

August - September Issue 2020

BEVERAGE MASTER



CRAFT SPIRITS & BREW MAGAZINE

**Barrels, Old and New, Making
Crafting Spirits a Careful Balance
of Art and Science**

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Barrels Old and New: Make Crafting Spirits a Careful Balance of Art & Science

By: Cheryl Gray

Distilleries are as selective about the barrels they use as they are about the ingredients that go into crafting their spirits. In fact, the right barrel plays an integral role in the entire process.

Experts say that new barrels impart the highest wood impact into a spirit, giving it color and emphasizing characteristics exclusive to the wood. On the other hand, older barrels play a very different role and are used in a variety of ways by the spirits industry.

Brown-Forman is the only spirits company in the world to handcraft its own barrels. **Michael Nelson is Director of Brown-Forman Cooperage.**



“The barrel plays an important role in the making of whiskey,” said Nelson. “With more than 50% of the flavor and 100% of the whiskey’s color coming from the barrel, it is a key ingredient, not just a storage ves-

sel. Barrels impart this flavor and color by sucking whiskey into the wood and through the char and layers of sugar behind it during the winter. When summer comes, it pushes the whiskey back out. That process repeats itself several times before it's ready."

Brown-Forman has two cooperages, one in Louisville, Kentucky, and the other in Decatur, Alabama, both of which use American white oak to custom craft barrels for time-honored brands including Jack Daniels, Old Forester, Canadian Mist and Woodford Reserve. Few know better how barrels impact the end product than **Woodford Reserve Master Distiller Chris Morris**.



"When crafting a straight whiskey, such as Woodford Reserve Bourbon or Rye, the use of a new, charred oak barrel is required by the federal standards of identity," said Morris. "The pros of using a new barrel are that we achieve the product type and descriptor we desire. The cons would be that if we filled a used barrel, we wouldn't. There are additional pros and cons as well—those of crafting a desired flavor profile. A new barrel is an intense source of color, aroma and flavor, while a used barrel is not. During our initial use of a new barrel, we extract approximately 85% of the heat-induced oak character. Therefore, to create the product profile that consumers expect, we must use new wood."

However, Morris said, that doesn't exclude using barrels from another beverage class, a technique he calls "finishing."

"We have finished Woodford Reserve in wine barrels, port, sherry and cognac barrels for a specific flavor formation purpose. Of course, by finishing a straight whiskey in a barrel that was previously used in any form or fashion causes us to lose the straight whiskey designation. That con is superseded by the pro of getting a unique finished product."

Morris told *Beverage Master Magazine* the concept of using finishing barrels is an innovation that Woodford Reserve Distillery introduced to the whiskey industry in 2006 when it became the first distill-

ery to "finish" a whiskey in Chardonnay barrels. The flavor notes found in such barrels, like citrus, apple, pear and vanilla, are also found, Morris said, on the Woodford Reserve flavor wheel.

"The 'finishing' barrel is selected so that it will highlight and enhance an existing Woodford Reserve flavor," he said. "This will create an out-of-balance flavor presentation by design, therefore making the 'finished' expression 'flavor focused.'"

Canton Cooperage is also headquartered in Kentucky. Its master coopers handcraft barrels for wineries and distilleries worldwide, using American white oak, aged in open air. The company creates "Spirit by Canton," a line of branded barrels for its distillery clients, who place orders based on specific barrel details, including the age of the barrel's wood.

Bruno Remy, a veteran enologist, is **Vice President and Sales Manager for Canton Cooperage**.



"At Canton Cooperage, our production is limited to craft premium spirit barrels," said Remy. "We make our barrels by order with American oak wood seasoned for 12 months, called 'Spirit by Canton;' two years, called 'Spirit Premium;' three years, called 'Spirit Grand;' four years, called 'Spirit Limited Edition;' and even a very limited production of barrels with five-year-old wood called 'Spirit FIVE.'"

Remy told *Beverage Master Magazine* that distilleries pay attention to a barrel's every detail. He said that list includes dimensions, the thickness of staves and headings, logo branding on the heads, number of hoops, position and diameters of the bunghole, toasting recipe and charring.

Another critical factor that distilleries look for in a barrel is the percentage of leakage, with 0%, of course, being ideal. That's where handcrafted barrels have the edge. Industrial barrel production can show a higher percentage of leakers compared to artisan production.

As for the life span of a barrel, some barrels can last 30, 40, 50, even 100 years or more, provided they are well-kept. Barrel recycling is fundamental

to the spirits industry. Not only is it environmentally responsible but also financially practical.

“Commonly, the large distilleries have a contract with their cooperage to sell back the used barrels after a certain number of years. Large distilleries can also transfer used barrels to subsidiary distilleries when part of a group,” said Remy. “There is a market of used barrels, and effectively, the barrels can have a second life when shipped to Scotland, Ireland, Spain, Caribbean islands, Japan, Brazil and Chile for whiskey, Scotch, sherry, rums, cachaça, pisco, etc.”



In producing its rum, Washington D.C.’s **Potomac Distilling Company** uses a mix of new and old barrels to create Thrasher’s Rum. **Owner Todd Thrasher** told *Beverage Master Magazine* that multiple factors go into his barrel choices.

“One con associated with new barrels is cost. It tends to be very expensive,” said Thrasher. “Also,

because we have limited storage space, I only use 30-gallon barrels, which are more expensive than 50-gallon barrels. I find that many American spirit drinkers tend to enjoy the taste of oak, so it definitely makes for an easier transition for whiskey drinkers and can open our rum up to a potential new audience of drinkers.”

Thrasher said that he sources old barrels from a variety of local distilleries with whom he has relationships. He chooses used barrels that are, on average, three years old, and inspects them for any aesthetic defects, especially for any signs of leakage. That aside, he is sold on the benefits his distillery gains from barrel recycling.

“Barrels can absolutely be recycled! For example, one of our barrels is a used peach brandy barrel. I find that the recycled barrels can imbue the new spirit with a slightly different profile or flavor.”

New barrels, Thrasher said, can be harder to source but, when he does place an order, in addition to size, he looks for other specific characteristics. “All new barrels are number three char with medium-toast. That’s the barrel profile that best suits my needs.”

Cooperages do not typically stock a lot of new barrels in their inventory since most are made-to-order, and empty barrels sitting too long can cause problems. Even with a new barrel, the wood is continually drying out. As it does, the barrel shrinks. Once a shrunken barrel gets filled, it will almost certainly leak.



Heidi Korb, owner and co-founder of Black Swan Cooperage in Park Rapids, Minnesota, said her cooperage's typical lead time for a barrel order is approximately two months but will vary depending on the quantity of the order.

Korb told *Beverage Master Magazine* there is a wide range of possibilities for clients to consider when choosing barrels. "The variables and options are fairly endless, so it very much depends on what the customer is looking for, what product they are aging and their preferred aging timeframe," she said. "Using new barrels, especially smaller barrels 30-gallon on down, can be a great way to test new products because the age time will be less than if aged in a standard 53- or 59-gallon barrel."

Although used barrels are a staple in the spirits

industry, Korb said that careful inspection includes more than watching out for aesthetic imperfections or signs of leakage.

"In used barrels, you want to avoid any barrels that have off-flavors or barrels that have gone sour. This means they have sat too long empty or were stored in an area where they started to grow mold," Korb said. "If a barrel is treated well and used rather continuously, it can be used—for lack of a better term—a very long time. Think of your 20-80 plus year aged Scotch whiskey!"

Virtually all experts agree that the best method to protect a barrel's integrity is always to keep it full. Industry veterans recommend that if barrels are to be ricked, empty them with the plan in mind to fill them within hours. Cellar or rick house temperatures should stay between 45 to 65 degrees Fahrenheit. Moisture in a cellar is vital for the barrel's physical stability and aging of the spirit, with 50% to 80% of humidity recommended. Low variances of temperature and moisture present the ideal environment.

New or old, the common denominator in the industry conversation about barrels is that they are a significant part of the distilling process that uniquely defines a crafted spirit, giving that spirit an identity all its own.

