

O-32 (29)**DUST IMPACT ON DATE PALM (PHOENIX DACTYLIFERA L.) FRUIT SET**

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One of the most important challenges that have affected date fruit set and production in Iran date growing areas of Ahvaz during recent years is dust. This research has been carried out to determine the effects of dust on pollination and fertilization of date palm cv. 'Sayer' flowers. Combinations of different treatments such as pollination time (before dust, after dust and without dust) and water spraying time (before dust, after dust and without water spraying) have been applied. Dusting treatments has been applied by dust blower and water spraying carried out by a manual knapsack sprayer. In this research, pollination process under dust condition has been simulated. Traits like fruit set, parthenocarpic fruits and abscission percentages have been recorded and analyzed. Based on the obtained results, treatments had significant effects on fruit set, parthenocarpic fruits and abscission percentage. Presence of dust in combination with other treatments especially treatments that cause dust accumulation and formation of a firm blocking layer on the stigma, restricted pollen tube germination and growth. Washing of pollen from flower and stigma surface by rain has been observed. In conclusion, dust caused decrease in fruit set and increased in parthenocarpic fruit and abscission percentage. Simulated treatments at the lab showed similar results especially in the case of formation of a firm blocking layer on the stigma and washing of the transferred pollen.

Keywords: date palm, dust, pollination, abscission, parthenocarpic fruits