An Evolutionary Approach on the Framework of Circular Economy Applied to Agriculture

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Abstract

In this current and global context led by scarcity of resources, environmental degradation, global climate change, and a progressive demand for food, the circular economy (CE) represents a key economic model or framework for sustainable, restorative, and regenerative agriculture. Hence, CE applied to agriculture seeks to close the life cycle of products, services, waste, water, and energy to obtain a better use of resources and a reduction of the ecological impact. An initial review of the literature corroborates the hypothesis that the CE framework has not yet been comprehensively adapted to the field of agriculture. This research seeks to overcome this gap in relation to the performance of the circularity of agricultural production systems in support of decision-making processes. A bibliometric analysis of 1060 documents was carried to synthesize the knowledge base on this topic. The results show recent studies that identify weaknesses derived from food production, such as waste generation, biomass, water pollution, and greenhouse gas emissions. It has been identified how their analysis has developed to date and what terms allow us to visualize new approaches; consequently, it is a useful tool for researchers and sponsors who provide financial resources for the development of new lines of research. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.

Author keywords

Agriculture; Circular agriculture; Circular economy; Ecological impact; Food security