MULTI-OBJECTIVE OPTIMIZATION OF AIR-DRIED BANANA QUALITY PRETREATED WITH OSMOTIC DEHYDRATION AND ULTRASONICATION USING RSM

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Abstract: In this study, application of a multi-objective optimization technique based on RSM (Response Surface Methodology) has been presented. Banana slices were dehydrated using osmotic dehydration with sucrose and glucose solutions at different concentration (30 and 50 Brix) and ultrasonication. Dehydrated banana slices were then subjected to air drying at 60 and 80 C for 4, 5 and 6 hours. Color changes, shrinkage and moisture content of dried samples were regarded as responses to the non-thermal and air drying conditions. Multi-objective optimization lead to obtaining the best condition for production of dried banana slices with the lowest moisture content and shrinkage.

Keywords: Banana- Air Drying- Ultrasonication-Osmotic Dehydration- RSM