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RAPD and SDS-PAGE Analyses of the Onion Varieties (*Allium cepa* L.) with Different Origin

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This research was designed to offer the basic data for breeding by using RAPD analysis. We analysed genetic variation among 27 onion varieties collected from local and abroad. To figure out the relation among these varieties, RAPD results were analysed with NTSYS and PAUP programs. The general range of similarity coefficient and bootstrap score were 0.106-0.903 and 11-64%, respectively. A few varieties such as L42-2(1), L42-2(2), L42-2(3) and L37(2) grouped together with relatively high coefficient (0.745) and bootstrap score (≥55%). However, in either analysis, 27 onion varieties we tested did not result in any informative group based on the place of origin, except some varieties originated from America.

In addition, using SDS-PAGE analysis of total protein from seed, we tried to determine the relation between protein variation and phenotypic variation of 13 onion varieties. As a result, the varieties with flat bulb did not show 45-66KD protein band. Our further investigation with more samples will be required to establish the relationship between protein marker and phenotypic variation of onion varieties.