



Evaluation of genetic diversity in Chinese kale (*Brassica oleracea* L. var. *alboglabra* Bailey) by using rapid amplified polymorphic DNA and sequence-related amplified polymorphism markers

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ABSTRACT. Chinese kale is an original Chinese vegetable of the Cruciferae family. To select suitable parents for hybrid breeding, we thoroughly analyzed the genetic diversity of Chinese kale. Random amplified polymorphic DNA (RAPD) and sequence-related amplified polymorphism (SRAP) molecular markers were used to evaluate the genetic diversity across 21 Chinese kale accessions from AVRDC and Guangzhou in China. A total of 104 bands were detected by 11 RAPD primers, of which 66 (63.5%) were polymorphic, and 229 polymorphic bands (68.4%) were observed in 335 bands amplified by 17 SRAP primer combinations. The dendrogram showed the grouping of the

21 accessions into 4 main clusters based on RAPD data, and into 6 clusters based on SRAP and combined data (RAPD + SRAP). The clustering of accessions based on SRAP data was consistent with petal colors. The Mantel test indicated a poor fit for the RAPD and SRAP data ($r = 0.16$). These results have an important implication for Chinese kale germplasm characterization and improvement.

Key words: Chinese kale; Genetic diversity; RAPD markers; SRAP markers