Keywords: [illegible] (*Bacillus subtilis*); [illegible]

Introduction

[illegible]

Materials and Methods

Study domain and sample collection

[illegible] 2012 [illegible] 2013. [illegible] (DO) [illegible] E114 [illegible] (113.56’, 54.63~) [illegible] N23 [illegible] (22.33’ 43.79~) (H: 4.4 [illegible] 5.9 [illegible]).

Treatment methods of the polluted water and detection parameters of the water quality

[illegible] 10 [illegible] 8 [illegible] (DO), [illegible] (COD), [illegible] (NH3-N), [illegible] (N), [illegible] (P), [illegible] DO [illegible]

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(HACH, HD30, A). COD, . H 30 C CB ( )

Active materials–bacteria–chlorella composited one another

B o (1). AB , AC , BC , ABC o o o B . 10 oo . o 10 oo / 10 . 8 o , DO, , , COD, NH4+-N, N, P .

Results

Active materials–bacteria-chlorella purified the polluted coastal waters

(F 1-3). F 2-4 A ( ) (HMR), 94.23%, 86.6% 89.29%, . A , B (, *Bacillus subtilis*) NH^{4+}-N N, 74.20% 75.83%, . C ( ) P COD, 88.11% 83.33%, . DO 8.5 /L.

e removal rate (RR) of polluted matter

(RR, o)

groups	1	2	3	4	5
composites	AB	BC	AC	ABC	Negative control
Concentration (ppm)	10	10	10	10	Untreated water

Table 1: Active agents-bacteria-chlorella two combined and three combined treated the coastal polluted water respectively.

o (IR) ( ) 51.7 80.9%, (RR) (H_4N^+-N) 66.2 80.1%. (RR) N 65.5 77.6%. (RR) COD 56.6 91.2%. (RR) P 45.8 70.6%. R R 70.9 97.1%. A o1 (A) o11 (PF) (F 4).

e e ects of treating the polluted water with active materials-bacteria- chlorella composited one another

F 5 o o B . o : DO o (IR-DO), ABC>BC>AC>AB; (RR-), AB>ABC>AC>BC; (RR-), AB>ABC>AC>BC; (RR-NH4+-N), ABC>BC>AC>AB; N (RR- N), ABC>BC>AC>AB; o o (RR- P), ABC>AC>BC>AB; (RR-COD), ABC>AC>BC>AB; (RR-HMN), ABC>AC>AB>BC.

AB (o), 95% 92.69%, ABC (o), 87.14% 89.04%, NH4+-N P ABC (o), 92.59% 94.05%, BC (o), 90.74% 89.75%, N COD ABC, 90.05%

94.12%, AC, 77.73% 86.03%, (HMG) ABC, 98.21%, AB, 94.64%.

Discussion

Coastal pollution control is a complex problem

P P 46 10

Secondary pollution is the most worrying problem

H

In the future, biological treatment to wastewater is the goal

E

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