Challenging Tradition:Permanent Raised Beds for the Rice-Wheat Cropping System. (A06-lauren173621-Poster)

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Abstract:

Permanent raised beds for the rice-wheat cropping system in South Asia are a variation of a technology developed by CIMMYT in Mexico, offering opportunities to reduce tillage, improve soil structure, reduce weeds/water use and to improve nitrogen use. However it also means that rice is grown in an unconventional manner, e.g. not in a flat, puddled or permanently wet condition. Wheat, mungbean and rice were grown in a triple crop rotation on experiment stations at Dinajpur and Rajshahi, Bangladesh in 2001 and 2002. Manually prepared, permanent bed (PB) and flat, conventional (CT) planting configurations were tested, along with broadcast, (BC) and band nitrogen placement (B) and N rates at 50, 100 and 150% of recommended levels. At both sites and years, mean wheat and mung yields from the PB treatments were 17-34% and 12-20% higher than yields from the CT plots, respectively. In 2001 at both sites, rice yields from the bed plots were 39-41% higher than those from the conventional treatments. Improved nitrogen recovery, less weed pressure and better water use will be discussed as factors contributing to these significant improvements in productivity.

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