

EVALUATING EFFICIENT NITROGEN SOURCE, RATE AND PLACEMENT METHOD FOR IRRIGATED LOWLAND RICE

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ABSTRACT

Nitrogen fertilizer efficiency was studied in a field trial on a sandy clay loam soil for rice cv. basmati-370 during 1987. Prilled urea (PU) incorporated in standing water just before transplanting, PU at saturation one to two days before rice transplanting and urea supergranules (USG) point-placed two days after transplanting were compared at N levels of 29, 58, 87 and 145 kg ha⁻¹. The PU was applied in split doses, two-third at transplanting and one-third at panicle initiation. The results indicated that: PU applied one day prior to transplanting at soil saturation was found superior to USG deep-placed or PU applied in standing water at 145 kg N ha⁻¹ level. With no fertilizer application and at the highest N rate (145 kg N ha⁻¹), greater percentage of unfilled grain and reduction in 100 - grain weight were recorded. Agronomic efficiency and per cent N- recovery were also similarly affected by placement methods, being maximum with PU application at saturation one to two days before rice transplanting or PU in standing water. USG proved inferior possibly because it was applied in single dose whereas PU application was split, at transplanting and at panicle initiation.