



## Morphological characterization of cowpea genotypes and its utility for DUS testing

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### Abstract

The present study on morphological characterization of cowpea [*Vigna unguiculata* L.Walp] genotypes collected from different parts of India was carried out at Directorate of Farms, CCS Haryana Agricultural University, Hisar, during *Kharif* season, 2017 and established distinctness among different genotypes. All the 30 genotypes were grouped for several morphological descriptors. However, no variability was observed for seedling colouration, as the anthocyanin pigment was absent in the seedlings of all the genotypes. Less variability was recorded for the number of branches per plant, terminal leaflet length, terminal leaf breadth, number of pods per cluster, pod breadth, 100-seed weight. But for the remaining characters, wide variability was observed. In the majority of genotypes, growth habit was spreading type, and the growth pattern was an indeterminate type. Flower colour varied from white to violet or mauve-pink and immature pod colour varied from light green to dark green colour. However, mature pod colour varied from straw colour to black colour. Likewise seed colour also exhibited a wide colour variation. Seed testa varied from smooth to wrinkled. The characterization of cowpea genotypes provides valuable information on the diversity of morphological and quantitative characters for strengthening the future breeding plan. All the 30 genotypes were grouped into different categories based on the present study and may be used as reference genotype in characterization. In addition to this, the characterization information could be used for genetic purity maintenance and DUS testing. The crossing between genetically most divergent genotypes of cowpea could able to produce high seed yielding transgressive segregants. Moreover, high seed yield and seed quality would be combined by hybridization between genotypes of having greater mean values for seed yield and quality traits.

**Keywords:** Descriptors, Diversity, DUS testing, Morphological characterization