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Project to Use Common Baker's Yeast, *Saccharomyces cerevisiae*, to Mitigate Cotton Stickiness

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Honeydew contaminated cotton can interfere with ginning and cause interruption of production in the mill until the problem is corrected. Cleanup is expensive and time consuming. This study attempts to use a yeast spray application to remediate this sticky cotton condition. First pilot tests were done to determine if baker's yeast can utilize trehalulose and melezitose, the two major sugars causing cotton stickiness. In order to conduct this project, a method to create on demand levels of sticky cotton was developed. This method of blending sticky and non-sticky cottons to create a graded series of sticky cotton can be useful for other studies involving sticky cotton. For this test, *Saccharomyces cerevisiae* found in baker's yeast was used as a safe and readily available bioremediator. Sticky cottons were sprayed with the yeast and after incubation at room temperature (20°C), and at 30°C, the treated sticky cottons were compared with non-treated controls using the minicard test and rating index to measure stickiness. While a few treatments showed statistically significant reductions in stickiness, there were cases where the yeast treatment resulted in a statistically higher level of stickiness. Furthermore, when reductions were observed, they were not practically useful to improve processability in the gin or textile mill.