

Effect of Chilling Accumulation on Fruit Yield of Olive Trees in Egypt

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Abstract : Olive tree (*Olea europaea* L.) is considered as a Mediterranean tree which belongs to genus *Olea* that may comprise about 35 species. In fact, the crop requires mild to cool winters with a chilling accumulation from November to February with average temperatures varying between two groups of accumulated chilling hours (h1) of less than 7.2 °C (C1) and other group (h2) of less than 10 °C (C2) for flower bud differentiation. This work aims at studying the impact of chilling accumulation hours on the fruit yield of olive trees in Borg El Arab City, Alexandria Governorate, Egypt as a case study. Trees were aged around 7 years in 2010 and were exposed to chilling accumulation hours of h1, which was average of 280 hours under C1, and average h2 was around 150 hours under C2 the resulted fruit yield was around 0.5 kg/tree. On the hand, trees were aged around 7 years at 2016 showed that when average of h1 was around 390 hours under C1 and average h2 was around 220 hours under C2 then fruit yield was around 10 kg/tree. Increasing of fruit yield proved chilling accumulation effect on olive trees.

Keywords : chilling accumulation, fruit yield, *Olea europaea*, olive

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