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## ***Sporobolomyces salmonicolor* AS A TOOL FOR NITRATE REMOVAL FROM WASTEWATERS**

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### **Abstract**

The problem of nitrate removal from agricultural and industrial wastewaters is increasingly drawing attention since contamination more and more jeopardizes drinking water resources. The yeast *Sporobolomyces salmonicolor* produces a constitutive nitrate reductase and can use nitrate as the sole nitrogen source. The obtained nitrite is in turn reduced and assimilated by the yeast and converted into biomass. In the present study some biological features of a *S. salmonicolor* strain, relevant in relation with the problem of nitrate removal, such as temperature and pH requirements, preference towards particular carbon sources, and also availability of alternative nitrogen sources, have been studied in the light of their influence towards nitrate assimilation. Both efficiency and kinetics of nitrate assimilation were also explored. Work on real wastewater samples allowed for assessing the potential of the micro-organism for bioremediation: in particular, nitrogen-rich wastewaters were shown to be substantially depleted in their total nitrogen content, whereas noticeable amounts of protein-rich biomass were formed.

*Key words:* bioremediation, nitrate, nitrate assimilation, *Sporobolomyces salmonicolor*

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