A Two Hundred Year Old Bourbon Recipe is Alive and Well!

by Wonderware

“With regards to metrics, what we’re seeing is a consistency in throughput. We are able to tell when problematic areas arise and by having it automated, we are able to take preventive action in order to maintain consistent operation.”

Harry Crigler, Distillery Operations Manager, Jim Beam

Company Overview
Jim Beam Brands Co. – Deerfield, Illinois (USA)

When Jacob Beam moved to Kentucky and sold his first barrel of bourbon in 1795, he had no way of knowing that he was laying the foundation for an enduring family business... creating what would become the world’s best-selling bourbon.

Today, Beam Global Spirits & Wine owns nine of the world’s top-100 premium spirits and is the largest spirits company based in the U.S. and the fourth largest in the world.

Jim Beam Bourbon has stayed true to its original recipe for over 200 years. And as time and technology marched on, the manufacturing processes at the Jim Beam Facility have kept pace.
Jim Beam's Vision for plant modernization

This brand-led company relies on strong leadership to invigorate and enhance the company’s way of working. Since 1992, Wonderware has been Jim Beam’s partner for automation and information software solutions. Originally, Wonderware software was chosen because of its ease of use and its ability to interface with existing PLCs.

As the strength of Wonderware software became apparent to the folks at Jim Beam, it was integrated throughout the plant and has become the software standard. In 1994, the Dry House at Clermont was automated using InTouch HMI. In 1995, the first InTouch software was added to the Bottling line. In 1996, the Distillery at the nearby Booker Noe Plant was automated using InTouch HMI.

The Wonderware Historian software was added in 1997. And once the usefulness of the Wonderware Historian’s real-time and historical database capabilities became apparent, the software was added to the rest of the plant. This database tool, coupled with Wonderware ActiveFactory trending and analysis software have been used for quality and troubleshooting throughout both plants ever since.

In 1998 and 1999 InTouch HMI software was added with the automation of the Jim Beam facility’s Water and Wastewater Treatment Plant. In 2001 InTouch HMI was included with the automation of the Chilling process. In 2003 Terminal services for InTouch HMI software was added as the visualization software on two more bottling lines. In 2003 the Wonderware System Platform was chosen for the Expansion of the Booker Noe Plant.

Uphold high principles and social responsibility

The Jim Beam facility in Clermont, Kentucky produces a number of well known brand spirits; Jim Beam Bourbon and Knob Creek Straight Bourbon Whiskey, to name a few.

Two of the critical underlining principles of Beam Global are to “uphold high principles and social responsibility” and to “strengthen our partnerships.” Working together with Wonderware helps enables Beam Global Spirits to bring their vision to life, uphold their commitment to responsibility and to have a true working partnership with Wonderware to build brands people want to talk about.

Making Bourbon from a two hundred year old recipe

Wonderware software solutions are integrated throughout the production process, from the water plant to the boiler house, from the distillery, to processing and finally the bottling line.

Throughout the plant, at every step of the process, Wonderware software is an important tool. The process starts by bringing in corn, rye and barley malt grains. Even at this early stage, Wonderware software is used to distribute the deliveries of grain to specific silos. The grains are milled and mixed with water to form a mash. This mash is heated to convert the starches to grain sugar. Yeast is added to the cooked mash which results in fermentation and the conversion of the grain sugar to ethyl alcohol and carbon dioxide... forming distillers’ beer. Wonderware InBatch software control the cooking and fermenting. The beer goes through the still where the alcohol is separated from the grain. Here, Wonderware InTouch HMI software is used to control the entire distillery.

From there the alcohol is put into new charred white oak barrels where it is aged for up to 10 years. The bourbon in the barrels is dumped, chill filtered, then bottled and shipped, ready to be enjoyed in moderation by responsible, legal drinking age consumers. Wonderware software’s ability to control every aspect of the plant’s production helps Jim Beam to run a consistently high quality product more efficiently and have a more profitable business.

As Wonderware software continues to evolve and mature, upgrades to the system can be made effortlessly providing improved tools for the production process. And a great product is what they make at Jim Beam. Quality Kentucky Bourbon made from a secret recipe that is more than 200 years old - old time bourbon with a modern touch with a little help from Wonderware.

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A sampling of Jim Beam's products