Treatment and Recovery of Brine waters coming from the agro - alimentary industries.

De Paoli Italo Luigi Ph.D.*
* *D&D Srl, Spilimbergo , Italy, depaoli@ddgroup.it*

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Abstract

The production in the agro- industry of brine waters is very hight in Italy , pricipallly connected whith the fisch production, curated ham, pickles and pickles production etc.
The quantities of such processing waste, in relation to their chemical-physical characteristics and to the associated polluting load, present particular problems in their treatment and disposal processes which are not easy to solve.
These problems are mainly related to the chemical-physical characteristics of the waste produced and to the high disposal and treatment costs associated with them.
In order to recover and enhance the salt obtained, in addition to an effective treatment of the brine water produced, some agro – alimentary industries has given rise to an experimental study aimed at defining and optimizing a process of enhancement of the salt wastes produced within the individual factories.
The brine waters deriving from leachate obtained during the salting process have extremely high COD values (8,000 mgCOD / l-12,000 mgCOD / l) due to the presence of dissolved fat and blood, presenting salinity values averagely included between 60,000 mg NaCl2 / l and 160,000 mgNaCl2 / l) which make their treatment process extremely difficult.
The results obtained during three years of the experimental study, allowed to highlight a high degree of purification of brine water together with the achievement of high sanitary hygienic characteristics of the recovered salt, which allow an enhancement of the product obtained with its placing on the market at extremely competitive prices.
Particular attention was given to the treatment of odorous emissions, which allowed their effective confinement and subsequent treatment through the use of suitable systems with a marked limitation of the environmental impact in the surrounding environment.
The use of particular automation and control systems as well as allowing a continuous verification of the purification standards, allow a control of the hygienic and sanitary characteristics of the produced material, as a guarantee of a high processing / management flexibility, optimizing the treatment costs associated with it .