

E2-34: Effect of processing on the solubility of dietary fibre of mungbean (*Vigna radiata*)

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Total dietary fibre contents of the cotyledon (93.0%), hull (5.9%) and embryo tissue (1.1%) of mungbean were quantified by Faulks and Timms procedure.

The cotyledon, hull and embryo had a fibre content of 112.2 mg/g (95.6% insoluble and 4.4% soluble), 778.4 mg/g (98% insoluble and 2% soluble), 345.4 mg/g (75% insoluble and 25% soluble) respectively.

The most distinctive feature of the soluble fraction of the cotyledon was the presence of a high mannose content (55%), inferred to arise from intracellular glycoproteins. The pectic polysaccharides as contributed from arabinose, galactose and galacturonic acid, accounted for 25% of the soluble fibre and 42% of the insoluble fibre.

The bulk of the soluble fibre of the hull contained pectic polysaccharides, while in the insoluble fibre fraction, cellulose was the major component (45%), but were rich in pectic polysaccharides (33%) and xylose containing polysaccharides (20%).

The contribution of the embryo to the seed fibre content was found to be very small.

When mungbean flour was subjected to extrusion cooking, a small but significant amount of additional pectic material was found to be solubilized.

Such modifications in the fibre characteristics during processing could have effect in the related physiological functions of the fibre in the gut.