



# RESEARCH

 University of Kentucky  
Department of Forestry and Natural Resources

## STAVE DRYING TREATMENTS TO MINIMIZE DEGRADE

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**PRINCIPAL INVESTIGATORS:** Terry Conners, James Ringe, and Jeff Stringer, UK Department of Forestry and Natural Resources, and Adam Taylor, University of Tennessee, Department of Forestry, Fisheries and Wildlife

**STAFF:** Chad Niman, University of Kentucky Forestry Extension and Research Specialist

**ADVISORY TEAM:** Independent Stave Company, Brown-Forman Corporation, Robinson Stave Company and Canton Cooperage

**PROJECT GOAL:** To determine cost effective measures for controlling and limiting degrade of barrel staves for the purpose of extending the use of white oak available for cooperage and distilled spirits production.

**PROJECT DESCRIPTION:** The project involves two phases including 1) A survey of environmental conditions, wood characteristics (ex. ring width) and stave moisture, and stave degrade at facilities across the region; and 2) a replicated stave drying study conducted at the Stave Drying Research Facility at the University of Kentucky's Wood Utilization Center in Quicksand, Kentucky. The first phase is designed to characterize drying environments and wood characteristics and conditions in operational stave facilities that will be used in phase 2 to develop and assess treatments designed to limit degrade and improve recovery in cooperages. The Stave Drying Research Facility will provide for a detailed examination of within and between stack variation and the effectiveness of stave treatments to reduce degrade and study wood structure and chemistry associated with flavor profile development of distilled spirits.



**PROGRESS:** Planning for the survey of stave facilities is underway as is the construction of the Stave Drying Research Facility.

**NEEDS:** 24 stacks of staves delivered to UK's Stave Drying Research Facility near Jackson, Kentucky, for loan and use in the controlled drying experiments. Staves will be returned upon completion of experiments. 48 copper naphthenate or borate treated ties for stack placement, and \$20,000 for environmental monitoring equipment.

**FUNDING AND RESOURCES:**

- University of Kentucky: \$40,000, Department of Forestry and Natural Resources
- External: To be determined based on needs outlined above