

WHEAT RESPONSE TO FARMYARD MANURE AND UREA NITROGEN APPLIED IN DIFFERENT PROPORTIONS

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ABSTRACT

Nitrogen use efficiency by wheat was studied in field experiments for two years by supplying 120 kg N ha^{-1} to wheat on nutrient substitution basis from farmyard manure (FYM) and urea N in 0:100, 25:75, 50:50, 100:0 proportions. A control treatment (0:0) was also included without any nitrogen application. Nitrogen applied as 25% from FYM and 75% from urea produced significantly higher grain and straw yield than 0:100 and 50:50 treatments during both years. Substitution of N upto 50% by FYM produced wheat yield equivalent to that produced by 100% N as urea. Uptake of N and P was similar in the treatments receiving all N from urea and equal amounts from both N sources. However, appreciable increase in total N and P uptake was observed in 25:75 treatment as compared with 0:100 treatment. Highly significant linear correlation between wheat grain yield and the associated N uptake was recorded ($r=0.986$ & 0.997 in 1987-88 and 1988-89, respectively). Results indicated the possibility of improving N fertilizer use efficiency in calcareous soils by the integrated use of organic and mineral fertilizers.