Czech J. Food Sci.

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Drinking water quality in the Czech Republic

Czech J. Food Sci., 27 (2009): 80-87

The quality of water has to be controlled and monitored by drinking water suppliers during all stages of the treatment process from the water sources to the end of distribution systems. The research, performed in Czech Republic from 2006 to 2008, deals with the assessment of the affect of water tanks on the quality of water supplied to consumers, specifically from various points of view: microbiological, biological and physic-chemical changes in water accumulation. Also studied was the influence of the air on the quality of accumulated water (secondary contamination), the influence of the structural layout and hydraulic ratios. In the project quick screening methods (paddle testers and BARTTM tests) were applied in the collection of water samples and scrapings from wetted surfaces of water tanks. The results of the contamination degree discovered in the

course of the project solution will serve as basic data for a scale that should evaluate the degree of water tank pollution as well as for resulting corrective measures or optimisation of water tank cleaning. The recommendations of limits for a scraping sample are based especially on the microbiological parameters. Secondary air contamination plays an important role in maintains of biologically stable water. Based on the number of microbial contamination discovered water tanks will be categorised and methods of suitable measures to be taken will be stipulated, operation optimisation as well as cleaning (schedule, methods and frequency of cleaning). The water quality in a storage tanks depends on their maintenance, e.g., to prevent the plaster falling on water surface, the use of antifungal surface coatings (prevention the growth of fungi on walls), the use of ceramics surface of reservoir walls, dark conditions (no windows or blue sheets) in all technological units, the prevention of dust fall out, the selection of suitable air condition and special air filters.

Keywords:
air contamination; biofilms in water tanks;

quality; secondary contamination

[fulltext]