

## Chilling and Heat Requirements and Their Correlations with Environmental Conditions in Iranian Native Blackberry Genotypes

M. Garazhian\*, S. Eshghi, A. Gharghani<sup>1</sup>

To evaluate the chilling and heat requirements of Iranian wild blackberry genotypes, dormant canes of 15 genotypes representing 4 species were collected and placed in refrigerator at 2.5°C. Chilling treatments were 0 (control), 100, 200, 300, 400, 500 and 600 hours. Chilled canes were placed in distilled water under continuous light at 24°C. Days to first bud break, days to 50% bud break and the percentage of total bud break of each genotype in each treatment were calculated. Heat requirement was also calculated by Growth Degree Hours model. Results showed that chilling requirement ranged from 300 to 500 h. Also, heat requirement was varied from 4824 (Abidar) to 7668 (Kazerun) GDH. Results also showed that chilling and heat requirements had a negative correlation ( $r=-0.3$ ) with increasing altitude and total precipitation of original habitats of the genotypes, the amount of heat requirement is reduced ( $r=-0.21$  and  $-0.48$  respectively). Chilling requirement also had a negative correlation with mean temperature and wind speed ( $r=-0.4$  and  $-0.16$  respectively).

**Keywords:** Hours, Bud break, Chilling treatment, Growth Degree Wind speed.

1. Ph.D. Student, Professor and Associate Professor of Horticultural Science, Shiraz University, Shiraz, Iran, respectively.

\* Corresponding author, Email: (M.garazhian64@gmail.com).