Iranian Journal of Horticultural Science and Technology 19 (4): 497-508 (2018)

Effect of Different Cold Stratification Periods on Breakdown of Hayward Kiwifruit Seed Dormancy

E. Abedi Gheshlaghi *[1]

Kiwifruit is a fast-growing deciduous woody vine that can be propagated in several ways. Nevertheless, seedlings have a strong and widespread system of roots than cuttings. The aim of this study was to find a simple and practical method for farmers to increase the germination percentage of kiwifruit seeds. This study was performed in a completely randomized design with five treatments of cold stratification (2, 3, 4, 5, and 6 weeks) at 4 ° C with three replications in Ramsar at the Iran Citrus and Subtropical Fruit Research Center. The results showed that vegetative traits of seedlings such as stem length, seedling length, and number of seedlings with one true leaf were significantly different among stratification treatments. In the tetrazolium test, the average percentage of viable seeds was 72.22%. In non-stratified seeds, no germination was observed until the end of the experimental period, but the chilling stratified seeds showed 16.00 to 39.78% germination in different treatments. The highest germination rate (2.67), seed germination index (18.96), seed vigor index (1935.52), mean daily germination (1.17 Seed per day), germination value (1.58), and peak value (1.13) were observed in 4 weeks cold stratification at 4±0.5 ˚C. Therefore, Hayward kiwifruit seeds need 4 weeks of cold stratification at 4±0.5 ˚C to break the dormancy and reach maximum germination.

Keywords: Germination index, Seed, Seedling, Temperature, Hayward.

1. Assistant Professor of Horticulture, Crops Research Department, Guilan Agricultural and Natural Resources Research and Education Center, AREEO, Rasht, Iran.

* Corresponding author, Email: (eabedigheshlaghi@gmail.com).

[DOR: 20.1001.1.16807154.1397.19.4.10.6]