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## **VII PhD Students Meeting in Environment and Agriculture**

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**Pólo da Mitra, Universidade de Évora**

# **Book of abstracts**

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## **Water quality in dairy cattle farms: impact on animal production, reproduction and health.**

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Climate change is currently one of the great global challenges, affecting in particular the water sector, namely the lack of precipitation and consequent periods of prolonged drought. Drinking water is a scarce resource in many regions of the world. Water is essential for the life of animals, since it intervenes in various metabolic processes. An inadequate water supply could reduce the health and performance of the animals. In dairy farms, the use of quality water is essential to maximize the milk production of animals. The objective of this study is to verify (1) the importance of water quality on intensive dairy farms (2) water quality affects animal production, reproduction and health. The preliminary results (1) of the questionnaires indicate that 51% of the farms consider that only the quantity of water is the most important factor on dairy farms; 98% of the producers mention that in the context of climate change, water scarcity is very worrying; 91% of the farms use their own water (borehole); 40% of the farms do NOT perform water quality analysis; 86% of the farms do NOT monitor water consumption; 88% of the farms do NOT treat water. The main water quality problem is associated with microbiological quality, followed by the presence of iron, nitrates and manganese; 45% of the farms consider the decrease in milk quality and the appearance of mastitis as one of the main consequences of poor water quality. Preliminary results (2) of the case study show that the group of animals without treated water has a 22% reduction in kg of feed consumption and 26% reduction in water consumption; - 879 liters/lactation; -2,8L/cow/day; + 63 days of drought; + 2,4 inseminations; + 57 days calving interval; + 33% embryo mortality rate; 19% use of heat synchronization protocols. This study helps to verify the importance attributed by national dairy cattle producers to the availability and quality of water on their farms.