SENSORY AND NUTRITIONAL PROPERTIES OF A NOVEL COOKED EXTRUDED LENTILS ANALOG

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ABSTRACT
The main objective of this research was to utilize extrusion processing for developing a wheat- and soy-based “lentil analog” product. The sensory properties and the nutrient content of this product were studied. Lentil analog products using six formulations were produced using a pilot-scale twin screw extruder. Descriptive sensory analysis of prepared products showed that all extruded treatments were similar to each other, but different from the natural lentil control. Treatments with soy: wheat ratios of 50:50 in the presence of lecithin, 60:40 and 70:30 are higher in descriptive attributes of beany flavor, particles/residuals and firmness compared with the control. Consumer acceptability testing (9-point hedonic scale) indicated that there were no significant differences ($P < 0.05$) in acceptability among the selected treatments and the lentil control sample. Lentil analog can be used as a substitute for regular lentils that is increasingly a costly commodity.

PRACTICAL APPLICATIONS
A novel extruded lentil analog product with high consumer acceptability was produced, which can provide a low-cost, high-protein diet and rich in essential vitamin and minerals. This product can be supplied to the general population in countries of South Asia and the Middle-East, as a substitute for regular lentils.