research on techniques applied to sludge drying

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Abstract

the aime of this study is to devoted to an experimental approach declining an objective of sustainable development of eco e méditerranien environmental field.

The set is an application designed by combined techniques, the reduction of the pre sludge drying time raised a hand to the output of the thickener, and the other, in a STEP drying beds of Souk Ahras city.

This method advocated by its cardinal principle, the search for minimal drying time obtained by the best percentages of mixing the mud.

The main results are exposed below:

1-For percentages of mixtures ranging from 12.5 to 100% of limestone flour scrap (FCR) and / or flour refractory bricks based on magnesia (FBRM) from the furnaces of cement HadjarEssoud (North East Algeria "

2-For percentages of mixture varying from 2.5 to 20% of the packaging sawdust finely ground (ScBFB).

The experimental protocol used, showed that blends 25% RCF and FBRM, and 2.5%, 5% ScBFB, allowed to record:

•0% for sludge solids contents and 20% in the dry season (August, average temperature 34 ° C), a globally estimated drying time to 1.5 days for the FCR and composite manure FBRM and 4 days for ScBFB;

•for mud dryness of 0% and 30%, in the wet season (December, average temperature 16 ° C), the drying time significantly is 4 to 5 days for the FCR and FBRM and 7 to 8 days for ScBFB;.

Most of the results makes it clear that for a mixture "mud-flour" 25%, allowed optimal reduction of the annual volume of sludge solids contents which reached 95% and their body weight increased from 400 g to 17 g.

Keywords: STEP- Sludge- FCR- FBRM- Drinking water- Treated wastewater.

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Biography

Elkandj Youssef has his expertise in water treatment and sludge drying, he has built these methods after years of experience in research university Laboratory of Water analyses , University of Badji mokhtar Annaba-Algeria, he has PhD in hydrolique in 2017,University of Badji mokhtar Annaba-Algeria.

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