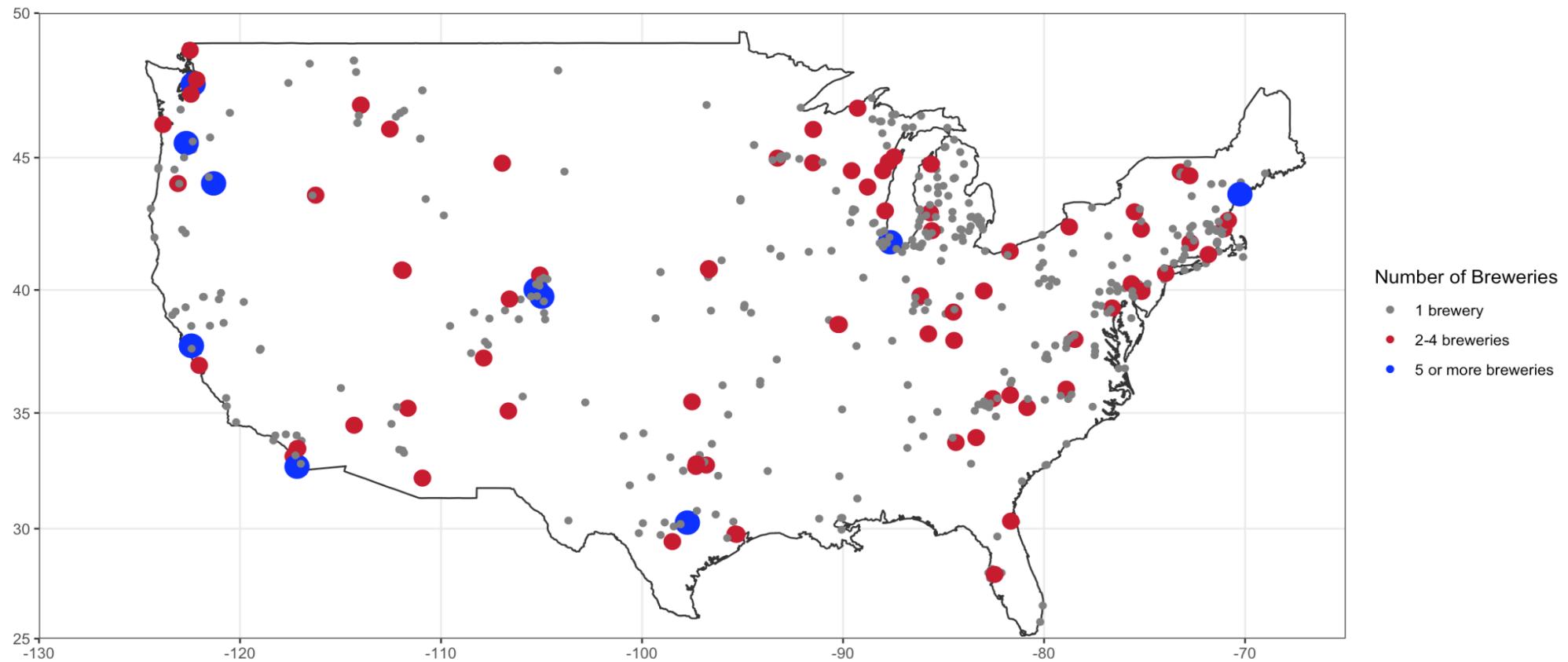
Number of Breweries by State



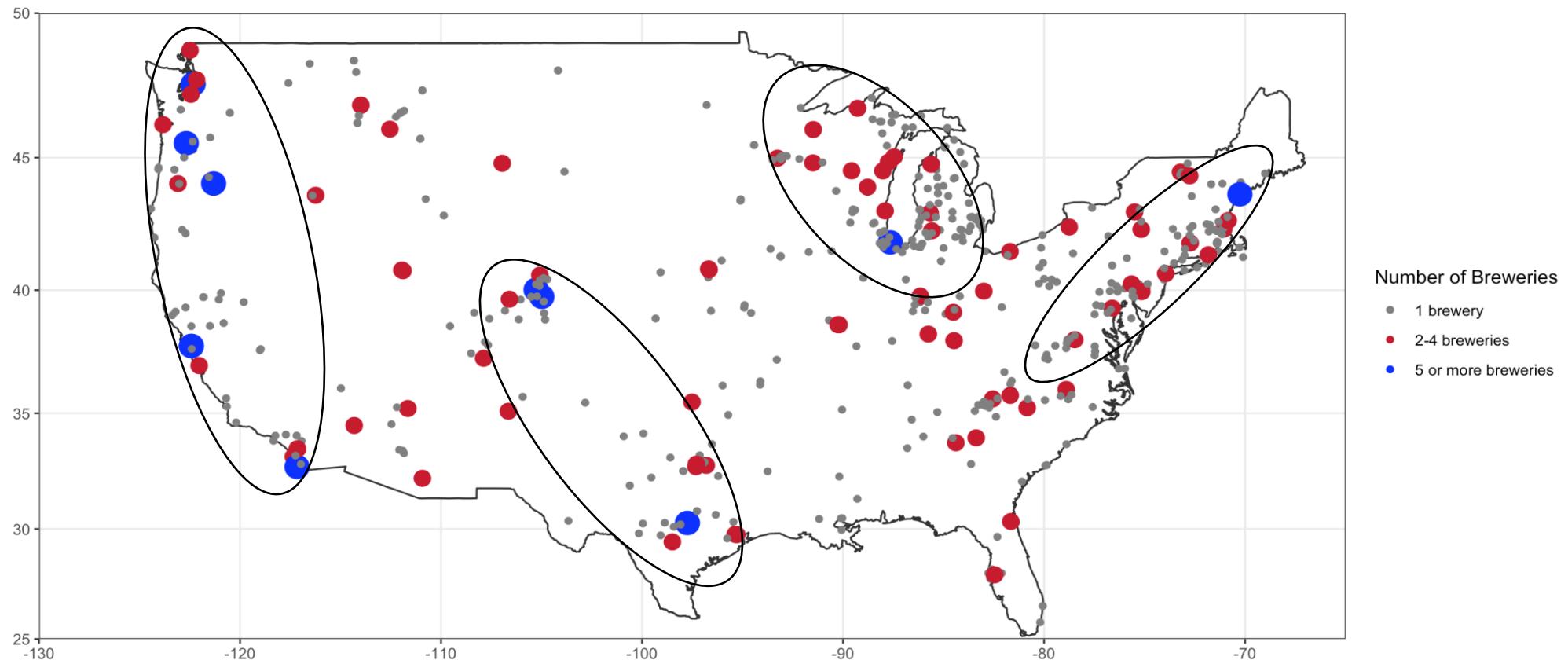
Number of Breweries by State



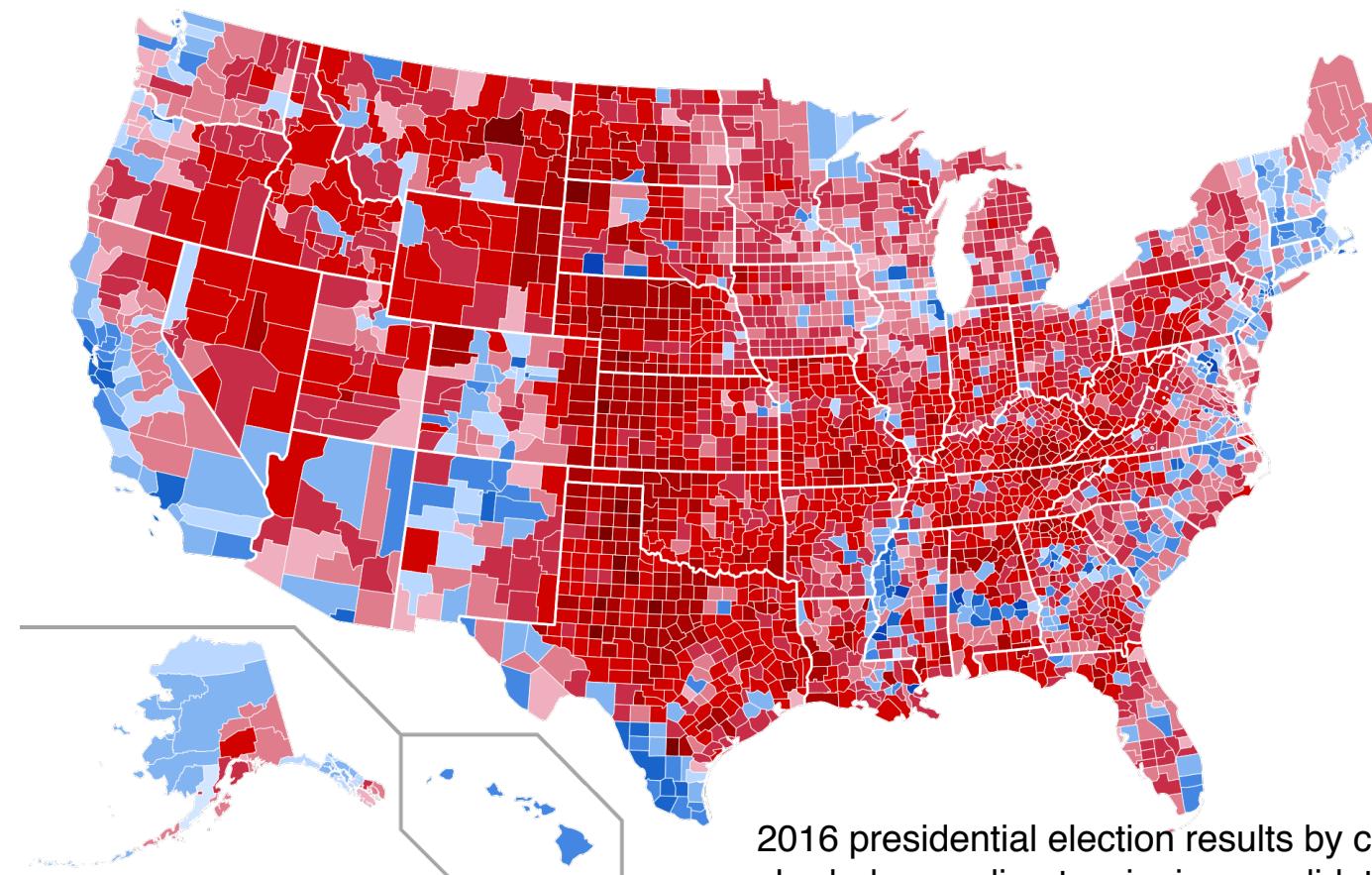
Number of Breweries by City



Number of Breweries by City



How do these cities vote?



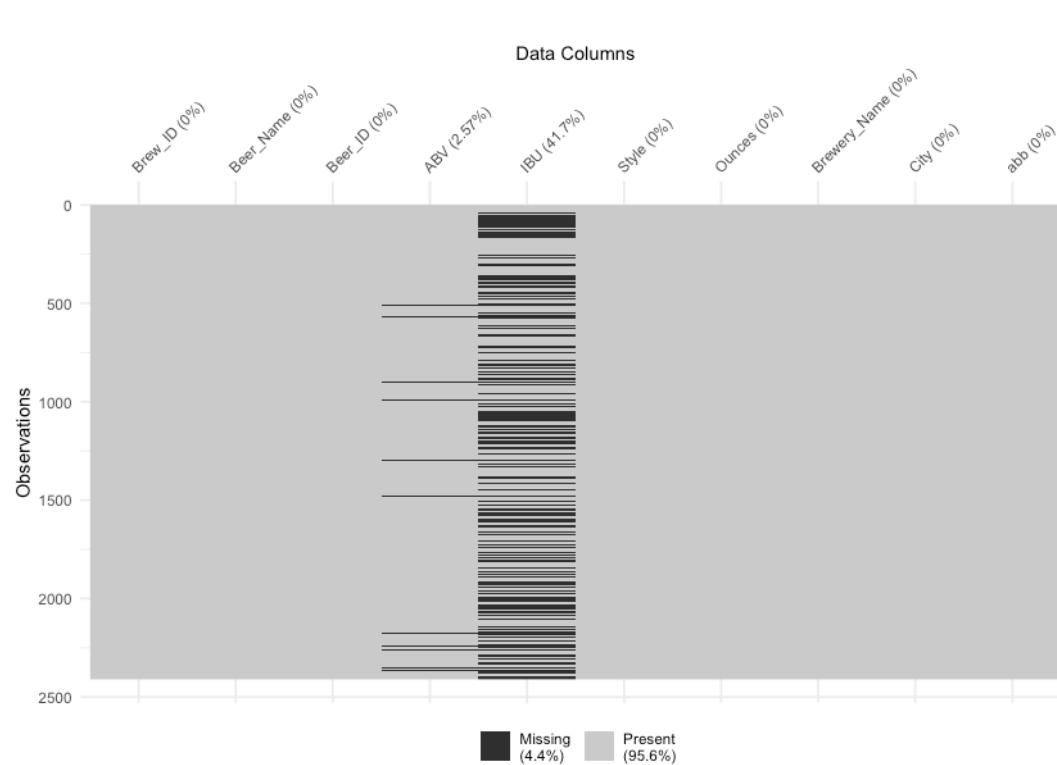
2016 presidential election results by county,
shaded according to winning candidate's percentage of the vote
Source: https://en.wikipedia.org/wiki/2016_United_States_presidential_election



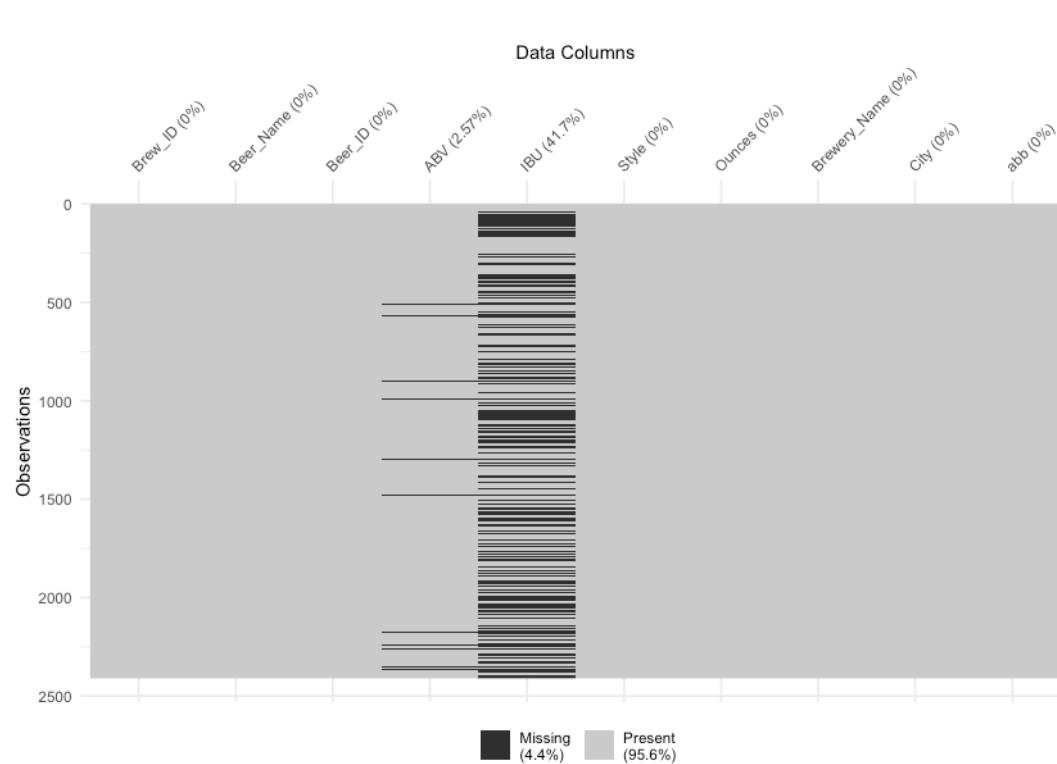
ABV and IBU



Missing Values in the Dataset



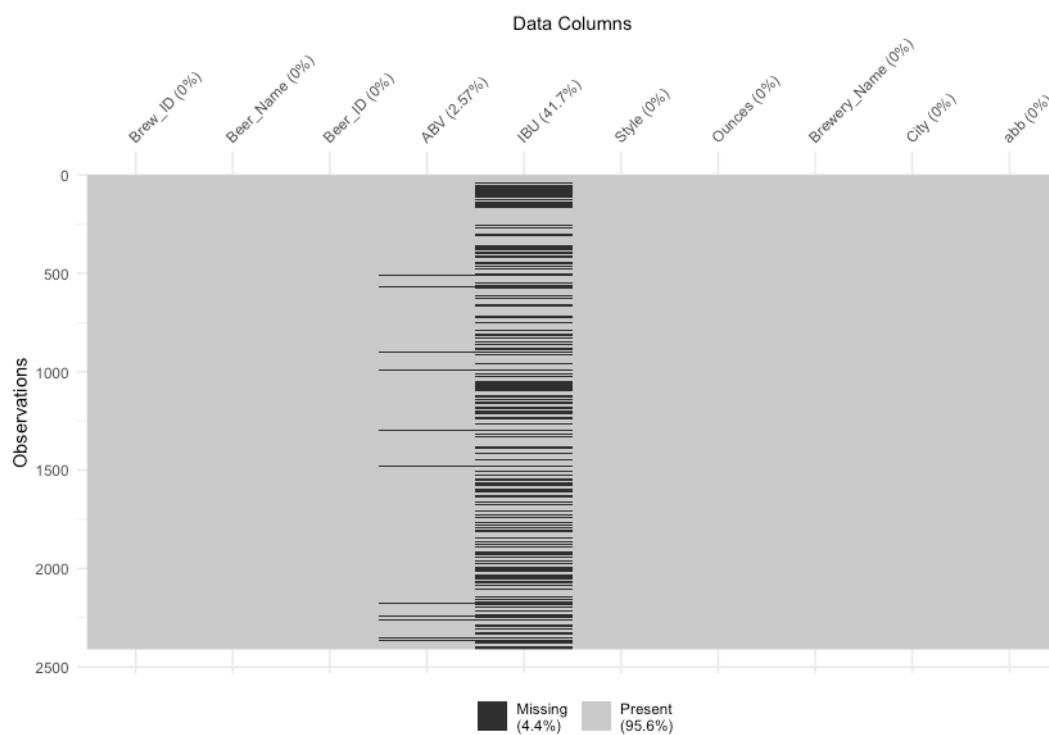
Missing Values in the Dataset



Problem
Missing Values = Bias Dataset



Missing Values in the Dataset

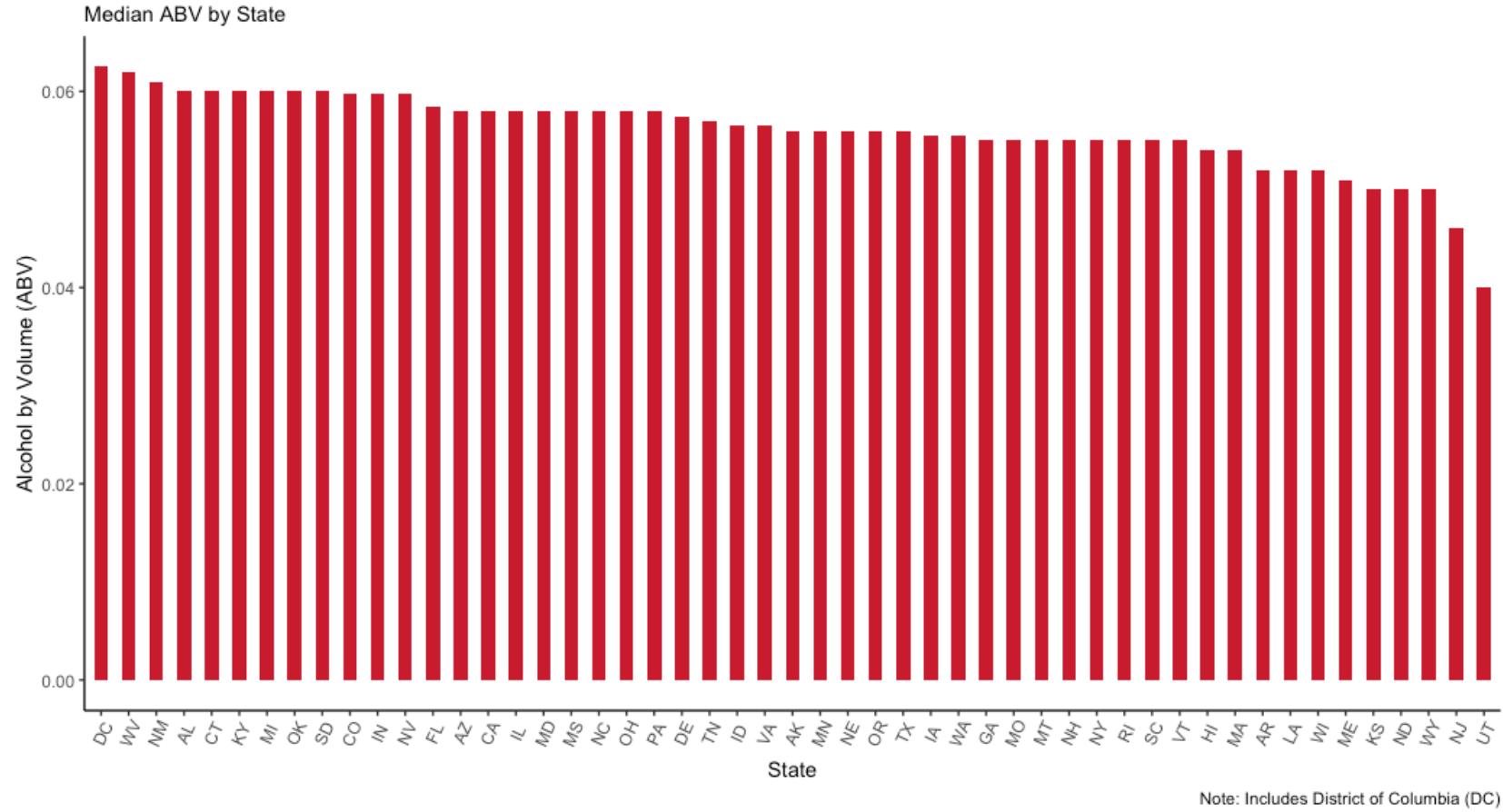


Problem
Missing Values = Bias Dataset

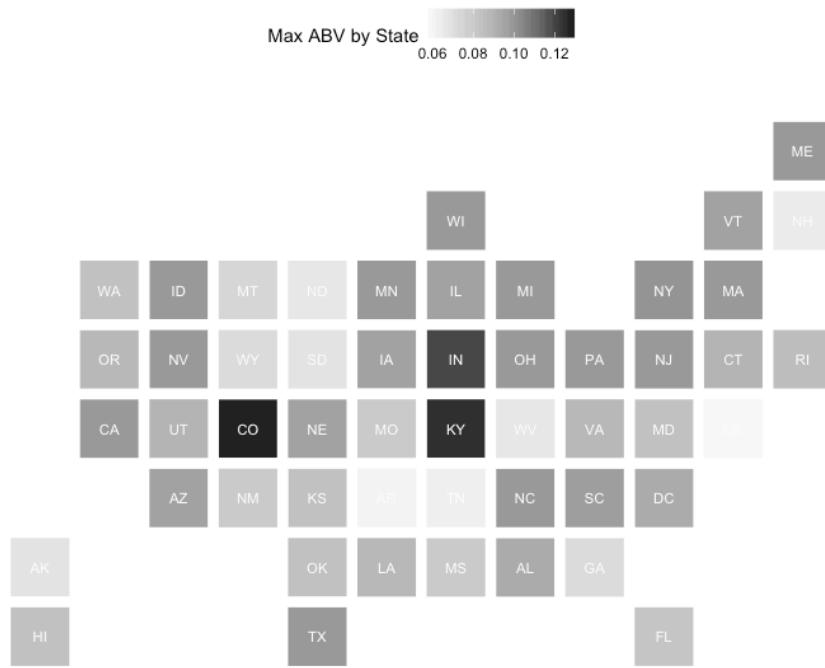
Solution
Substitute the Mean Value



Median ABV by State



Highest ABV by State

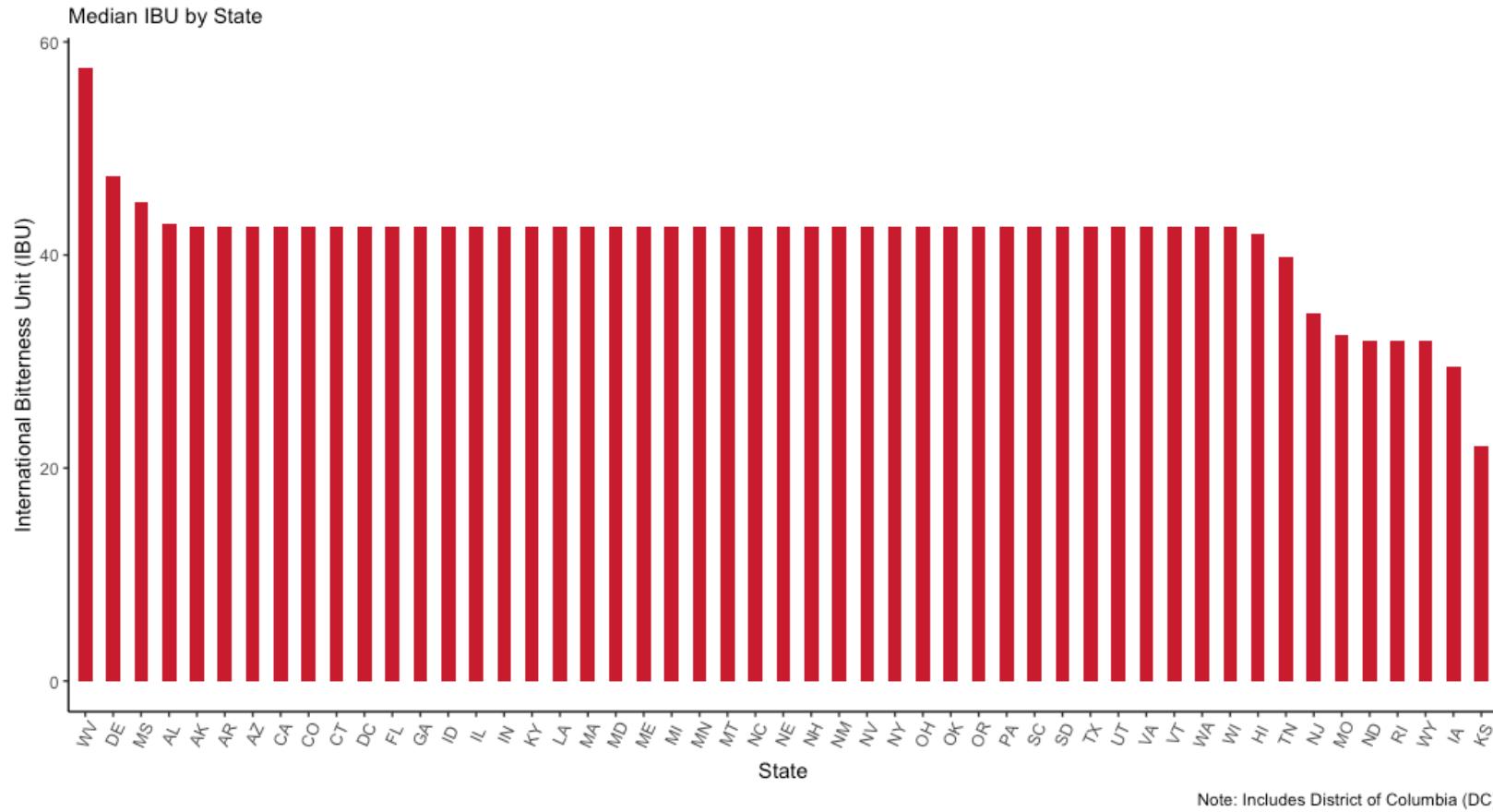


Top 3 States with Highest ABV Beers

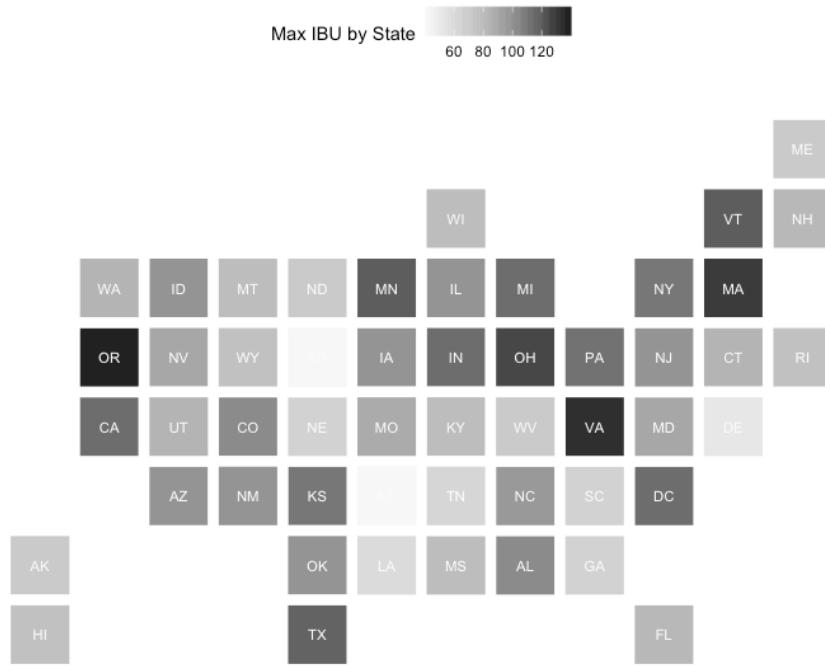
1. Lee Hill Series Vol. 5 Belgian Style Quadrupel Ale, Colorado, **12.8% ABV**
2. London Balling, Kentucky, **12.5% ABV**
3. Csar, Indiana, **12% ABV**



Median IBU by State



Highest IBU by State

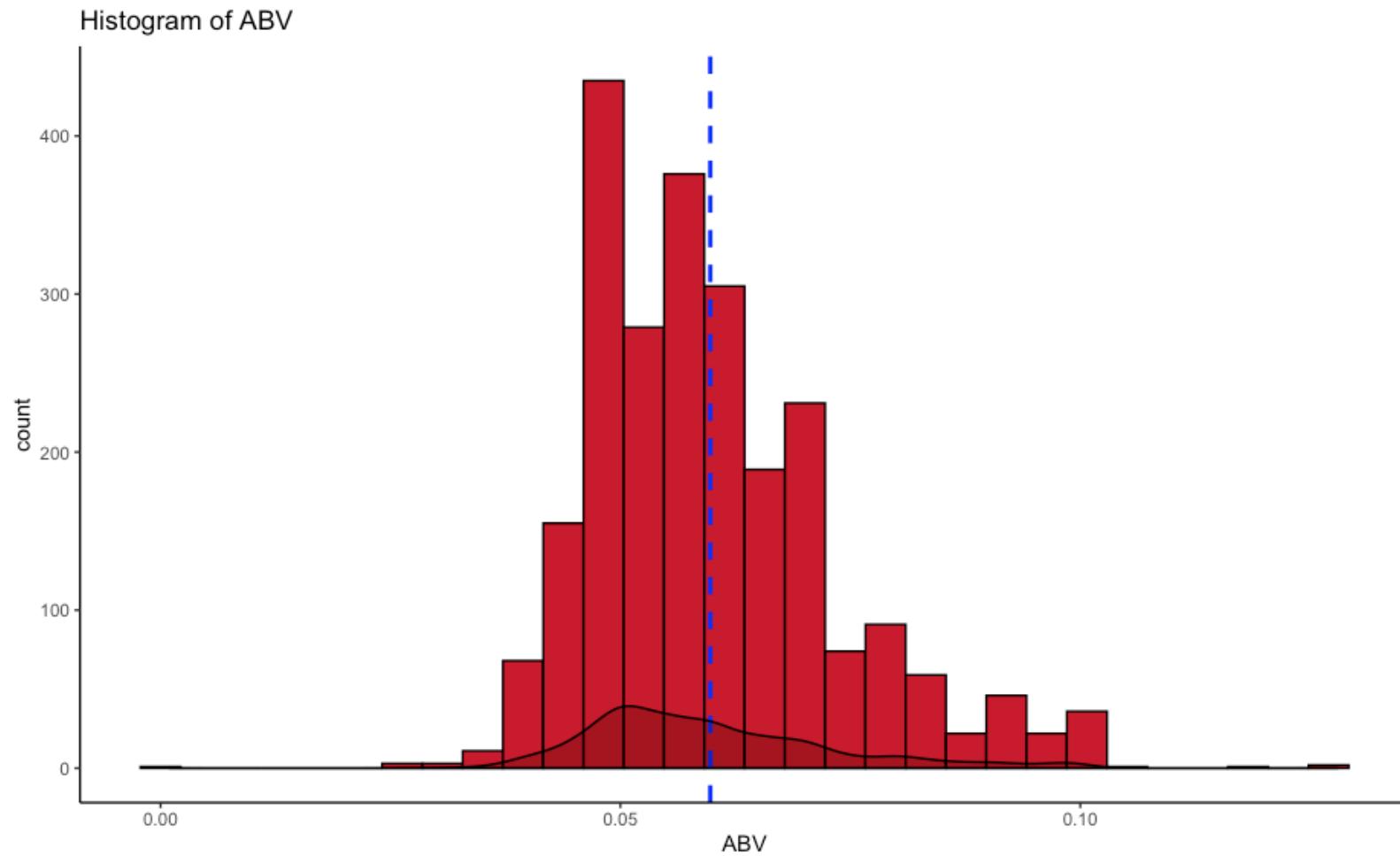


Top 3 States with Highest IBU Beers

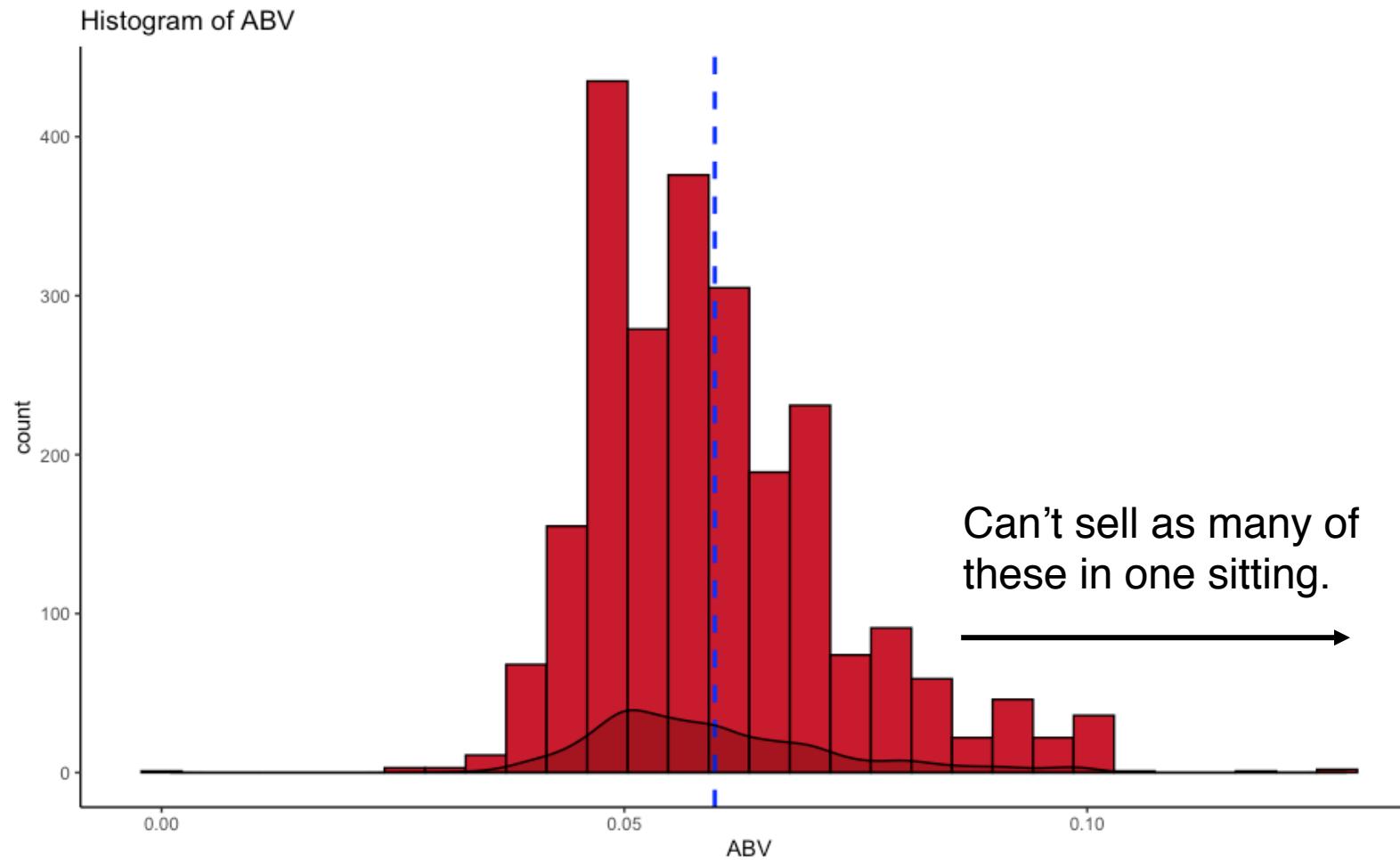
1. Bitter Bitch Imperial IPA, Oregon, 138
2. Troopers Alley IPA, Virginia, 135
3. Dead-Eye DIPA, Massachusetts, 130



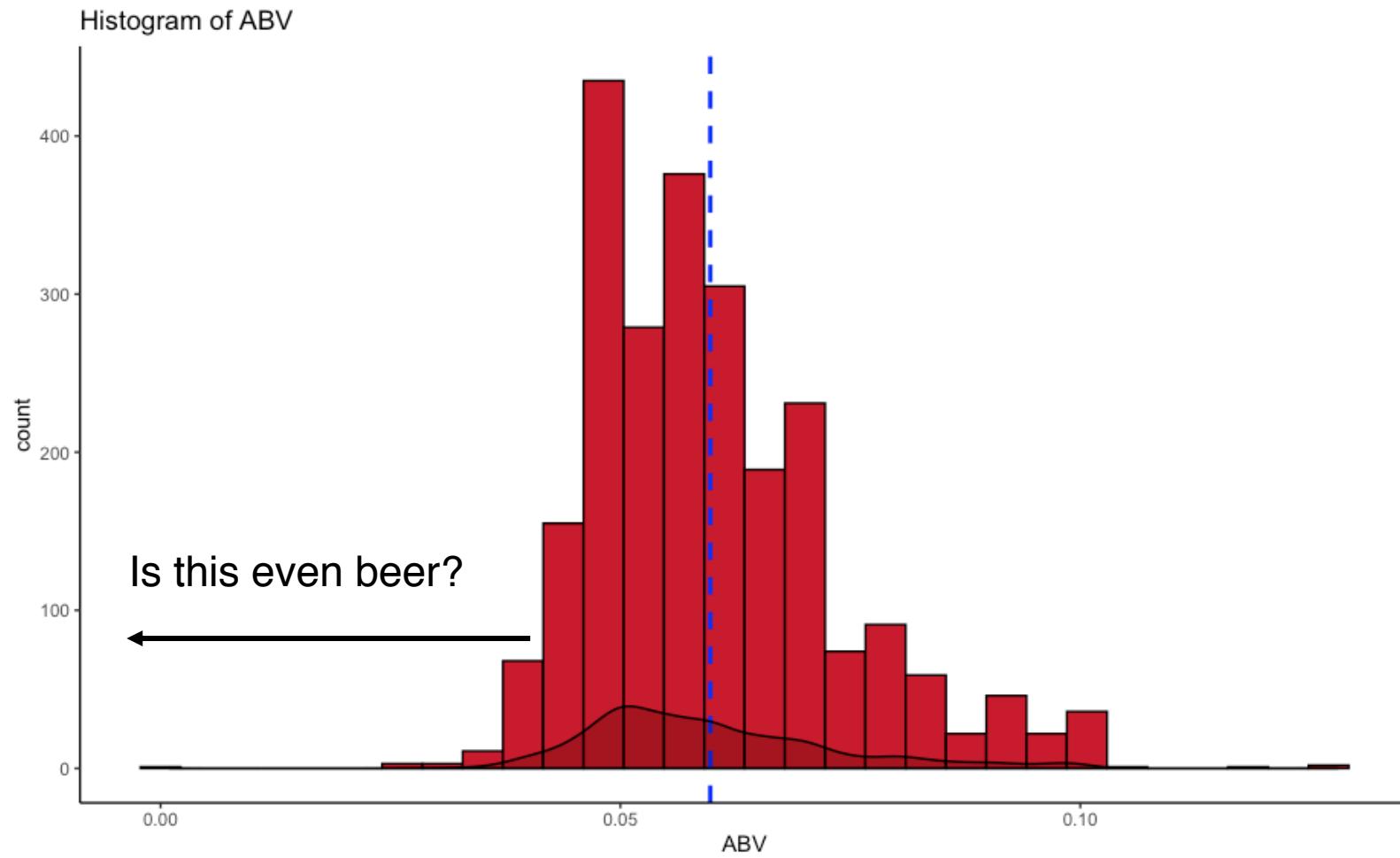
Distribution of ABV



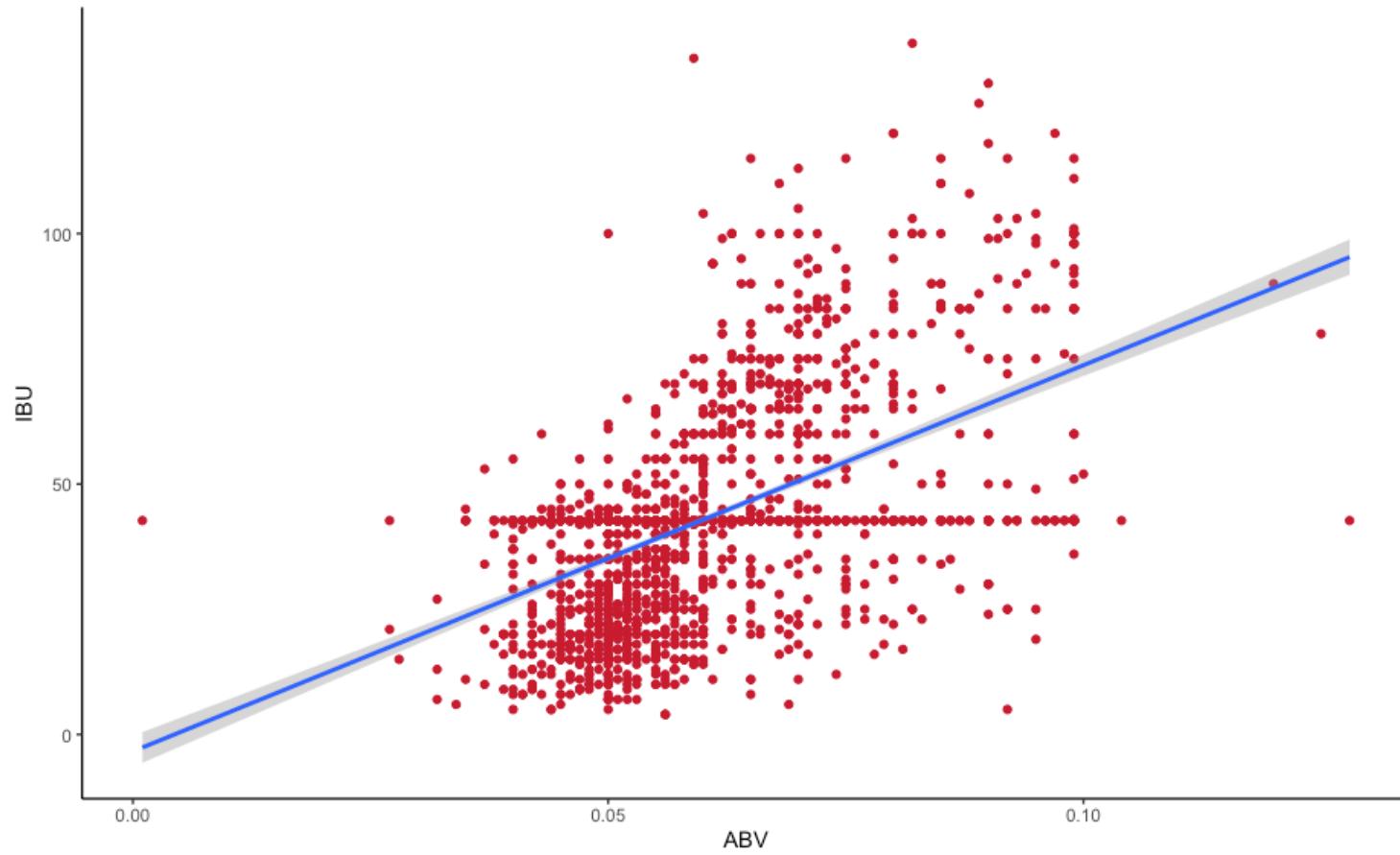
Distribution of ABV



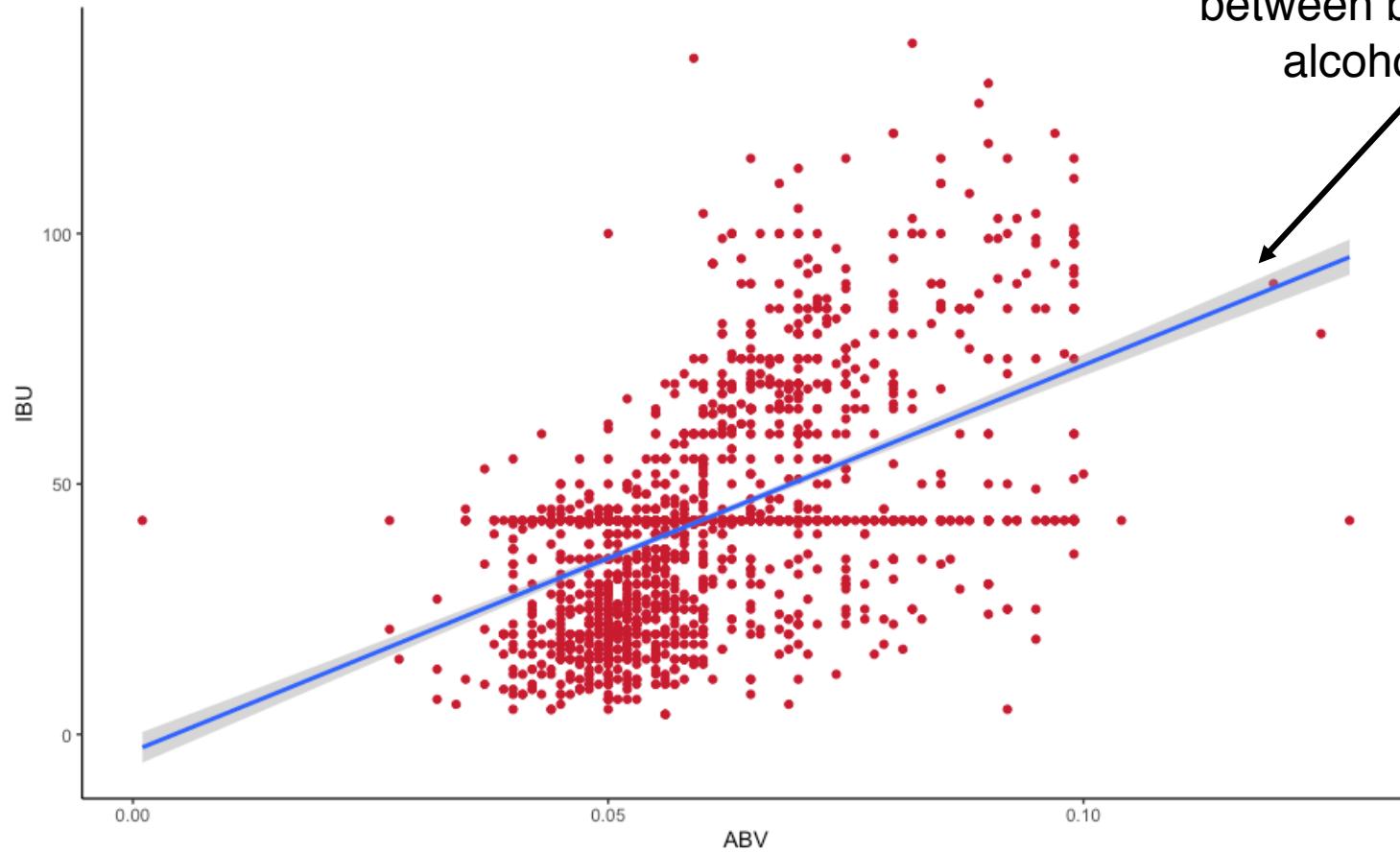
Distribution of ABV



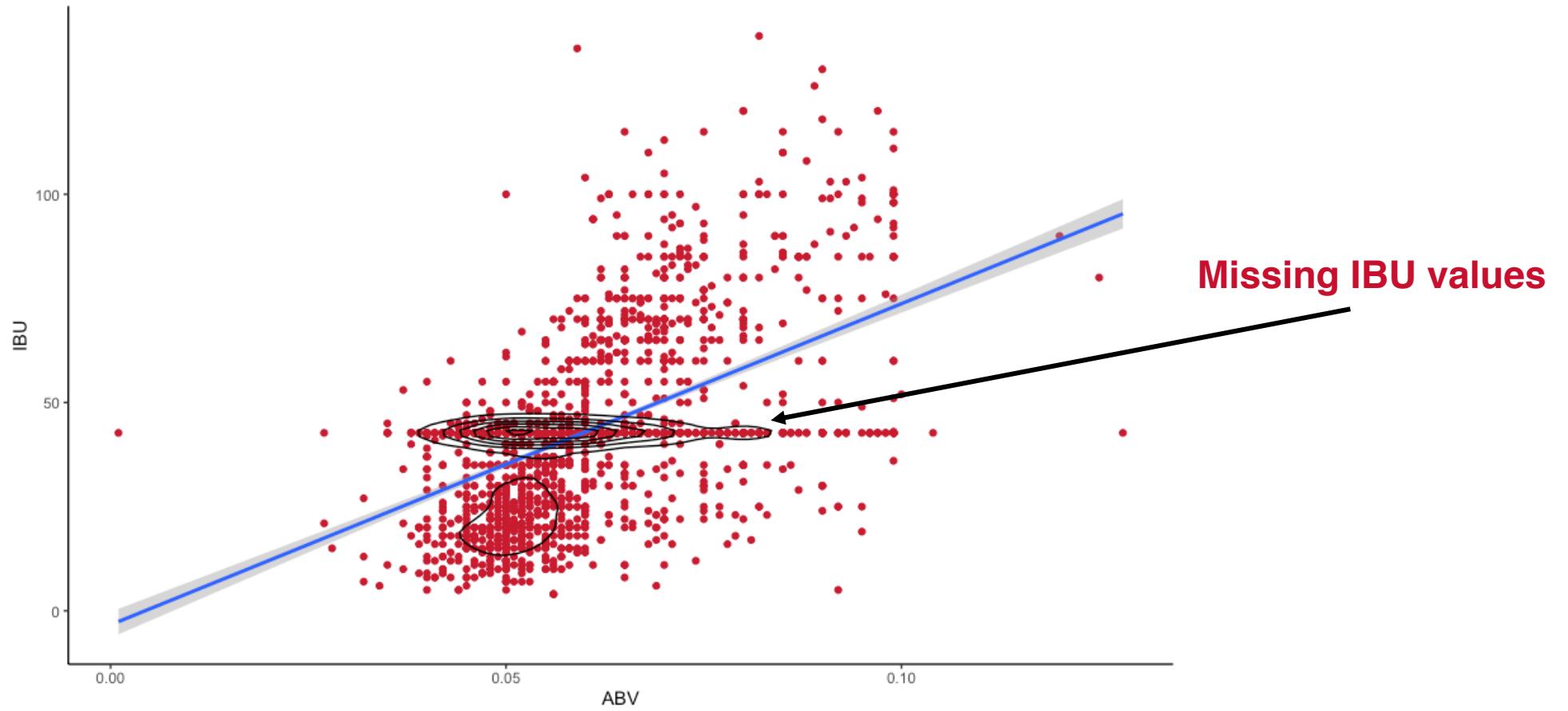
Relationship between ABV and IBU



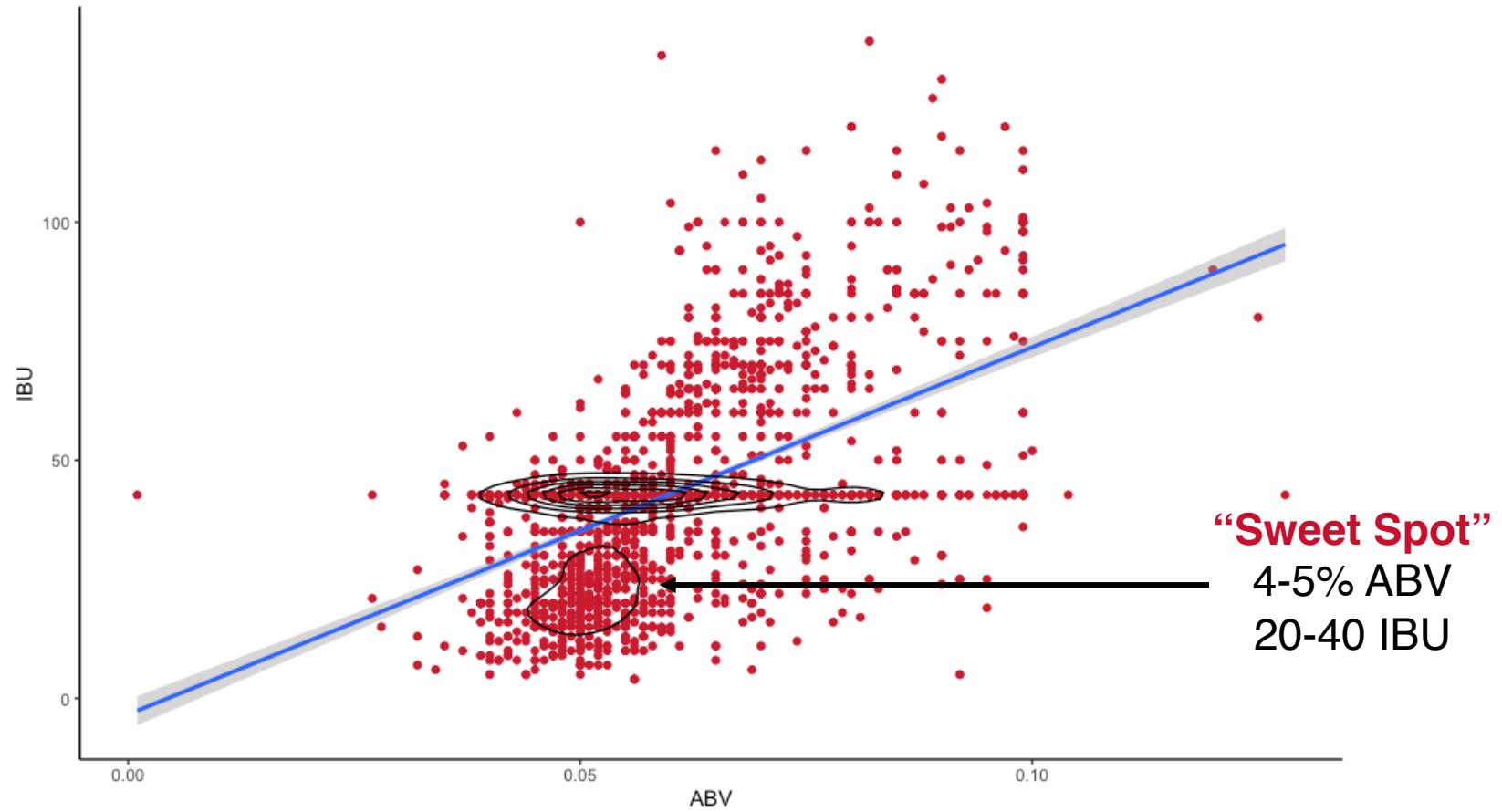
Relationship between ABV and IBU



Relationship between ABV and IBU



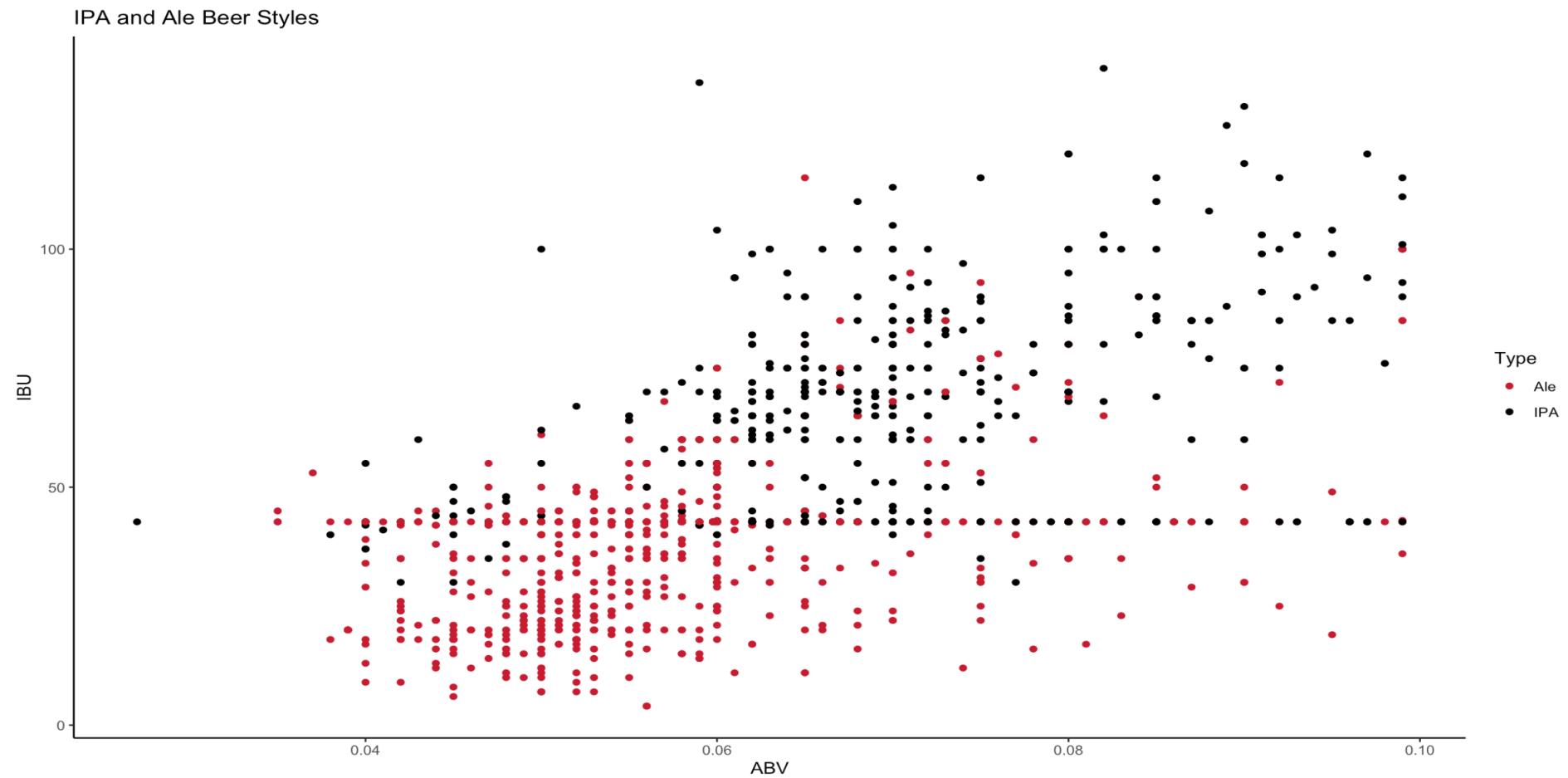
Relationship between ABV and IBU



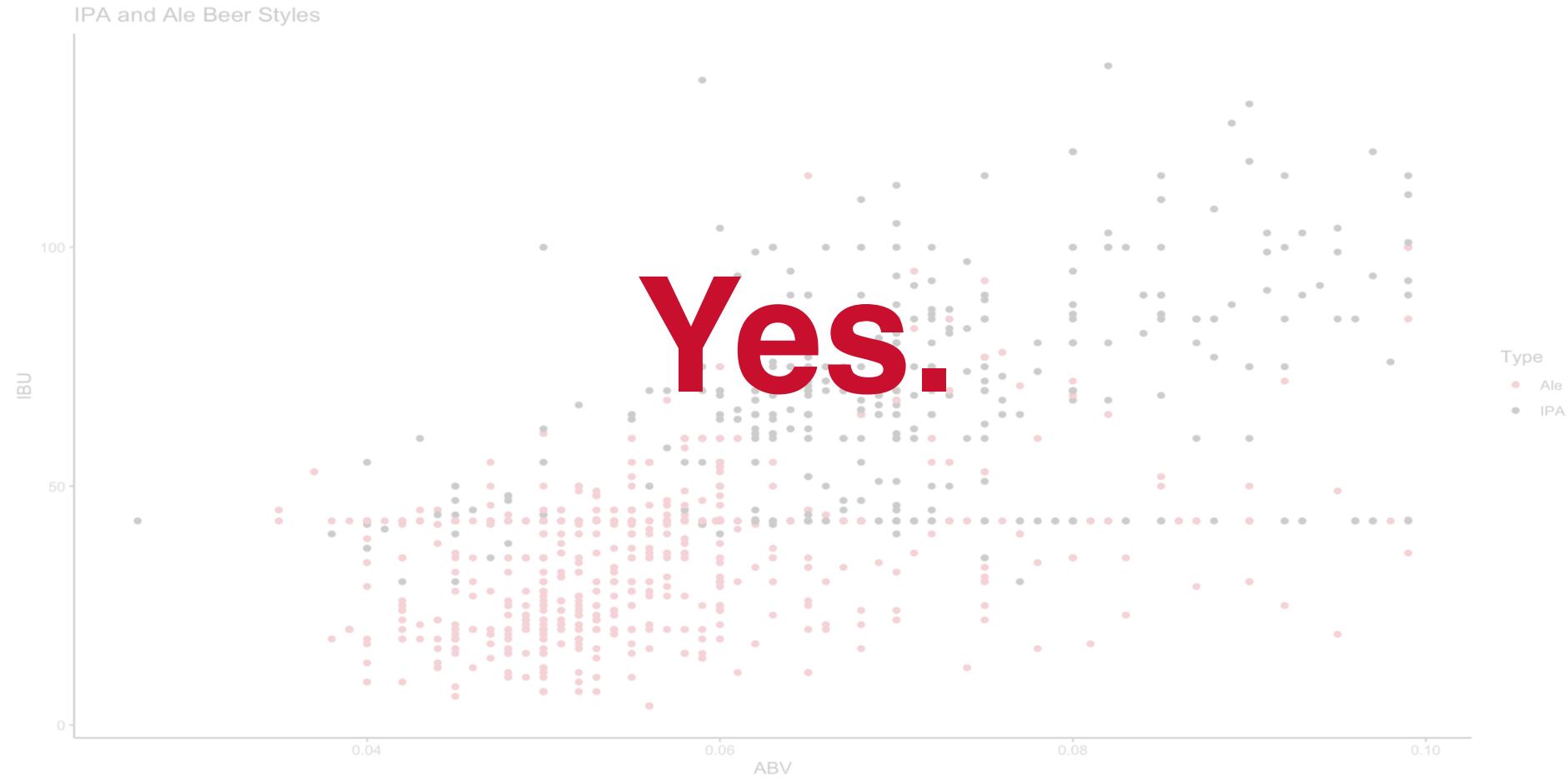
IPAs and Other Ales



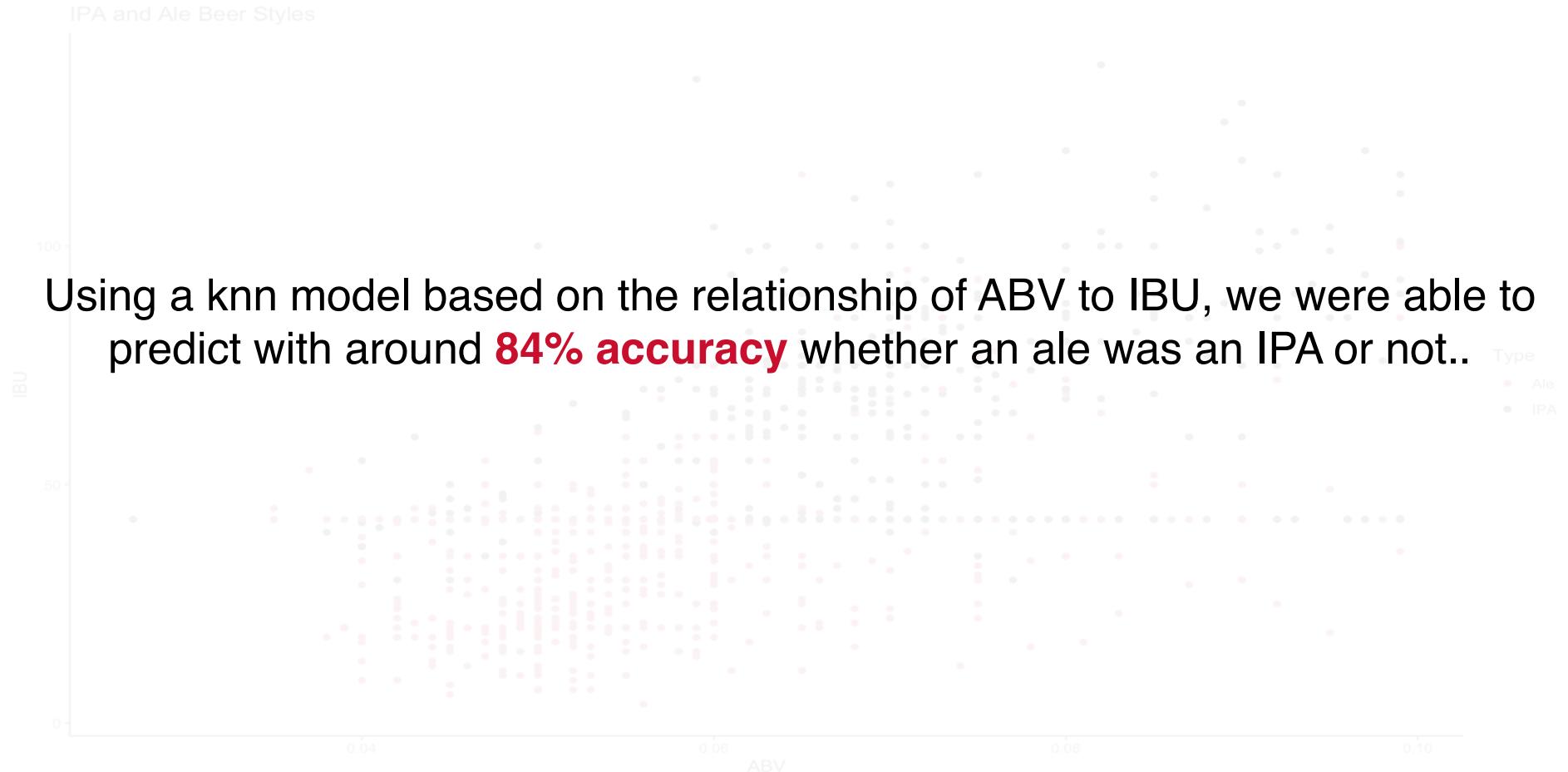
Can the relationship of IBU to ABV predict if it's an IPA?



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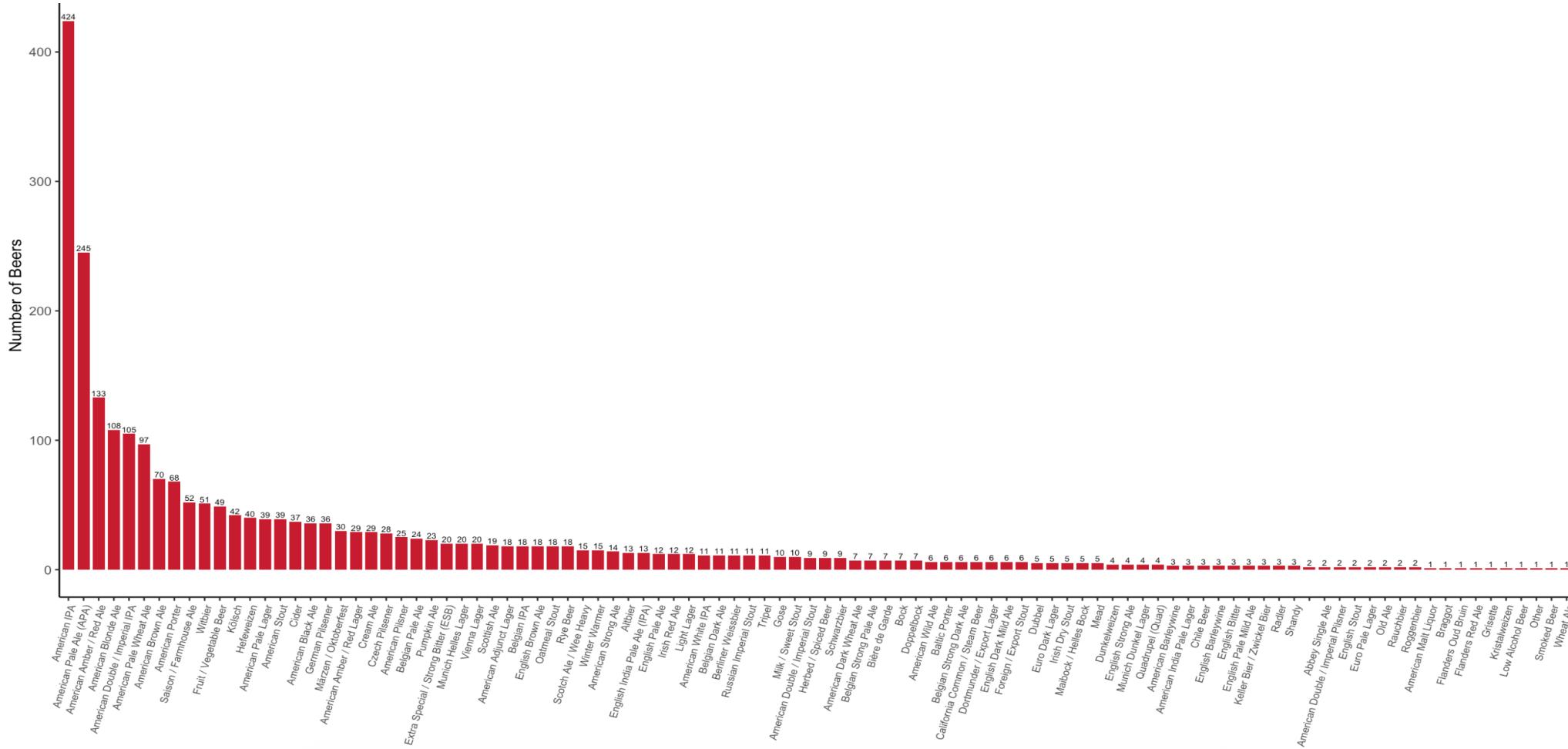
Can the relationship of IBU to ABV predict if it's an IPA?



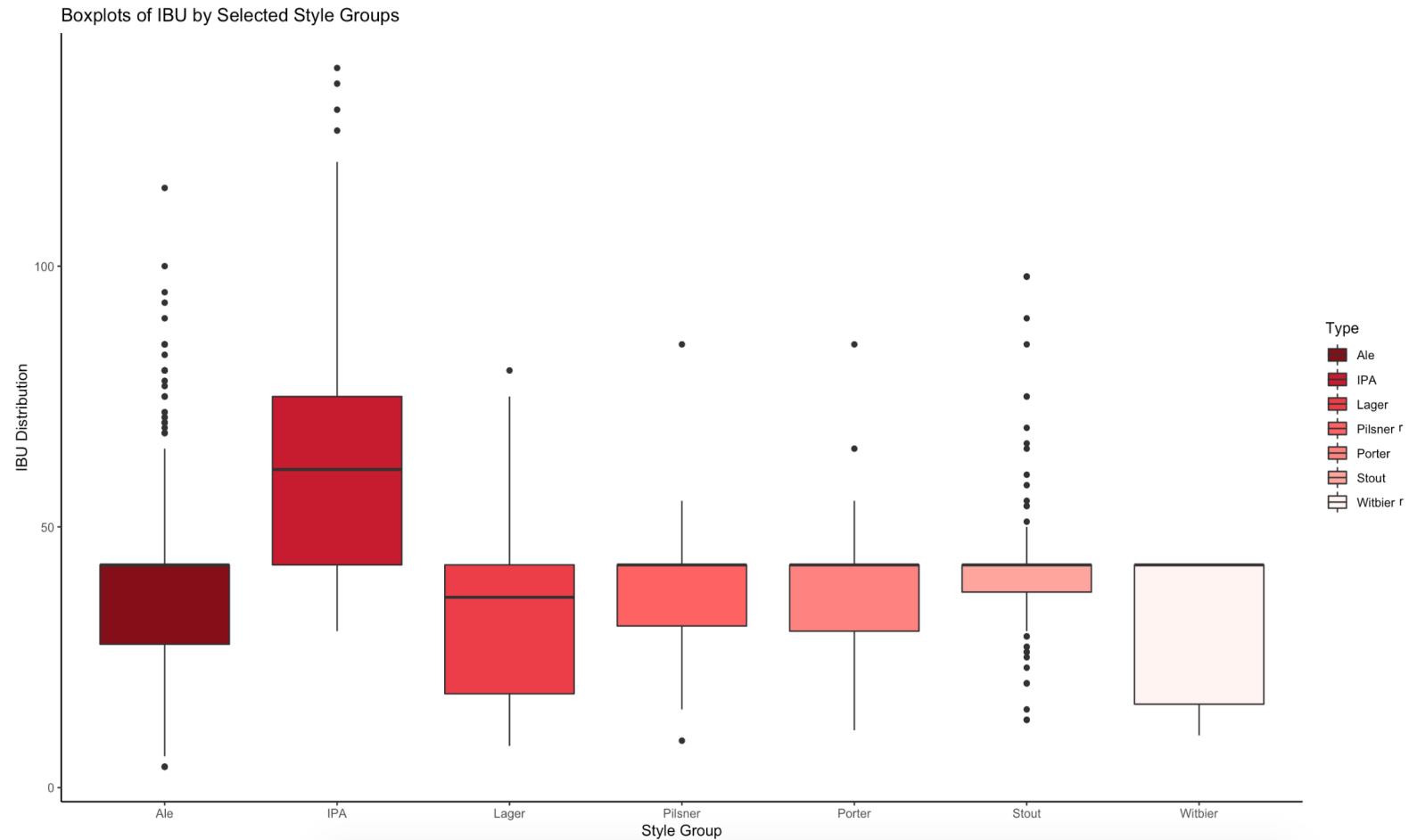
Style Analysis



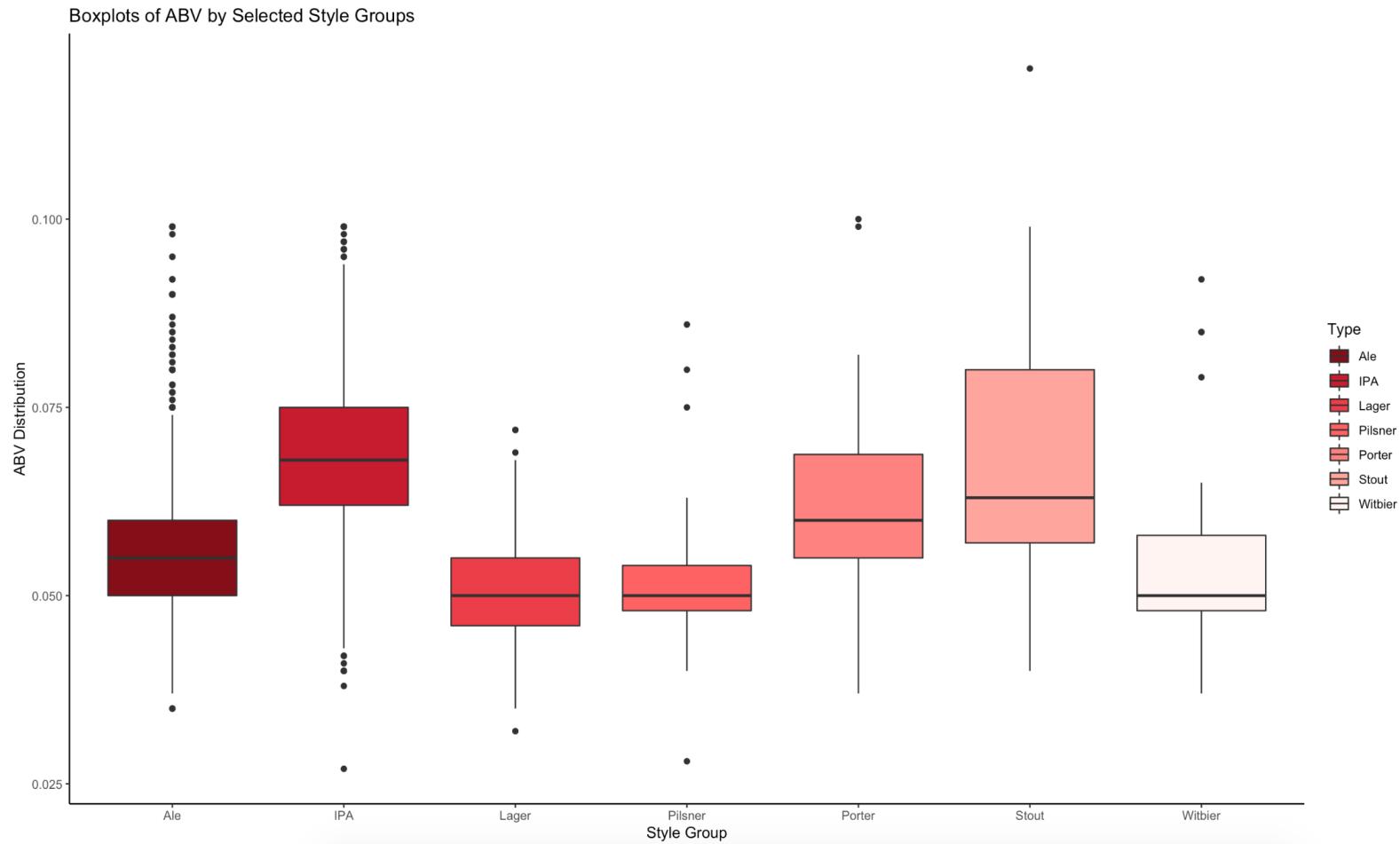
Number of Beers by Style



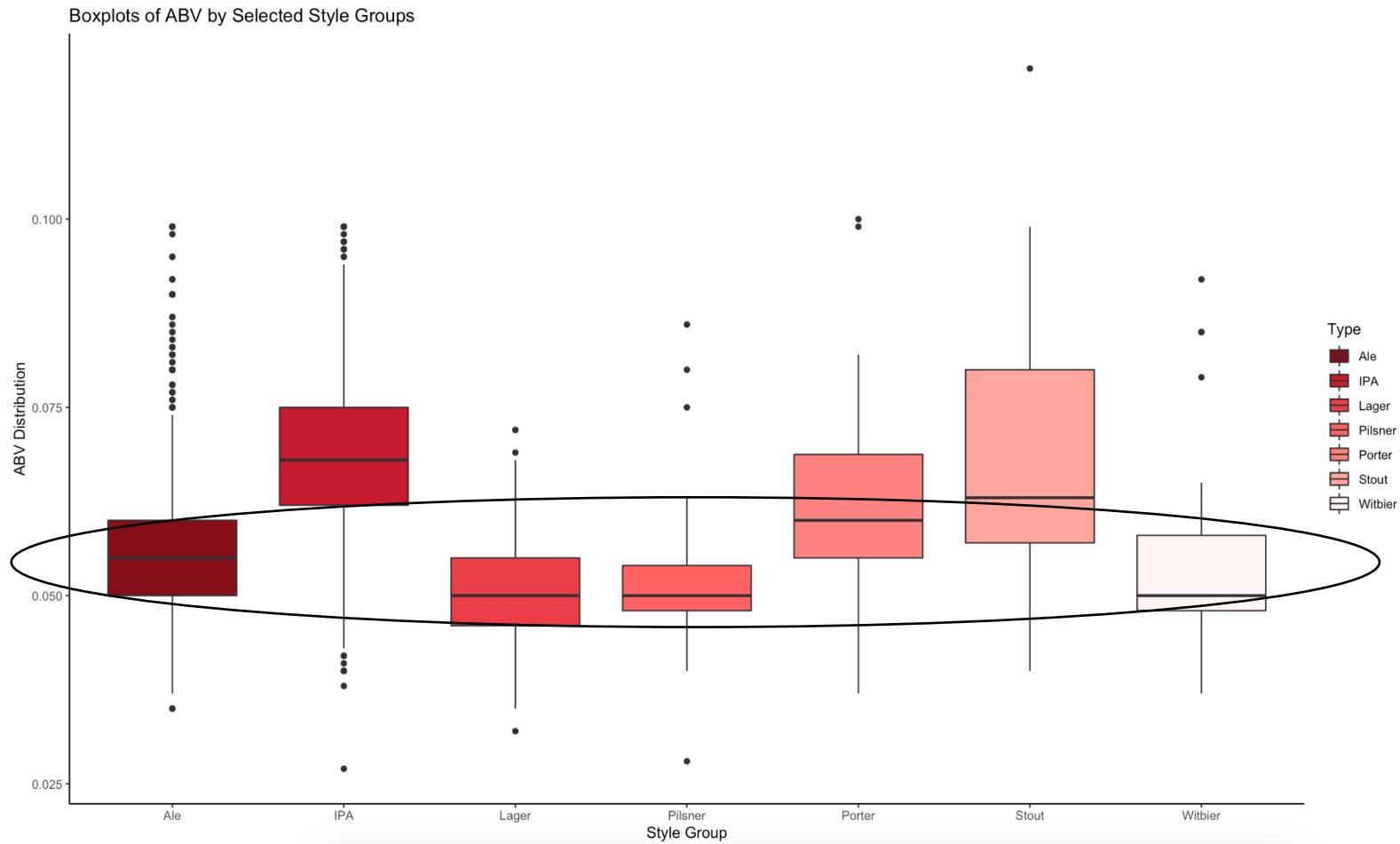
Boxplots of Select Style Groups: IBU



Boxplots of Select Style Groups: ABV



Boxplots of Select Style Groups: ABV



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Michael Weatherford & Hollie Gardner

