

Genetic Diversity of Korean Wheat Cultivars using RAPD

Jung-Hun Moon¹, Woncheol Yim¹, Sang-Kyu Lee¹, Kyung-Hee Kim¹, Si-Nae Han,
Poo-Reum Oh, and Byung-Moo Lee^{1*}

¹*Department of Plant Biotechnology, Dongguk University, Seoul 100-715, Korea*

Objective

The objective of this study was to quantify the genetic relationship of Korean wheat cultivars using RAPD.

Materials and Methods

- ▷ Plant materials : DNA of 33 Korean wheat cultivars were provided by NICS.
- ▷ PCR primers : A total of 30 operon random primers
- ▷ Analysis : NTSYS program, UPGMA

Results and Discussion

Total number of RAPD products from 20 primers was 161. The number of polymorphic fragments by individual primer greatly varied from 1 to 8. The amplification products were in the range of 300 bp to about 2.5 kb.

These similarity coefficients were used to construct a dendrogram by UPGMA analysis to determine grouping of the wheat cultivars and had ranging from 0.95 to 0.44. The cultivars were clustered into one major cluster (A) and two small clusters (B and C). The major cluster (A) comprised of 21 cultivars. The (B) cluster was contained four cultivars. The third cluster (C) was constituted six cultivars while Gobunmil and Yangjimil did not hold in any group.

*Corresponding author : Tel : 02-2260-3307 E-mail : bmlee@dongguk.edu

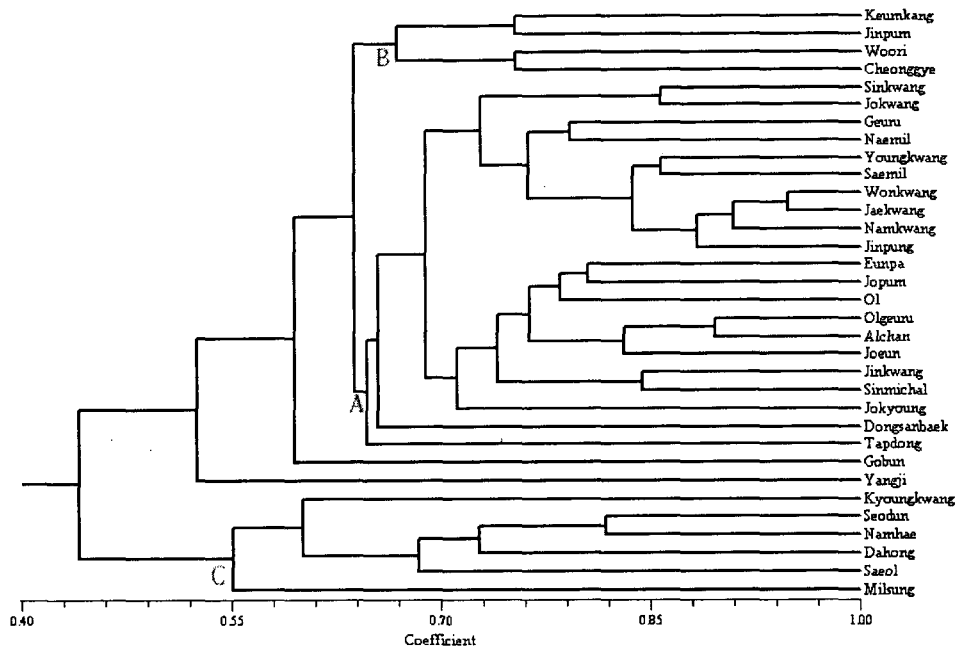


Fig. 1. Dendrogram of 18 wheat cultivars developed from RAPD data using UPGMA.

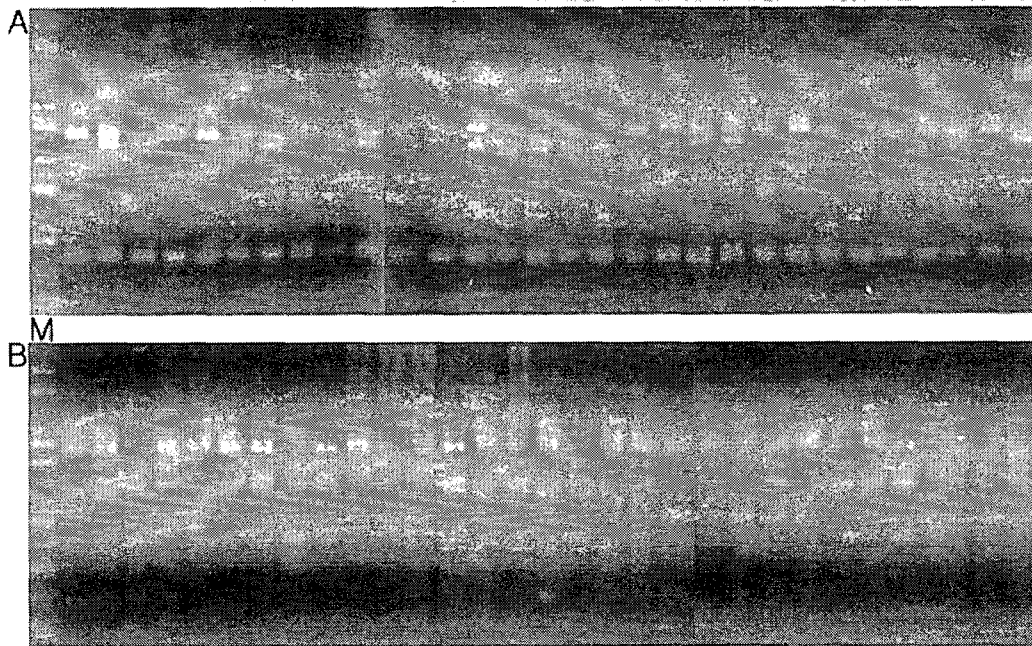


Fig. 2. Amplification profiles of 33 wheat cultivars with OPB-13 (A) and OPG-9 (B) primer.
Lane M = 1 Kb ladder