

**MORPHOLOGICAL CHARACTERIZATION OF TWO PROMISING LINES OF COMMON BEAN, *Phaseolus vulgaris* L.**

**E.M.B.N. Ekanayake<sup>1</sup>, W.A.M. Daundasekera<sup>1\*</sup> and N.B.U. Dissanayaka<sup>2</sup>**

<sup>1</sup>*Department of Botany, Faculty of Science, University of Peradeniya, Sri Lanka*

<sup>2</sup>*Horticultural Crop Research and Development Institute, Sri Lanka*

\**malkantheid@sci.pdn.ac.lk*

The common bean, *Phaseolus vulgaris* L., is widely grown in Sri Lanka. The Horticultural Crop Research and Development Institute (HORDI) at Gannoruwa, Sri Lanka, follows the “Variety Releasing Protocol (VRP)” to ensure the uniformity of new bean varieties before their market release. During this process, testing for uniformity based on morphological characters is an important aspect. CP-3 and CP-4 are two new bean accessions currently under Variety Adaptability Testing (VAT) by the HORDI. The objective of this study was to compare the morphological characteristics of these two selected bean accessions. Morphological characters in flowers, leaves, pods and seeds were studied using descriptors prepared by the Plant Genetic Resource Centre at Gannoruwa. Flower characters, including the number of flower buds per inflorescence and the colour of the standard and wing petals, were determined using the Royal Horticultural Society colour chart. Pod characters measured included length (cm), width (mm), the shape of cross-section, colour, curvature, suture strings, beak length, surface, and beak orientation. Ten replicates were evaluated for each parameter. Data were analysed using One-way ANOVA followed by Mann-Whitney pairwise test at a 95% confidence level ( $p \leq 0.05$ ) using PAST statistical software. Results revealed that characteristics such as hypocotyl colouration, growth type, time of flowering, number of flower buds per inflorescence, the colour of standard petal, pod shape in cross-section, pod ground colour, pod beak position, pod wall fibre constrictions, texture of pod surface, seed colour and seed shape were similar in both bean accessions. In contrast, inflorescence length, pod length, width, suture strings, beak length, pods per inflorescence, seeds per pod, seed width, length and height were different between the CP-3 and CP-4 accessions. The pod length and width in CP-3 were significantly ( $p \leq 0.05$ ) greater than those in CP-4, highlighting these parameters as important for distinguishing between the two accessions during the variety release process.

*Financial assistance from the Horticultural Crop Research and Development Institute (HORDI) at Gannoruwa is acknowledged*

**Keywords:** Accessions, Morphological characters, *Phaseolus vulgaris*