



Criteria and operational guidelines to increase wastewater recovery on islands and in rural areas

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ABSTRACT

Although the main function of wastewater stabilization reservoirs (WSRs) in agriculture is to allow the storage and temporal shifting of large volumes of water for irrigation, further benefits can be achieved from their application in a wastewater reuse system. Under proper management conditions, significant improvements of the water quality for irrigation can take place as a result of concurrent physical, chemical and biological processes. Here, a multi-seasonal, WSR-based procedure has been proposed and simulated in terms of operational parameters in order to reduce the effects, particularly critical during the irrigation period, of the introduction of fresh effluents on the quality of stored water. Furthermore, an appropriate use of high-rate algal ponds has been suggested as an alternative to the nutrient removal phase in the wastewater treatment plant.

Keywords: Wastewater reuse; Operational index; HRAPs; Microbiological quality; Stabilization reservoir; Costs

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