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Comparison between the irrigation qualities of conventional tertiary and UF + RO advanced treated wastewaters

PDF (Size: 147KB) PP. 526-532 DOI: 10.4236/as.2011.24068

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ABSTRACT

The Ultrafiltration and Reverse Osmosis (UF + RO) membrane system is nowadays frequently used in wastewater reclamation. The almost complete removal of the dissolved elements, however, raises concerns about the suitability of the water treated by this system for agricultural irrigation. This study compared the irrigation qualities of UF + RO permeate and conventional tertiary effluent, using the WHO guidelines. Obtained results indicated slight to moderate degrees of restrictions are required for the reuse of the tertiary effluent as agricultural irrigation water, while no restrictions are needed for the UF + RO permeate. But it had also been found that the UF + RO system unnecessarily deprive the reclaimed water from nutrients and organic matters, which would have been recycled beneficially through agricultural irrigation.

KEYWORDS

Wastewater; Reclamation; Reuse; Tertiary Effluent; UF + RO Permeate

Cite this paper

Abusam, A. and Al-Anzi, B. (2011) Comparison between the irrigation qualities of conventional tertiary and UF + RO advanced treated wastewaters. *Agricultural Sciences*, 2, 526-532. doi: 10.4236/as.2011.24068.

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