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## Fresenius Environmental Bulletin - FEB\_21\_00949 - "A BRIEF REVIEW ON MATERIALS USED IN CONTROLLED-RELEASE FERTILISER FORMULATIONS"

1 message

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**Fresenius Environmental Bulletin** <office@prt-parlar.de>

29 April 2021 at 15:36

Reply-To: office@prt-parlar.de

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Title: A BRIEF REVIEW ON MATERIALS USED IN CONTROLLED-RELEASE FERTILISER FORMULATIONS  
Authors: Sathia Kumaran Krishnan, Azlan Kamari, Norjan Yusof, Sunardi, Wiwin Tyas Istikowati, Nurcahyo Iman Prakoso

**Abstract:**

The excessive use of fertiliser and uncontrolled-release of nutrient into soil environment have caused a significant eutrophication issue and groundwater contamination. These scenarios have necessitated the development of eco-friendly controlled-release fertilisers (CRFs) for agricultural purposes. In recent years, several materials have been developed and tested to control the release of nutrients particularly in agricultural soils. Although, a number of controlled-release fertilisers have shown a great potential to sustain nutrients release, their performance is greatly influenced by the type of soil, plant species and climate. This review focuses on the development of controlled-release fertilisers using different starting materials or precursors. The technique of synthesis, the rate of nutrients release, the characteristics and drawbacks of controlled-release fertilisers developed have also been highlighted in this review. This review is beneficial to scientists in the field of food science, especially innovative agrochemical formulations to improve food production as well as to mitigate the nutrients leaching to groundwater.

**Message:**

29 April 2021

Dear Editor,

We are submitting a manuscript entitled "A brief review on materials used in controlled-release fertiliser formulations" for consideration for publication in the Fresenius Environmental Bulletin (FEB).

This is a novel work and is submitted with the approval of all authors. This manuscript is not published or under consideration of publication elsewhere. The authors declare no conflict of interest.

This review focuses on the development of controlled-release fertilisers (CRFs) using different starting materials or precursors. The technique of synthesis, the rate of nutrients release, the characteristics and drawbacks of controlled-release fertilisers developed have also been highlighted in this review. This review is beneficial to scientists in the field of food science, especially innovative agrochemical formulations to improve food production as well as to mitigate the nutrients leaching to groundwater.

We look forward to hearing from you.

Thank you.

Very best wishes,  
Azlan Kamari, PhD

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