

Green extraction of nutmeg (*Myristica fragrans*) phytochemicals: Prospective strategies and roadblocks

ABSTRACT

Nutmeg is a spice with a rich history of culinary and medicinal use. It boasts a diverse array of bioactive compounds with promising health-promoting properties, making it a subject of increasing interest in the food, pharmaceutical, and nutraceutical industries. This review article delves into the sustainable extraction of nutmeg phytochemicals, exploring the opportunities and challenges associated with adopting green extraction techniques. The primary objective of this review is to shed light on the potential of green extraction methods to harness nutmeg's valuable phytochemicals while mitigating the environmental impact of the extraction process. The article then explores the prospective green extraction strategies, highlighting various techniques and technologies that have been applied successfully to obtain nutmeg phytochemicals in an eco-friendly manner. Through case studies, we present real-world examples that showcase the viability and advantages of green extraction approaches. Nevertheless, the road to sustainable nutmeg extraction is challenging. In conclusion, this review underscores the potential of green extraction techniques to unlock the vast promise of nutmeg phytochemicals. By identifying prospective strategies and addressing associated roadblocks, we offer insights into a more sustainable and environmentally responsible approach to nutmeg extraction, providing valuable guidance for researchers, industry professionals, and policymakers seeking to enhance the nutmeg sector while prioritizing sustainability and environmental conservation.