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ARTICLE

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HARNESSING *CYPERUS* SPECIES FOR NATURAL FIBRE, INSECTICIDAL, AND ALGICIDAL INNOVATIONS IN RURAL DEVELOPMENT

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Cyperus spp., a genus within the Cyperaceae family, is widely recognized in South Asia as a perennial weed with long-standing traditional uses in health care and agriculture. Today, its potential in supporting rural development through industrial and environmental applications is gaining significant interest. The fibrous characteristics of Cyperus spp. position it as a promising source of biodegradable, renewable materials that can serve as sustainable alternatives to synthetic fibers. A possible green pest management solution in rural sector is exploiting the insecticidal potential of Cyperus sp. It contains the phytochemicals such as cyperene, α-cyperone, α-corymbolol, α-pinene, caryophyllene oxide, cyperotundone, germacrene D, mustakone, and zierone which exhibits pesticidal activity. In addition to this Cyperus spp. can have possible use for enhancement of the quality of rural water bodies against algal blooms as an algicide. The current review explores the multidimensional value of Cyperus spp. as a resource for natural fiber, and biopesticide applications in sustainable, rural development.