Environmental Engineering and Management Journal, September 2006, Vol.5, No.3, 539-544
http://omicron.ch.tuiasi.ro/EEMJ/

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ICEEM/03 – ENVIRONMENTAL POLLUTION PREVENTION

WASTEWATER TREATMENT FOR SOME FABRICS OF FOOD INDUSTRY

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Abstract

Wastewater flows discharged by food industry (pastry products, sweets and chocolate) are characterized by specific quality indicators such as:

- variable pH: from weak acid to alkaline;
- high values of COD;
- biodegradability: $BOD_5/COD \geq 0.37$.

The paper analyses combined physical-chemical and biological techniques that have to be applied in order to ensure the compliance with the imposed discharge limits into the Bucharest municipality sewerage.

It was found that the optimum alternative, from the point of view of both treatment efficiency and economic reasons, is represented by coagulation-flocculation using $FeCl_3$ and anionic polyelectrolyte, followed by aerobic biological treatment, using an immersed biofilter with the fixed bed of plastic bodies. The technology ensures the compliance with the imposed discharge limits:

- CODCr ≤ 125 mgO_2/L;
- BOD_5 ≤ 45 mgO_2/L;
- Extractable matters < 5 mg/L.

Keywords: food industry, physical-chemical treatment, biological treatment

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