

Evaluation of the Heat Requirement of Flowering Period and Self-Incompatibility Rate in Pollination of Eight Olive Cultivar (*Olea europaea*)

Case Study: Tarom Olya Region

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Abstract

The planning to build a new orchard, flowering date shows valuable information for evaluation of the behavior of an olive cultivar (start, peak and end of the period of pollen release). In areas that different seasons are distinct and , environmental changes, particularly Temperature, affects the activity of growth and development.

In this regard ,the present study was preformed in order to calculate the amount of Received heat units on the olive cultivars in Tarom Olive in Research Station (the main area of olive cultivation in Iran). Traits such as the exact time of growth inflorescence, the beginning of flowering, full flowering, and end of the flowering for each cultivar recorded . Olive phonological stages was calculated based on BBCH protocol and incompatibility calculation formula Zapata and Arroyo and the temperature 10 ° C degree-day. The heat degree units received by olive trees in Tarom, Zanjan for cultivars of Arbequin ,Roghani, Zard, Kronaeiki, Mary, Dezful, Shiraz and Manzanilla cultivars their calculations of the thermal units from the start of tree growth, were obtained. It can be concluded that in the most important stage of the olive flowering phonology in full bloom in the eight cultivars, the unit's heat rate required are between 400 and 442 degree-days. Based on the results of the present study Roghani cultivar with the highest Self-Incompatibility Index and Dezful cultivar with the lowest index, classified as relatively Self-Incompatibility. Other cultivars have standing statues between two index. The main reason of changing self incompatibility index can be found in heat degree of surroundings. Therefore, in time of development of olive orchards ,study suggesting that bearing in mind that the main determining factor for flowering dates is , the received heat unit of each cultivar in every region, thus in study more attention was given to this parameter.

Keywords:

Phonology of Olive, Flowering Period , Growing Degree Day (GDD) Temperature Units, Self-Incompatibility Index (ISI), Tarom Olya Region.

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