

Innovative Horizons in Agronomy: Bridging Science, Sustainability, and Smart Farming

Editors

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Cow-Based Integrated Farming System

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Shubhangi Singh, Shubhendu Singh, Shashank Singh, Shashi Bhushan Singh and Madhulika

Abstract

Cow-Based Integrated Farming System (CBIFS) is a sustainable agricultural model integrating cattle with components like crops, fishery, horticulture, and apiculture to promote resource recycling and ecosystem resilience. Cows contribute dung, urine, and leftover feed that support nutrient cycling, biogas production, and aquaculture inputs. Systems like fish–cow and crop–cow integration enhance productivity, profitability, and employment for smallholder farmers. CBIFS emphasizes ecological balance, reduced external inputs, and food security. Despite limitations such as nutrient loss, manure handling challenges, and low-quality residues, this model offers promising opportunities for sustainable intensification, organic input use, and rural livelihood enhancement.

Keywords

Cow-Based Integrated Farming System, nutrient recycling, organic inputs, crop–livestock integration, sustainability, rural livelihoods, fish–cow system.

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