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(57) Abstract :

[027] The proposed invention is a novel method for bioremediation in natural ecosystems, specifically focusing on rice paddy fields in West Bengal. The innovative approach integrates a unique combination of plant and bacterial consortium, effectively removing arsenic from soil and water while promoting plant growth through bio-fertilization. The bacterial strains exhibit resistance to toxic arsenic doses, sequestering the heavy metal within their cells. Our eco-friendly method ensures a low-cost arsenic mitigation strategy, devoid of genetically modified organisms or physico-chemical techniques. This sustainable solution not only offers economic viability but also aligns with environmental considerations, providing a socially responsible approach to combatting arsenic pollution in the Bengal basin.

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