INTEGRATED USE OF ORGANIC AND INORGANIC NITROGEN FERTILIZERS IN IRRIGATED LOWLAND RICE OF PUNJAB.

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ABSTRACT

Great opportunities exist for increased rice production through an integrated nutrient management approach using mineral and organic fertilizers. Based on the high cost of fertilizers and socio-economic constraints of small farmers in Punjab, this study was undertaken to evaluate integrated effect of organic and inorganic N-fertilizers on the growth, yield and nutrient uptake of irrigated lowland coarse rice cultivar KS-282 and their comparison with chemical fertilizers when used alone. Various sources viz. prilled urea (PU), urea supergranules (USG), green manures (GM) + PU and farmyard manure (FYM) + PU were applied to rice to evaluate the most efficient and economical source of nitrogen. Statistically equal yields of rice were observed in USG and GM (sunnhemp) + PU treatments while similar trend in N-uptake was observed in USG, GM (S. rostrata) + PU and GM (sunnhemp) + PU treatments respectively. All the other green manures when integrated with PU gave better yield as compared to Pu alone. Integrated nutrient managed treatments were economically superior to Pu alone. USG and GM (sunnhemp) + PU treatments showed highest agronomic efficiency and % N recovery while all the green manures contributed the desired level of 87 kg N ha^{-1}