(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :30/10/2024
(21) Application No.202431083456 A
(43) Publication Date : 29/11/2024

(54) Title of the invention : FertoCHAR-Commingled food waste derived organic fertilizer prepared by microwave-assisted catalytic pyrolysis

(51) International classification :C05G0003800000, B09B0003000000, C05G0003000000, C05D0009000000, C10B0053020000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
ABSTRACT TITLE: FertoCHAR-Commingled food waste derived organic fertilizer prepared by microwave-assisted catalytic pyrolysis The present invention provides for food waste derived soil conditioner and organic fertilizer more particularly pertains to commingled waste-based end-product named FertoCHAR as soil conditioner and organic fertilizer involving microwave-assisted catalytic pyrolysis technique. More specifically, a method for preparation of commingled food waste based nutrient-laden organic fertilizer (termed as FertoCHAR) is provided that serves as a single-step solution for fertilizer applications, capable of substituting a diverse array of chemical fertilizers for different nutrient requirement. This process can be applicable to wide array of commingled waste. Moreover, FertoCHAR enhances the soil organic carbon content, pH, and water holding capacity, all of which are essential for plant growth with production process utilizing microwave-assisted pyrolysis based on select operating conditions like microwave power (600-900 W), temperature (300-600 °C), susceptor loading (GAC, SiC, zirconium-based alloy) and residence time (10-30 min) varies based on the feedstock characteristics. Figure 1b

No. of Pages : 45 No. of Claims : 16