

EFFECT OF PHOSPHATE FERTILIZERS ON AMMONIA VOLATILIZATION FROM UREA IN ALLUVIAL ALKALINE SOIL

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ABSTRACT

The effect of different phosphatic fertilizers (single superphosphate, SSP; triple superphosphate, TSP; diammonium phosphate, DAP and nitrophos, NP) on ammonia volatilization from urea applied to alluvial alkaline soil was studied under laboratory conditions. About 34% N was lost as ammonia from urea alone. Mixing of phosphate fertilizers with urea suppressed the ammonia volatilization from urea in the order: NP>SSP>TSP>DAP. Nitrophos, SSP and TSP suppressed the ammonia volatilization by 51%, 45% and 32%, respectively. The reduction in ammonia loss was due to delayed hydrolysis of urea by urease in the presence of acidic phosphate fertilizers. Whereas DAP increased the ammonia loss, because of stimulating the hydrolysis of urea and the resulting high pH.