Incorporation of Lemongrass *(Cymbopogon citratus)* into Rice Flour and Pigeon Pea Flour Based Extruded and Fried Snacks for Value Addition

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This study focused on exploring the possibility of incorporating dehydrated lemongrass powder as an ingredient for formulating extruded and fried snacks. Rice and pigeon pea flours were blended in three ratios such as 25:75, 50:50 and 75:25 to obtain composite flours, which were evaluated for their functional properties. Snacks prepared by manual extrusion followed by frying were evaluated for physicochemical and sensory properties. Composite flours consisting of 50% each of rice and pigeon pea flours had water absorption capacity of 5.07±0.23 ml.g^{-1}, oil absorption capacity of 3.07±0.23 mL.g^{-1}, swelling index of 0.61±0.12 ml.g^{-1}, swelling capacity of 253±16%, emulsion activity of 5.88±0.00%, emulsion stability of 5.23±1.13%, least gelation concentration of 20.67±1.16% and gelatinization temperature of 60.0±0.0 ^{o}C. As revealed by ranking tests, snacks prepared using 50% each of rice and pigeon pea flours were found to be the most preferred based on colour and texture. Therefore, four formulations were prepared by blending different proportions of lemongrass powder with 50% each of rice and pigeon pea flours. Snacks containing lemongrass powder prepared by manual extrusion followed by frying were evaluated for physicochemical and sensory properties. Snacks prepared with 50% each of rice and pigeon pea flours and lemongrass powder in 100:1 contained crude protein (15.86±0.24%), crude fat (20.52±2.21%), total ash (3.47±0.13 %), crude fiber (0.09±0.01 %), and Zn (0.08±0.01 mg/100g). Colour and hardness of the snacks were not affected by increase in the proportion of lemongrass powder. As revealed by sensory evaluation, the formulation/s consisting of 50% each of rice and pigeon pea flours and lemongrass powder in 100:1, or even up to 100:5 with flavourants, could be recommended for adding value to rice based extruded and fried snacks.

Key words: Composite flours, Extrusion, Fried snacks, Lemongrass, Rice