POSTER SUMMARY

HAZE DEXTRAN IN RAWS VERSUS DEXTRAN IN MOLASSES?

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Abstract

In the South African sugar industry, one of the sugar quality parameters that is measured is haze dextran. As such, the Sugar Milling Research Institute NPC (SMRI) measures haze dextran levels in raw and refined sugar on a weekly basis throughout the milling season. Literature reports that stale cane causes high dextran levels in sugar. Certain mills, therefore, have control limits in place to manage their stale cane. Typically, the levels of haze dextran in sugar increase near the end of a season. Towards the end of the 2012/13 season (South African Sugar Association (SASA) week 34, onwards), three mills were flagged as having dextran levels in their raw sugars in excess of their control limits. As part of the Polysaccharide Characterisation research project, the SMRI set out to determine whether these high levels of haze dextran measured in the raw sugars were indicative of the amount of gums or dextran present in the processing streams. Final molasses samples for these three mills were analysed from week 28 onwards. Analyses included determination of the gum quantity in the final molasses and the structural analysis of the isolated gums by gas chromatography mass spectroscopy (GCMS). This poster presents the non-parametric statistical analyses of the results and concludes that haze dextran concentrations in raw sugars cannot be used to predict the total gums and/or dextran levels present in the final molasses.

Keywords: haze dextran, raw sugar, gums, structure, GCMS, final molasses