The Effect of Liquid or Dry Honey as a Partial Replacement for Sugar on the Baking and Keeping Qualities of Fat Reduced Muffins.

by

Matthew J. Strait

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APPROVED:

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Frank D. Conforti, Chair

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Roderick Young                William Barbeau

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ABSTRACT:

The food industry has responded to the American Heart Association’s overwhelming concerns about the complications of obesity with an array of fat reduced products that maintain the functionality of fat in given systems. In baked products, it appears that no one single ingredient effectively mimics these functions. The present study investigated the effect of liquid or dry honey as a partial replacement for sugar on the baking and keeping qualities of fat reduced muffins. The fat reduced muffins also utilized a hydrocolloid fat replacer, bacterial and fungal amylases, and an emulsifier (DATEM).

Results showed that both liquid and dry honey significantly (p<0.05) increased crust and crumb color at all replacement levels, however the use of 25% liquid honey was shown to favorably increase the crust color of fat reduced muffins. Volume was not significantly (p>0.05) affected but appeared to decrease with the addition of honey due to either premature starch gelatinization or a decrease in batter pH. The addition of honey increased moisture content, and decreased water activity, but did not decrease firmness or staling rates especially after prolonged frozen storage. Sensory panelists noted that the addition of liquid or dry honey increased the cohesive forces and decreased tenderness. The addition of moisture to the fat reduced system did not appear to improve the perceived moistness of the product.