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Effects of processing moisture on the physical properties and *in vitro* digestibility of starch and protein in extruded brown rice and pinto bean composite flours

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ABSTRACT

The influence of pinto bean flour and processing moisture on the physical properties and *in vitro* digestibility of rice-bean extrudates has been investigated. Brown rice: pinto bean flour (0%, 15%, 30%, and 45% bean flour) were extruded under 5 moisture conditions (17.2%, 18.1%, 18.3%, 19.5%, and 20.1%). Physical properties [bulk density, unit density, radial expansion, axial expansion, overall expansion, specific volume, hardness, color, water solubility index, and water absorption index] and *in vitro* starch and protein digestibilities were determined. Increasing bean flour and processing moisture increased density and hardness while decreasing expansion. Rapidly

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