Integrated farming systems research for sustaining productivity in irrigated uplands

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ABSTRACT
Conventional agriculture has created several economic problems associated with over production of crops, increased costs of energy-based inputs and decreased farm incomes. It has also caused environmental problems such as poor ecological diversity, pollution of soil, water and soil erosion. The adoption of integrated farming systems involving lower inputs of fertilizer and effective recycling of waste products can alleviate these economic and ecological problems. The experiments were carried out at Tamil Nadu Agricultural University, Coimbatore, India to identify and optimize the component linkage for irrigated uplands and to sustain the productivity of each component through effective recycling of wastes from the linked components involved in the farming systems from June 2002 to March 2004. Treatment schedule of conventional cropping system, crop + dairy, crop + dairy + biogas + fish, crop + dairy + biogas + mushroom + fish and crop + fish during 2002-2003 and conventional cropping system, crop + dairy, crop + dairy + biogas, crop + dairy + biogas + mushroom, crop + fish, crop + fish + dairy + biogas and crop + fish + dairy during 2003-2004 was carried out as non-replicated experiments to identify the component linkage in irrigated upland farming systems. Experimental results revealed that integration of cropping with components like dairy, biogas and mushroom or fish resulted in higher productivity, economic returns and employment generation than the cultivation of crops alone.

Key words: Farming systems, Irrigated uplands, Productivity and Economics.