

“Effect of honey on barley flour supplemented pretzel”

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Summary

Pretzels are low caloric, nutritious, tasty, cooked and baked products made from wheat dough most commonly found in a unique knot-like shape and are popular snack foods in many developed countries. The present study was conducted to develop pretzel by supplementing with barley flour and honey as a natural sweetener. Barley (*Hordeum vulgare L.*) is fourth most important cereal in the world which is an excellent source of many valuable nutrients e.g. soluble and insoluble dietary fibers. Barley has the ability to promote good consumer health through its nutritional components. For pretzel experimental design with wheat flour (50-80g), barley flour (20-40g) and honey (20-40%), as independent variables produced 20 different combinations that were studied using response surface methodology. A Central Composite Rotatable Design (CCRD) for three variables at three levels was used for experimental combinations and optimization of the process. The optimum solution obtained by numerical optimization technique for pretzel was 59.77g wheat flour, 29.88g barley flour, and 29.44% honey. Corresponding to the optimum condition of independent variables for pretzels, the predicted values of were 4202.43g hardness, 57.50% antioxidant activity, 74.33 μ g/ml total phenolic content and 7.62 overall acceptability respectively. The bakery product prepared by addition of honey in wheat –barley flour blend will have a significance increase in antioxidant activity (AOA), total phenolic content (TPC). Honey used in pretzel formulation increase the overall quality of the product and improve dough. Because of the addition of honey in flour blend lower hardness of baked food. Pretzels prepared by incorporating barley and liquid honey are good for consumers which want alternatives to fried snack foods.

Keywords: Barley, Honey, Response surface methodology (RSM), Optimization.
