

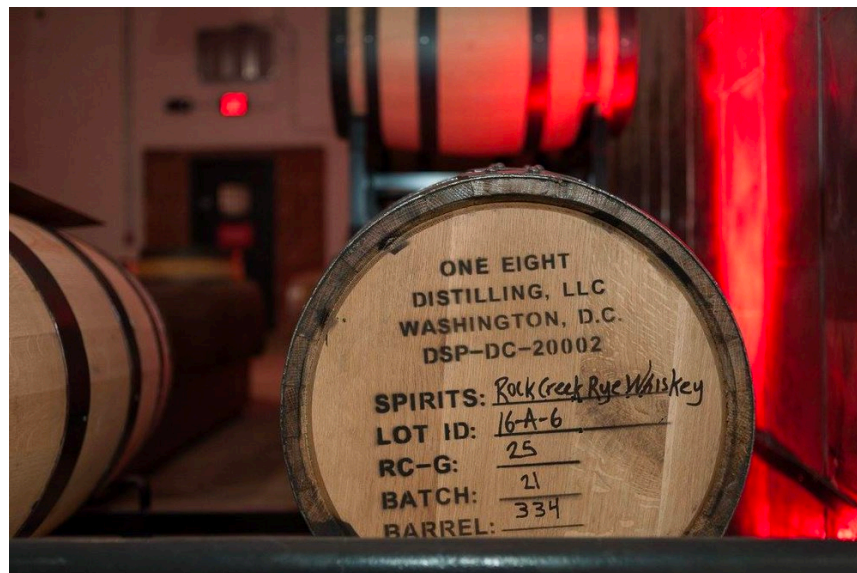


## \*February 2020 Newsletter\*

### ~Congeners and Distilling~

The art of fermentation can feel like near alchemy in its ability to transform its constituent raw materials into gold. Although brewers and distillers are kindred spirits (ahem) that require fermentation as a building block for their beverages, the two approach it quite differently. A brewer utilizing traditional ale yeast need only wait weeks to uncover the results of their work, while a whiskey distiller may have to wait years or sometimes even a decade to achieve finished product.

Distillers have a bevy of variables to contend with that extend far beyond fermentation in sculpting their finished product. This long game in whiskey (unless you are utilizing speed-aging techniques) necessitates a deep understanding of the role that time plays in flavor development. Top of mind is how grades of alcohol, oxidation, and wood transform a spirit. These substances are known as congeners.



Congeners are substances, other than the desired type of alcohol, produced during fermentation. These substances include small amounts of chemicals such as methanol and other alcohols (known as fusel alcohols), acetone, acetaldehyde, esters, tannins, and aldehydes (e.g. furfural). Congeners are responsible for most of the taste and aroma of

distilled alcoholic beverages, and contribute to the taste of non-distilled drinks. *Source: Wikipedia "Congeners"*

In general, distillers think about fermentation and congeners in two different ways. Alex Laufer, head distiller at One-Eight Distilling in Washington DC offered up his thoughts on this. "For spirits that we want to be as neutral as possible, we look to minimize the contribution of congeners." These include products like gin and vodka. Laufer adds, "We have a quick fermenting yeast strain that specializes in this. We also use the distillation process to control for undesirable flavors, paying close attention to not only our heads cuts, but when our proof begins to drop from 190."



*Alex Laufer, Head Distiller of One-Eight Distilling*

With whiskey, it's an opposite approach. Distillers actively look for congeners to create flavor. "Our whiskey yeast strain is a big contributor as well as the raw materials we use, but maturation plays the biggest role," he says. "The interaction between the wood and spirits of course, as well as oxidation create new molecules that can contribute to notes of pear and green apple." He adds, "Some of the alcohol changes to acetaldehyde which can then change to acetic acid, which can then interact with the alcohol and create more flavor."

The biggest variable in flavor development for a whiskey is the barrel itself. Whiskey can be tremendously different from barrel to barrel because of the wood itself, the coopering of the barrel, the amount of evaporation of the spirit over time, and the char level. "There's research that's looking into how all of these elements interact to create flavor, but there's a long way to go," says Laufer. "We see quite a difference from barrel to barrel."

In many ways, we are still in the early days of understanding types of congeners and their contribution to finished spirits. Trial and error methodology has gotten distillers to a point and has contributed to much of the knowledge base around congeners and their role in flavor. Distillers are on a quest to better understand the chemical processes that drive congener development. With more research and more science, innovation will take whiskey flavor to new heights.

## ~6-Row Barley Versus 2-Row Barley~

What's the difference between 6-Row and 2-Row Barley? The rows refer to the pattern that the kernels form on the head of the stalk while looking down on its axis. With 6-Row barley, the kernels form a spiral pattern in groups of 6. The kernels are a margin smaller than the kernels in 2-Row which has contributed somewhat to brewer preference for 2-Row. 2-Row barley's kernels alternate in sets of 2 on the head pattern as you gaze down the stalk.



Riverbend uses a 6-Row variety known as Thoroughbred. Our 6-Row products include Pilsner, Pale, Heritage, and Melanoidin. Our customers love the grassy character of our 6-Row Pilsner and Pale as it adds dimension and rustic character to farmhouse beers, mixed culture projects, and rustic lagers. Our Heritage is rich, like a darker Vienna-style malt, and is magnificent when used in an ESB, Vienna Lager, or Belgian Dubbel.

If you have never used our 6-Row Barley, we strongly encourage you to give it a try. We have numerous customers that love our 6-Row products. We think you will be blown away by their character and the impact it can have on your beer. A word of caution: make sure to adjust the gap on your mill to account for the smaller kernels in 6-row barley to maintain optimal extract potential.

2-Row is a very recent addition to Southern agriculture, having only been planted in meaningful acreage in the last few years. Calypso and Violetta are the two primary varieties that have performed best in our southern climate. They have distinctive character that is quite different than the 2-Row products from Canada, the Pacific Northwest, and Canada.

We have evolved our lineup to include many new offerings over the past few years. Some of our current 2-Row products include our Southern Select, an English style pale malt, a perfect base for just about any beer. Our Base Camp Extra Pale was released just last year and is fast becoming one of our top selling 2-Row products. And if you have

not tried our Light or Dark Munich Malts, they are absolutely fabulous for adding depth and character to your maltier brews such as bocks, porters, and stouts.



We believe that 2-Row and 6-Row products serve to broaden the brewer's palate of possibilities. Many of our customers will blend these varieties together in a grain bill to achieve their desired flavor profile. If you have never given 6-Row a chance, we strongly encourage you to give it a try. And if you have not experienced our 2-Row products, we offer you the chance to experience unique barley varieties with distinct character that are only available in the south.

### **~Come out for a Visit~**

With activity slowing down in the brewhouse, now is a great time to visit our facility in Asheville. We are here Monday – Friday from 8am – 5pm and would love to show you around. Tours generally take about an hour. Come out and see how we make the magic happen!





### **~About Riverbend Malt~**

Riverbend Malt House, founded in 2010 and headquartered in Asheville, NC, is one of the original craft malting facilities in the US. Utilizing grain sourced from local, family owned farmers, Riverbend malt fuels high quality, unique beverages produced by hundreds of North America's finest craft breweries and distilleries. For a Product Catalog or Pricing, please reach out to [matt@riverbendmalt.com](mailto:matt@riverbendmalt.com). We offer same day shipping on orders received before Noon, Monday – Thursday. Pre-Milling is available for an additional charge and additional lead time.

Cheers!

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