

Amylograph Pasting Properties And Swelling Power Of Six Varieties Of Cowpea (*Vigna unguiculata*) Starch

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Abstract

The Amylograph pasting properties and swelling power of starch extracted from six varieties of cowpea were studied. Significant differences ($P \leq 0.05$) were found in starch pasting properties and swelling power. Non-distinct peak viscosities characterized starches. The hot paste viscosity at 95°C ranged between 880 – 1320 BU and the cooked paste viscosity, after holding at 95°C for 15 minutes, ranged between 880 – 1200 BU. The set back viscosity on cooling to 50°C ranged between 1780 and 2500 BU indicating strong retrogradation tendency in the starches. All the starches presented restricted, single-stage swelling pattern. Swelling power increased progressively with increasing temperature for all varieties. The hot paste viscosity at 95°C (HTPV) explained 90% of variance in pasting properties and appears to be the most discriminating property among the varieties. The swelling power at 70°C and 95°C accounted for 89% of variance in swelling power and at 70°C, had strong positive correlation with the hot paste viscosity. The properties of hot and cold paste of cowpea starch indicate possible application as thickeners in soup and puddings.

Key words: Pasting properties, Swelling power, Cowpea Starch