The Impact of Natural Antioxidants on Color, Quality, and Consumer Acceptability of Ground Beef Patties

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When consumers go to the store, they are guided to the prettiest, reddest cut. After a few days, the meat's color can darken and turn brown, which is not ideal for a consumer. Synthetic antioxidants are used in meat products to improve their color and prolong their shelf life, but they have gotten some backlash due to health risks. This has opened the doors for natural antioxidants to be used in meat products as a substitute for their synthetic counterparts. In my experiments, I introduced rosemary and Duralox extracts as natural antioxidants into ground beef patties to examine their effects on the patties' color and taste. Using a HunterLab Spectrophotometer, I took color readings of the patties each day for four days. I also conducted a visual and taste panel using human participants to see if the antioxidants had any effect on the patties' visual color and taste. After the fourth day, I averaged the readings from the spectrophotometer and the results from the panels and made graphs to convey the data. The results of my experiments suggested that using natural antioxidants in ground beef patties can improve the color and prolong the shelf life of the patties without providing any off-textures or off-flavors. This means that by using natural antioxidants, manufacturers can have their products on the shelves for a longer period, decreasing the amount of beef waste, and increasing profit.

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