

## Quality Assurance

SIO started receiving renewed water for use in agricultural irrigation since 1408 H, and subsequently established laboratories of high efficiency equipped with advanced equipment and modern techniques, in addition to training specialized scientific personnel to manage these laboratories. Aiming to monitor the quality of this water around the clock and thus ensure the highest quality standards for its use in irrigation, according to the executive regulations of the treated wastewater Code and reuse.



## Quality of Irrigation Water

SIO relies on the use of renewed water (treated sewage Water)for irrigation, as this water is suitable for irrigation of all agricultural crops without exception.

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## Reuse of Renewed Water( treated sewage ) in Irrigation



## Introduction

Treated sewage water ( Renewed water ) has become an important and growing water source, and can substitute groundwater for agricultural, industrial and recreational purposes. Moreover it has become a major and renewable source of water in most countries of the world, and in general, an indispensable environmental and cultural necessity, for its effective role in the conservation of public health and environment from pollution . In order to achieve safe levels of using renewed water for agricultural irrigation, regulations on that have been approved.



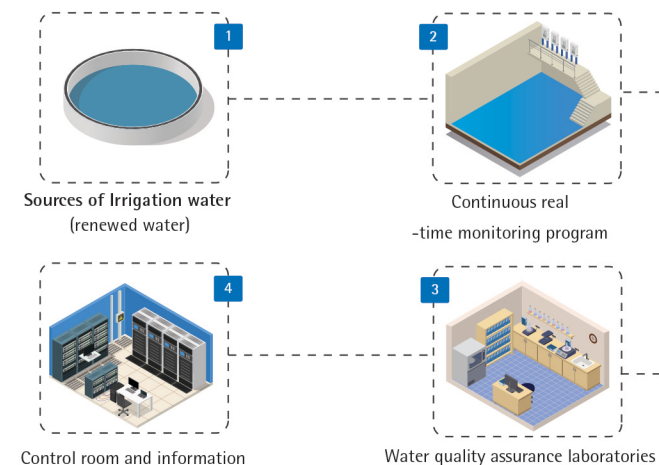
## Renewable Water

Renewable water is produced by :

**Secondary treatment :** The level of biological treatment ending by sedimentation and disinfection. The resulting water can be used for restricted irrigation (timber trees).

**Tertiary treatment :** It is secondary treatment subjected to filtration, disinfection and other processes, and the resulting water can be used for unrestricted irrigation (all crops)

### Methods for controlling the quality of renewed water for irrigation purposes



## Advantages of using renewable water treated wastewater) in agriculture)

- ( 1 ) Providing a renewable source of irrigation water while contributing to groundwater resources conservation
- ( 2 ) The renewed water contains many important nutrients for plants such as nitrogen, phosphorus, potassium, etc., which will enormously increase productivity of agricultural crops.
- ( 3 ) The use of chemical and organic fertilizers is reduced , thus saving large sums of money.
- ( 4 ) Improving soil properties by facilitating nutrient uptake, increasing cation exchange capacity, and reducing salinity.

