

AUTOTROPHIC DENITRIFICATION OF BACTERIA *THIOBACILLUS DENITRIFICANS* IN THE PRESENCE OF PHOSPHORUS AND MOLYBDENUM

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Abstract

Bacteria *Thiobacillus (Th.) denitrificans* belongs to gram-negative, obligate chemolithoautotrophic and facultative anaerobic microorganisms. *Th. denitrificans* uses the oxidation of reduced inorganic sulfuric compounds for the respiratory reduction of nitrates or nitrites under anaerobic conditions. Denitrification can be affected by many factors. The aim of the work was to describe the positive influence of different concentrations of phosphorus and molybdenum to autotrophic denitrification by *Th. denitrificans*, and to determine optimal amount phosphorus and molybdenum for specific conditions. The best added concentrations of phosphorus was from 1,0 to 1,5 mg / l and molybdenum was 0,1 mg/l for autotrophic denitrification of bacteria *Th. denitrificans* in tested batch reactors.

Key words:

Denitrification, molybdenum, phosphorus, *Thiobacillus denitrificans*