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RESEARCH PAPER

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Comparative evaluation of physico-chemical and functional properties of different varieties of cowpea

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SUMMARY :

Cowpea, like other grain legumes is an important foodstuff in tropical and subtropical countries. The seeds of seven varieties *i.e.* Phule-CP-05040, CPD-150, CPD-115, GC-901, GC-909, CPD-132 and NBC-2, of cowpea obtained from AICRP on Arid legumes at Parbhani Center were assessed for their physico-chemical and functional properties to assess their potential use in the food industry. The seeds of genotype NBC-2 were longer and high in 100 -seed weight and density as compared to others. The CPD-150 having highest bulk density (0.769 g/ml) and CPD-132 have maximum porosity (48.55 %). The protein content of different genotypes was in the range 20.58 to 28.91per cent and genotype CPD-115 recorded highest in carbohydrate (58.10 %) and fat (3.99 %). Fibre content of all the varieties ranged between 3.01-4.80 per cent. The cooking time for all the varieties was recorded as 35 to 44 min with CPD-115 had the shortest cooking time. In functional properties of cowpea genotypes the swelling capacity, hydration capacity, water and oil absorption capacities were in the range of 0.07 to 0.22ml/seed, 0.078 to 0.178 g/seed, 1.29 to 2.45g/g, 0.44 to 2.36g/g, respectively. Genotype CPD-150 had highest foaming capacity (24.0ml), foaming stability (20.0 min), emulsifying activity (24.0min) and emulsifying stability (29.57min), respectively. Invitro protein digestibility of cowpea genotypes varied in between 80.60 to 89.27 per cent.

KEY WORDS : Cowpea, Physico-chemical properties, Functional properties, IVPD, Swelling capacity, Hydration capacity

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