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This research investigated the rheological and thermal properties of mung bean starch. From chemical analysis, it was found that the mung bean starch contained 10.89% moisture, 0.03% ash, 0.10% protein, 0.31% fat, 0.01% fiber and 88.66% (w/w) carbohydrate. The starch content was 97.98% (w/w) of carbohydrate with 34.49%(w/w) amylose. From Differential Scanning Calorimetry (DSC), it was found that moisture content affected starch gelatinization. At 30% (w/w) moisture content, the endotherm peak was not found which indicated that the water was not sufficient for gelatinization. Increasing moisture content from 40% to 80% (w/w) did not affect the onset temperatures ($62.62 \pm 1.45^\circ\text{C}$) and peak temperatures ($68.42 \pm 0.65^\circ\text{C}$). However, the increasing moisture content in the range of 40-80% (w/w) increased the enthalpy of gelatinization (ΔH). It was also found that in moisture range of 50 to 61% (w/w) there were two endotherm peaks overlapping each other, while at the other conditions there was only one peak. Retrogradation of mung bean starch having 70%(w/w) moisture content started within one day, and after three days at -20°C .

From the intrinsic viscosity measurement of mung bean starch pH 3-9 and concentration of NaCl 0-0.2 M, it showed that the intrinsic viscosity did not change indicating the constant starch granule size. The 3-5 g/dl_{solvent} mung bean starch paste at pH 7 and 0.1 M NaCl showed to be a pseudoplastic fluid following the Ostwald-De Waele equation : (η_{app} = apparent viscosity in mPa.s, c = starch in g/dl_{solvent}, $\dot{\gamma}$ = shear rate in sec^{-1}). From Creep experiment, Four Element Model as shown below can be used to describe mung bean starch gel having starch concentration of 10.18 g/dl at 27°C .

