

SEED PROTEIN PROFILING THROUGH ELECTROPHORESIS IN MUNGBEAN [*VIGNA RADIATA* (L.) WILCZEK]

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Abstract: Mungbean (*Vigna radiata* (L.) Wilczek) is an important pulse crop in India with advancement and development of hundreds of varieties and introduction of intellectual property rights it is necessary to identify them individually for identification and registration purposes. The present investigation was carried out during 2012-2013 in biotechnology lab, Department of genetics & Plant Breeding, C.S. Azad university of agriculture and technology, Kanpur with 13 genotypes of Mungbean K851, SML-683, KM 2272, PDM 51, T- 44, KM-2260, HUM-12, HUM-6, Pusa Vishal, IPM 02-3, IPM 2-14, KM-2241, PDM-139, for protein profiling through SDS-PAGE. In present investigation, 13 variety of Mungbean were studied for varietal identification through electrophoresis. Protein was extracted from dry seed of mungbean varieties and analysed by SDS-PAGE. On the basis of photographs, electrophoregrams, Rm values and dendograms (UPGMA cluster analysis) of banding patterns through SDS-PAGE, results found that the number of protein bands found in 13 genotypes ranged from 10 to 17 with Rm value 0.08 to 0.97 for tris soluble proteins. Protein banding pattern of tris soluble proteins was found more distinct in SDS-PAGE. In UPGMA cluster analysis all the genotypes fall in seven cluster groups. SDS-PAGE for tris soluble proteins found suitable for testing distinctness, uniformity, stability of varieties for registration and identification. On the basis of results, this can be said for characterization and identification of genotypes of mungbean, that electrophoretic profile for tris soluble proteins through SDS-PAGE was resulted distinct banding pattern and act as 'genotypic finger printing'. Therefore, electrophoregram of tris soluble protein in SDS-PAGE was found much better for identification of genotypes in mungbean.

Keywords: Mungbean, SDS-PAGE, Varietal identification, UPGMA

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