

EVALUATION OF COMMON BEAN GERMPLASM COLLECTED FROM UVA REGION

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ABSTRACT

Common Bean (*Phaseolus vulgaris* L.) is a very important and popular vegetable crop in Sri Lanka. Uva region plays a major role in commercial cultivation of the crop. Therefore it is essential to identify the promising characters of common bean germplasm growing in Uva Region and to use them in future plant breeding programs to upgrade quality and to increase the yield. This current study is aimed to evaluate twenty three common bean germplasm collected from Uva region and to conserve them by multiplying. Thirty one characters of these germplasm were evaluated for phenotypical characterization. DNA extraction and PCR amplification protocols were developed for molecular characterization. This study revealed that, a morphological variation exists among these common bean germplasm. There are highly varied five qualitative characters: the plant type, pod curvature, pod markings, pod cross section and seed shape. And four quantitative characters: inflorescence length, pod beak length, number of pods per inflorescence and number of flower buds per inflorescence. When considering all qualitative and quantitative characters, these common bean germplasm can be clustered into five groups. Common bean Germplasm Dik Roll Sudu and Cabri – Kalu Ata vary from other germplasm and Dik Roll Sudu and Dik Roll Kalu bear the highest number of pods per inflorescence. Germplasm Cabri – Kalu Ata had the highest pod width and bears straight pod curvature. Kollu, Kalu Ata, Dik Roll Kalu, Murunga Brown, Kola Rolland Kaha Ata possess field resistance to spiny brown bug. Qualitative phenotypical characteristics of Kappetipola Nil deviates it from all the other common bean germplasm. Murunga Brown possesses the highest number of flower buds per inflorescence which is a valuable trait to be used in future plant breeding programs.

Key Words : Common bean, Germplasm, Characterization, Phenotypical, Molecular