

## Pros and Cons of Different Types of Irrigation Systems for Date Palm Production in Sebha, Libya

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**Abstract :** This study investigated the effectiveness of various types of irrigation systems in regards to the impact that these have on the productivity of date palms in the semi-arid and arid region of Sebha, Southwest Libya. The date palm is an economically important crop in Libya and contributes to the agriculture industry, foreign exchange earnings, farmers' income, and employment in the country. The date palm industry relies on large amounts of water for growing the crop. Farmers in Southwest Libya use a variety of irrigation systems, but the quality and quantity of water varies between systems and this affects the productivity and income of farmers. Using survey data from 210 farmers, this study estimated and assessed the pros and cons of different types of irrigation systems for date palm production under various irrigation systems currently used in Sebha, Libya. The number of years farmers have used irrigation, the area, irrigation water consumption, time of irrigation, number of farm workers (including family labour) and inputs used were measured for surface, sprinkler and drip irrigation methods. Findings from this research provide new insights into the advantages and disadvantages of the various irrigation systems, problems encountered by farmers and the factors that affect the quality and quantity of the irrigation system. The paper discussed proposed solutions to deal with the problems including timing of irrigation, canal maintenance, repair of wells and water control.

**Keywords :** Libya, factors, irrigation method, date palm

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