

## عنوان مقاله:

Improving water use efficiency and water productivity by supervising the operation of drip irrigation systems in Faryab, Kerman

## محل انتشار:

اولین کنگره بین المللی و چهارمین کنگره ملی آبیاری و زهکشی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 11

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## خلاصه مقاله:

Deficiency of available water resources in agriculture shed more light on the importance of irrigation efficiency and water productivity enhancement. In this regard, farmers being encouraged to use modern irrigation technologies such as pressurized irrigation. The lack of knowledge prevents farmers to achieve maximum irrigation efficiency and productivity by using modern irrigation systems. Therefore, the objectives of this research were to monitor the well-trained supervision on operation and maintenance of pressurized irrigation systems and to determine the effect of it on irrigation efficiency, water use efficiency and irrigation water price. This research was implemented from 2017 to 2018 on the farms equipped with drip tape irrigation system. Dominant products of the studied area were Corn (*Zea Mays*) and Wheat (*Triticum*). The projects were categorized in two comparative groups which were managed for one year: 1. The projects implemented without supervision on operation and maintenance until the research was started; 2. The projects which were chosen and introduced by Kerman Province Agriculture-Jihad Organization in order to start supervision on operation and maintenance. Also, in order to perform operation and maintenance and manage irrigation schedule properly and to introduce technical equipment to the farmers, they were fully educated and instructed. At the end, irrigation water volume, crop yield and operation and maintenance costs were measured and calculated respectively and each crop was assessed separately. The results indicated that after implementing the monitoring project, irrigation water consumption was decreased by 1212 and 1533 ( $m^3/ha$ ) for wheat and corn respectively. Also, crop yield was increased by 1000 and 3400 ( $kg/ha$ ) for wheat and corn respectively. The monitoring project improved irrigation efficiency by 11% for wheat and 16% for corn. Water use efficiency was improved by 0.57 and 0.54 ( $kg/m^3$ ) for wheat and corn respectively. In addition, physical productivity increased by 0.5 and 0.64, physical economical productivity increased by 6550 and 6820 ( $Rls/m^3$ ) and economic productivity increased by 0.41 and 0.82 for wheat and corn respectively.

## کلمات کلیدی:

Crop production function, Operation and maintenance, Pressurized irrigation systems, Corn, Wheat

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