



BOOK OF ABSTRACTS

National Conference on Natural Farming

Pathways to Self-reliant Farming and Rural Prosperity

"One Farm, One Ecosystem, One Health"



September 9-11, 2026
CPGSAS, CAU (Imphal) Umiam, Meghalaya





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NATIONAL CONFERENCE ON NATURAL FARMING

Pathways to Self-reliant Farming and Rural Prosperity (NCNF 2026)

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T05-20: Integrating Water Mimosa (*Neptunia oleracea* Lour.) into Natural Farming: Agro-ecological Benefits, Food Safety and Food Security Implications

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Abstract

Natural farming focuses on ecological processes, efficient use of local resources, reduced dependence on external inputs and biological diversity for food, nutritional and environmental security. In this context, Water Mimosa (*Neptunia oleracea* Lour.), locally called Eshing Ekaithabi in Manipur, is emerging as a promising multi-functional aquatic legume for sustainable farming systems. Water Mimosa, a traditional vegetable, may contribute to dietary diversification and local food security; its leguminous nature may also enhance biological nitrogen cycling and resource-use efficiency in rice-based farming systems. Besides its nutritional and agro-ecological value, Water Mimosa has the ability to uptake and accumulate environmental pollutants including arsenic from aquatic ecosystems, thus offering potential for phytoremediation and environmental management.

However, this characteristic also leads to an important food-safety concern when the plant is harvested from contaminated water bodies as accumulated arsenic and other heavy metals may enter edible tissues. Thus, environmental quality and food quality are closely related, so that safe incorporation of Water Mimosa in natural farming systems involves the evaluation of water and sediment quality of cultivation sites and the levels of contaminants in edible plant tissues. The present study investigates the potential of Water Mimosa integration into natural farming systems as a multifunctional resource linking biological nutrient cycling, environmental management, nutritional security and food production. A framework of safe sites for cultivation, environmental monitoring and validation of food quality could allow its responsible use while minimizing food-safety risks. Water Mimosa thus has potential as a locally adapted component of natural farming if its environmental benefits and food-safety implications are assessed together.

Keywords: *Water Mimosa; Neptunia oleracea; Natural Farming; Food Safety; Food Security*

