

Importance of Determining the Water Needs of Crops in the Management of Water Resources in the Province of Djelfa

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Abstract : The objective of this work is to determine the virtual water of main crops grown in the province of Djelfa and water use efficiency (W.U.E.), Which is essential to approach the application and better integration with the offer in the region. In the case of agricultural production, virtual water is the volume of water evapo-transpired by crops. It depends on particular on the expertise of its producers and its global production area, warm and dry climates induce higher consumption. At the scale of the province, the determination of the quantities of virtual water is done by calculating the unit water requirements related to water irrigated hectare and total rainfall over the crop using the Cropwat 8.0 F.A.O. software. Quantifying the volume of agricultural virtual water of crops practiced in the study area demonstrates the quantitative importance of these volumes of water in terms of available water resources in the province, so the advantages which can be the concept of virtual water as an analysis tool and decision support for the management and distribution of water in scarcity situation.

Keywords : virtual water, water use efficiency, water requirements, Djelfa

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