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PREDICTION OF CHILLING UNITS IN KIWIFRUIT CULTIVARS BY USING FOUR DIFFERENT CHILL MODELS UNDER CHANGING CLIMATIC SCENARIO

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Abstract

Kiwifruit is the one crop that has gained momentum in recent years under the changing climatic scenario. In temperate fruit crops, dormancy is critical in the regulation of crop cycle events like the time of bud break, and inadequate chill units can severely reduce yield potential. To assess advanced cultivation alternatives for kiwifruit cultivars in the Indian context, we assessed winter chill by using various models like the Chill hour model, the Utah model, the Positive Utah model and the Dynamic model of two commercial kiwifruit cultivars, namely: Hayward and Allison. Based on the results, it is revealed that the highest average temperature was recorded at lower elevations. However, the higher chill unit accumulation was obtained at higher elevations, which provided sufficient chill units for cultivar Hayward. Among different chill models, the Positive Utah model was found to be the most suitable model. The experimental year 2019-20 was colder than 2020-21; hence, more accumulation of chill units was noticed during 2019-20. The Hayward cultivar is more favorable to high altitudes than lower elevations, and the Allison cultivar is more appropriate for lower altitudes.

Key words: *Actinidia deliciosa*, Allison, bud initiation, chilling model, Hayward

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