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AN ANALYSIS OF BIOLOGICAL CONSTRAINTS IN PADDY PRODUCTION

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ABSTRACT

Paddy yields in Pakistan are low due to many biological constraints. The contribution of four constraints i.e. fertilizer, density, plant production and weeding in optimizing the paddy yield was studied during 1991 to 1993 under factorial arrangement. Gaps in recommended and farmer input levels were computed for each site which were grouped into low (upto 1000 kg ha^{-1}) medium (1000-2000 kg ha^{-1}) and high yield gaps (above 2000 kg ha^{-1}). Contribution of individual factor was worked out for guidance of researchers, extensionists and farmers. The application of all inputs at recommended levels increased paddy yield by 659,1243 and 2372 kg ha^{-1} over farmers levels under the yield gaps of low, medium and high on 13 sites. While computing the contribution of various factors, fertilizer appeared to be the major constraint at the sites where gap was low but for plant protection the highest contribution (30%) was recorded from high yield gap sites. Effect of weeding and plant density ranged from 14 to 18% under various yield gaps. It can be concluded that imbalance use of fertilizer by the farmer is the major constraint in impairing paddy production in the province.