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Integrated Use of Organic Manure and Inorganic Fertilisers on Soil Fertility and Productivity of Sugarcane

PAUL, G C¹, S M BOKHTIAR, K M ALAM, M A HAQUE, N ISLAM AND
Soils and Nutrition Division, Bangladesh Sugarcane Research Institute, Ishurdi-6620,

M A MANNAN
Pabna, Bangladesh

A field experiment was conducted at Chuadanga (High Ganges River Floodplain-AEZ 11), Gazipur (Madhupur Tract-AEZ 28) and Thakurgaon (Old Himalayan Piedmont Plain-AEZ 1) to develop an economically suitable combination of organic manure and inorganic fertiliser for sustaining sugarcane yield. At Chuadanga, the highest cane yield (129.47 t/ha) was recorded in T₃ treatment that received farmyard manure at 10 tonnes per hectare and inorganic fertiliser based on integrated plant nutrition system (IPNS), which was 19 per cent increase in yield over only inorganic fertiliser as per recommendation. But at Gazipur and Thakurgaon, the treatment T₂ and T₄ that received poultry litter and press mud at 10 tonnes per hectare with IPNS based inorganic fertilisers gave the highest sugarcane yields of 109.16 and 59.22 tonnes per hectare, which was 21 per cent and 2 per cent yield increase over only inorganic fertiliser, respectively. The highest gross margins of Bangladesh Taka 1 54 611, Taka 66 446 and Taka 1 26 268 per hectare were obtained with T₃, T₄ and T₂ at Chuadanga, Thakurgaon and Gazipur, respectively.

Keywords: *Integrated use, organic and inorganic fertiliser, soil fertility, sugarcane productivity.*