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Cairo University Faculty of Veterinary Medicine Department of Food Hygiene and Control



Natural Vegetables Extracts as Alternative to Nitrite in some Meat Products

A Thesis Submitted by

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For the Degree of the M.V.Sc., Meat Hygiene and Control and its Products

Under Supervision of

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Entitled: Natural Vegetables Extracts as Alternative to Nitrite in

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For the degree of M.V.Sc (Meat Hygiene and control and its products)

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Abstract

To explore the efficacy of red beetroot and radish powder substitution to nitrite salt in oriental sausage, four groups of sausage were processed. Frist group N (100ppm of Sodium nitrite), 2nd group BR (0.065% beetroot powder), 3rd group R (0.065% radish powder) and 4th group NBR (0.065% beetroot powder + 100ppm Sodium nitrite), and kept frozen at -18°C. Sensory, physicochemical, nitrite residue and bacterial analysis were performed immediately after production and at monthly interval for 3 months. The achieved result revealed that addition of vegetable powder significantly improves sausage sensorial and instrumental color through whole storage time, while other sensory characteristics are not affected. Residual nitrite in NBR is significantly lower than N group at zero time, while at the end of storage N group showed lower nitrite residue than NBR group. Sodium nitrite and beetroot powder treated group revealed positive antimicrobial activity than that of radish powder. Beetroot and radish powder considered as good and stable colorant with more investigation is required to explore their nitrite substitution in oriental sausage.

(**Keywords:** Nitrite, Sausage, Red beet, Radish, Quality)

Dedication

To the soul of My Father

« Mother

To MY Wife

« My sons