

ID: 404

Garlic and Ginger Pastes as natural Antioxidant in Spent Hen Meat Nugget**Olayemi R. Awodoyin and Oluwatobiloba D. Oyekunle**

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Abstract

Economic value of spent hen can be improved through value addition. However, spent hen contain high fat and coupled with the fact that processed chicken meat is more susceptible to oxidative deterioration make spent hen meat products prone to oxidative degradation. Therefore, the need for antioxidant inclusion during spent hen meat product formulation. Five spent hen chicken nugget emulsions were formulated (T1 ascorbic); T2 0.5% Garlic, T3 1.0% Ginger, T4 0.5% Ginger, T5 1.0%Ginger. The mixtures from each formulation were filled into boxes (20×10 cm) (approximately 40±1 g each), deep fried in Grand Soya oil® for 10 minutes at 190±2°C (frying temperature). The fried nuggets were allowed to cooled down to room temperature and a portion from each nugget was packaged in air tight zip loc bags and stored in a refrigerator (4°C). Frying yield (%), phenol content (GAEmg/g, flavonoid (mg QE/g), cholesterol (%) and Thiobarbituric reactive substances (TBARS) mg MDA/kg). (Data generated were analysed using ANOVA@Pa0.05).

Frying yield 92.29 (0.5% ginger) is similar to 88.62 (0.5% garlic) and significantly higher than 82.29 (ascorbic) and 85.72 (1.5% garlic) but significantly lower than 97.87 (1.5% ginger). Nugget with 1.5% ginger had 24.92 phenol content which is significantly lower ($P<0.05$) than 20.47 (0.5% ginger), 18.37 (1.5% garlic), 17.63 (0.5% garlic) and 16.06 (ascorbic). Flavonoid (9.34) and cholesterol (72.82) contained in ascorbic nugget is significantly higher than 8.20; 61.84 (0.5 ginger), 8.69; 57.09 (1.5% ginger), 4.71; 68.49 (0.5% garlic) and 6.32; 59.05 (1.5% garlic) for flavonoid and cholesterol respectively. Irrespective of the storage days, ascorbic nuggets had higher TBARS levels than nuggets with ginger and garlic pastes.

The reduced cholesterol contents and low levels of TBARS in the spent hen chicken nuggets with ginger and garlic pastes elucidated that both spices can be part of spent hen chicken nuggets formulation.

Keywords: Nuggets, Oxidative deterioration, Spent hen, Value addition, Scavenging radicals

