YIELD ENHANCEMENT IN COOKED BEEF PATTIES USING CULTURED CANE SUGAR

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I. OBJECTIVES

The objective of this study was to evaluate the efficacy of Verdad® Powder N20, a novel cultured cane sugar (CCS) product, as a yield enhancement solution in fully cooked beef patties.

II. MATERIALS AND METHODS

Ground beef at 78% lean was mixed with 1.0% salt and varying levels of CCS outlined in Table 1. The control treatment contained no yield enhancement ingredients, whereas the treatments included the addition of either 1.0% CCS or 2.0% CCS. Individual treatments were mixed for 10 min and formed into fifteen 150-g patties. Patties were then cooked in a preheated steam-injected convection oven at 260°C and 20% humidity until internal temperature of the patties reached 73.8°C. Patties were then cooled to 4.4°C, and cook yields were measured for each treatment. All treatments were manufactured and cooked in duplicate. Cook yield was calculated as a percentage of original weight.

III. RESULTS

Table 1 illustrates the treatment structure and cook yields for this study. All of the treatments with the CCS inclusion resulted in a cook yield increase ($P < 0.05$) compared to the control treatment. Increasing the inclusion rate of CCS from 1.0% to 2.0% led to further increase ($P < 0.05$) in cook yield. The 2.0% CCS treatment indicated an 8.0% yield increase compared to the control.

Table 1:

Cook yield for varying inclusion levels of cultured cane sugar (CCS)

Treatment	Cook Yield
Control	61.88%
1.0% CCS	65.44%
2.0% CCS	69.88%

IV. CONCLUSION

This study validates the efficacy of Varda® Powder N20 (CCS) as a clean-label yield enhancement solution for the meat industry.

Keywords: beef, ground beef, yield enhancement