

Fecal Contamination and Environmental Influence in Bivalve Molluscs: A Case Study of Ras El Ma, Morocco

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Abstract

This study evaluates the sanitary condition of commercially significant bivalve mollusk species from the Marchica Lagoon and examines the impact of physicochemical factors on fecal contamination. A total of 72 samples were analyzed for *Escherichia coli* (*E. coli*) enumeration and Salmonella detection. The microbiological assessment revealed higher fecal pollution indicators during autumn and winter, with lower levels in summer. No Salmonella was detected throughout the study. Statistical analysis indicated that temperature and salinity significantly influence fecal indicator loads in the bivalve mollusks of the Marchica Lagoon. According to Moroccan circular number 1508/12, which sets the sanitary standards for the production and marketing of live bivalve mollusks, 90.5% of the samples were deemed safe, while 9.5% required relaying or purification treatment.

Keywords

Bivalve Mollusks, Indicator Bacteria, Moroccan Circular Number 1508/12, Salmonella, Marchica Lagoon