

Slow release fertilizer hydrogels: a review

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ABSTRACT

In agriculture, there are problems such as the high porosity of soils, high irrigation of water and low fertilizer retention. Therefore, materials with the ability to absorb a high amount of water and release it over a long period of time in combination with a fertilizer may be a possible solution. To meet these demands, slow release fertilizer hydrogels (SRFH) have been developed. SRFHs are a combination of a super absorbant hydrogel (SAH) and a fertilizer with both water retention and slow release properties. In this article, basic principles such as definitions, classifications and properties of SRFHs are critically investigated. Raw materials and preparation techniques of SRFHs are briefly described. In addition, recent studies on SRFHs are highlighted.

KEYWORDS: Hydrogels; Fertilizer; Biodegradable; Natural; Agriculture

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