

Title: MICROBIOLOGICAL QUALITY OF WATER INTENDED FOR HUMAN CONSUMPTION IN RURAL ESTABLISHMENTS OF TAQUARI VALLEY-RS

Authors Salvi, L. C. ¹, Bortoli, J. ¹, Santana, E. R. R. ¹, Rempel, C. ¹

Institution ¹ Univates - Centro Universitário UNIVATES (Av. Avelino Talini, 171 - Universitário, Lajeado – RS)

Abstract:

Brazil has a comfortable situation in relation to hydric availability in spite of several challenges regarding water conservation, treatment and distribution. In countryside most of the population has no access to water distribution networks and uses private wells as sources. However it's, often untreated presenting inadequate conditions for direct human consumption. This study aims to analyze the microbiological quality of water intended for human consumption in rural properties with milk production in the region of Taquari Valley (TV). Total and thermotolerants coliforms were taking into account. Water samples under study belong to the Taquari-Antas watershed, with peculiar characteristics of management, as the presence of water societies. Until now, samples were collected from water societies and private wells, in 41 rural proprieties, in 16 of the 36 municipalities of TV. Samples were collected according to the methodology proposed by the Practical Manual of Water Analysis of FUNASA; it was used the Basic Kit of Potability Alfakit® for consideration in triplicate, of chlorine (DPD and colorimetry - minimum detectable concentration of 0.1 mg L⁻¹ Cl₂), total and thermotolerant coliforms (half chromogen in DIP SLIDE paper - Colipaper - minimum detectable concentration of 80 CFU/100 mL - middle tracked by the bacterial cepa *Escherichia coli* to thermotolerant coliform and *Enterobacter cloacae* for total coliforms). It was observed that 87.5% of the 24 samples of the water coming of water societies had a chlorination treatment; this process was observed in only 5.9% of the 17 samples from private wells. It was found that 66.7% and 94.1% of samples originating, respectively, of water societies and private wells, presented total and/or thermotolerant coliforms. The results demonstrate that the water used for human consumption in rural properties having milk production of TV was unsuitable if compared with the potability standards established in Ordinance of the Ministry of Health (2.914/2011).

Keywords: thermotolerant coliforms, potability, total coliforms

Development agencies: Centro Universitário UNIVATES, FAPERGS, CNPq