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Microbiological Characteristics of Roof harvested rainwater from urbanized areas: Case Study of Souk Ahras Downtown /Algeria

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Abstract. Rainwater storage tanks may host sustainable microbial; such systems are found in areas where a potable water source is not available enough. Two types of tank material are used for the harvested rainwater systems in Souk Ahras city: concrete and plastic; eighteen (18) samples were collected and analyzed for different time scales for both types of tank materials: one week, three weeks and three months. Pathogens such as: Salomonella, Yeast, Mould spores, Faecal Coliforms, Streptocoques and Faecal Coliforms have not been detected in rainwater samples for all tanks, however the concrete tanks were shown very interesting resistance against the growth of the aerobic germs, where 99.7% of the germs were eliminated until the third weeks, but the opposite behavior was recorded after this period.

Keywords: Roof harvested rainwater, Microbial quality, Tank material, urban area, Souk Ahras city, Algeria.

1 Introduction

Experts of the water resource sector are considering an alarming scenario for the North African basically, Algeria as a consequence of the increase in water demands in the medium term. This pending consequence is be causes by, the change of climate, uncertain rainfall, high evaporation rate of water of surface and impressive losses in the water distribution networks, lack of alternative water resources management strategies.

However, the dynamic management strategy for water resources management is essential to be by seizing an opportunity that lies in the use of unconventional water-related methods. Among these methods is the water harvesting from the roofs of houses. This alternative, which compensates for water resource shortfalls, remains highly recommended throughout the world for uses in predefined rainwater use areas.

In Algeria, the application of a poor price of “m3” of water compared to its cost price does not encourage the development of the use of this solution. Some needs for government to design a water related economic system.

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