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Influence of green leafy vegetable incorporation and process variables on textural characteristics of extrudate

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ABSTRACT : The experiment was conducted to develop ready to eat extruded snack, Maize and rice base blended with spinach and Curry leaf powder as to enrich the snack. Effect of different levels of processing parameters namely MC of feed (9, to 21%) and the effect of BR i.e. Spinach powder: Curry leaf powder (25:5 20:10, 15:15, 10:20 and 5:25), with the proportion of rice and maize (35% each) in combination with the extruder machine parameters barrel temperature (120,to 160°C), die head temperature (180, to 220°C) and screw speed (70 to 150 rpm) on textural properties of extrudate were studied. The textural parameters studied were crispness, hardness and cutting strength and it was analyzed with help of textural analyzer. The minimum, maximum and mean values for all the runs were found as, for crispness 2,7 and 3.65, hardness 0.60, 8.45 and 4.11 kgf and cutting strength 0.952, 11.37 and 4.26 kgf, respectively. The crispness of extrudate decreased, with increase in blend ratio of curry leaf powder and barrel temperature, whereas it increases with increase in screw speed. The hardness of extrudate reduced with increase in spinach powder ratio; whereas it initially decreases later it increases with increase in moisture content of feed. The cutting strength of extrudate slightly reduces with increase in spinach powder ratio and increased with increase in moisture content of feed, barrel temperature and die head temperature.

Key Words: Extrusion cooking spinach and curry leaf powder, crispness hardness and cutting strength.