Selection of Elite Lines from Various Radish Lines through Evaluation of Pod Length and Number of Seed per Pod

Jung-Ho Kwak1, Seung-Kook Choi2, Suhyoung Park1, and Suk-Woo Jang1

1Vegetable Research Division, National Institute of Horticultural and Herbal Science, RDA, Jeju, 59995, Korea
2Research Administration Division, RDA, Jeju, 55765, Korea

The total seed market of vegetables in Korea is estimated at 280 billion won as of 2018, and the radish seed market is about 41 billion won, accounting for 14.6% of the total. Radish seed exports are 8 billion won and net imports are 1.5 billion won. In addition, radish ranks second in the export of vegetable seed crops, accounting for 14% of total exports. Currently, the second phase of the Golden Seed Project is underway, and exports of radish seeds are expected to expand further. However, the number of seeds produced per pod is small in the seed production. The number of seeds per pod of radish is 4 to 5, which is very small compared to 15 to 17 of the same Brassicae family. In this reality, the selection of radish germplasm with a high number of seeds per pod and introducing the trait into other elite lines will significantly reduce the cost of radish seed production, which will make a very positive contribution to radish seed exports. In this study, 30 field radish germplasms from RDA Genebank Information Center, 55 elite radish lines owned by the National Institute of Horticultural and Herbal Science, and 47 commercial radish cultivars were grown in open field, and pods’ traits were evaluated. The length of pods, the number of seeds, etc. were compared and analyzed, and resources with a large number of seeds per pod were selected. These selected elite germplasms, lines, and commercial cultivars related to pod length and seed number will be used as essential materials to develop commercial radish cultivars with improved seed production efficiency.

T. 063-238-6623, jhknest@korea.kr