

A STUDY ON THE DENITRIFICATION IN PADDY SOILS

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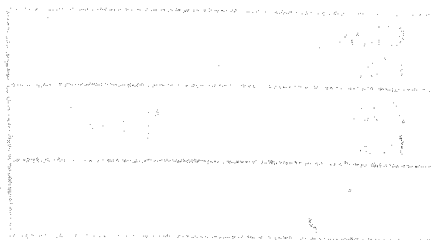
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IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR

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ABSTRACT

A study was conducted on the denitrification losses of paddy soils. A pot experiment was designed using rice plants under submerged conditions to observe the denitrification losses up to a total period of 12 weeks and samples were taken after 1, 2, 4, 6, 8, 10 and 12 weeks. At the beginning of the experiment $(\text{NH}_4)_2\text{SO}_4$ fertilizer was added to each pot at the rate of 40 kg N ha^{-1} and the total nitrogen content was determined by Kjeldahl method before and after the application of fertilizer. At each sampling date nitrogen balance was estimated to calculate denitrification losses. The mean value of total nitrogen losses due to denitrification per 100 g of dry soil from 1st to 12th week was found to be in the range of 35.5 mg. to 301.4 mg. In this study volatilization, leaching and atmospheric nitrogen fixation were minimized in order to investigate the degree of denitrification.