

Effects of brine concentration, thickness and microwave finish drying on the textural characteristics of buffalo jerky

ABSTRACT

Jerky, a ready-to-eat snack, known for its high protein and low-fat content. Current methods used in jerky processing take 6-10 hours in a conventional oven, dehydrator or smokehouse. In this study, whole buffalo meat was sliced to 5mm and 6mm and cured in three different salt concentrations of 1.0%, 1.5% and 2.0% for 24 hours at 4°C. The effects of microwave finish drying (5, 10 and 15 seconds) were examined after samples were dried in a convection oven for three hours. Cured buffalo slices showed significant ($p<0.05$) lower initial moisture content compared to uncured slices. This is due to the effect of salt which increased the protein solubility thus reducing its moisture content. Buffalo jerky treated with 2.0% salt showed the lowest final moisture content and the highest weight loss. Analysis of the texture characteristics showed that lower salt content and higher microwave duration produced softer buffalo jerky. The colour analysis of dried buffalo jerky implied that altering salt concentration and drying treatment did not give negative impact to the colour. Thus, microwave finish drying is capable of producing a good buffalo jerky without jeopardizing its quality.

Keyword: Beef jerky; Salt concentration; Drying; Oven; Microwave