



CERTIFICATE OF REGISTRATION UTILITY MODEL

REGISTRATION NO. 2/2021/050074

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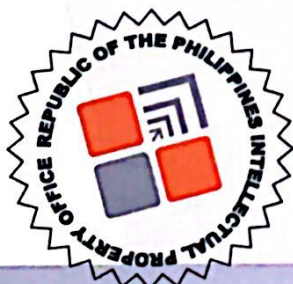
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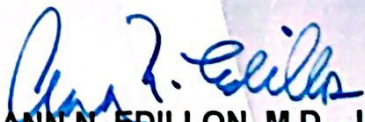
Registrant:
PUEYO, Catherine D. [Camiling, Tarlac, PH]

Title of the Utility Model:
BIOCHAR FILTRATION IN A RECIRCULATING AQUACULTURE SYSTEMS (RAS)

Makers:
PUEYO, Catherine D. [Camiling, Tarlac, PH]; PUEYO, Bennidict P. [Camiling, Tarlac, PH] and LIJAUCO, Leonell P. [Camiling, Tarlac, PH]

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Registrant:	PUEYO, Catherine D. [PH]		
Title:	BIOCHAR FILTRATION IN A RECIRCULATING AQUACULTURE SYSTEMS (RAS)		
Issue Date:	18 April 2022		

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[12] UTILITY MODEL REGISTRATION [11] Registration No.: 2/2021/050074

[45] Issue date: 18 April 2022

(18.04.2022)

[54] Title: BIOCHAR FILTRATION IN A RECIRCULATING
AQUACULTURE SYSTEMS (RAS)

[72] Maker(s): PUEYO, Catherine D. [Camiling, Tarlac, PH];
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[21] Application No.: 2/2021/050074

[30] Foreign Application Priority Data: NONE

[51] International Class : C02F 1/42

[57] **ABSTRACT**

Contaminated aquaculture water resulting to fish kills is one of the major problems in aquaculture industry nowadays. To address this problem, one of the latent solutions is by using biochar filtration system in a RAS. The system uses biochar from different biomass such as corn cobs, coconut shell and rice hull. The developed biochar filtration system enhances total ammonia nitrogen (TAN) and un-ionized ammonia levels thereby minimizing the fish mortality and providing a desirable water quality level for tilapia production. The system has five main parts: namely, fish tank, biochar filter, sediment filter, sludge filter and pump. An electric water pump was used to operate and recirculate the water in the system. The biochar filtration system was able to effectively enhance the level of total ammonia nitrogen (TAN) at a rate of 0.56 ppm per hour for every 1kg biochar and 0.72 ppm per hour reduction of un-ionized ammonia.

Description, Claims, Abstract: 5 page(s).

Drawings: 4 sheet(s)

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