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Oil Cakes as Sustainable Agro-Industrial Feedstock for Biocarbon Materials(Review)

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Abstract

The demand for vegetable oil is increasing for both food and non-food applications, which leads to the generation of a huge amount of oil cakes. The rising annual production requires alternative applications for sustainable operations of oil mills, especially those involved in non-edible oil production. Hence, the value-added uses of oil cakes such as environment remediation (metal absorption), composite fabrication (as fillers, reinforcements), nanoparticle synthesis (as reducing and stabilizing agent), and production of carbonaceous materials (as carbon source) were extensively explored in recent years. Among them, the thermochemical conversion of oil cakes into carbonaceous materials (biochar and activated carbon) received great interest as the demand for biocarbon materials increases exponentially. Oil cake-derived biocarbon materials found a wide range of technological applications. With this perspective, recent developments in oil cake-derived carbon materials and their diverse applications are reviewed. © 2021 Wiley-VCH GmbH

Author keywords

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