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Effect of the Addition of Zeolite to the Soil on Nitrification

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Abstract: In this research, the effect of zeolite on the nitrification of NH 4 + to NO 3 - which can result in the loss of N through the leaching of NO 3 - was investigated and the change in this effect at the different rates of soil moisture was studied. The experiment was arranged into a factorial design with two replications by using five surface soil samples (0-20 cm) which were taken from Isparta-Atabey region. Four rates of zeolite (0, 12.5, 25.0 and 50.0 g zeolite kg -1 soil) were mixed with soils and a solution containing ammonium sulphate ((NH 4) 2 SO 4 : 250 ppm N) as added to each mixture. Water content of soils was brought to the different five rates of 25, 50, 75, 100 and 125 % of the field capacities and samples were incubated at 24-26 °C for one month. Mostly as the application rate of zeolite increased the rate of nitrification decreased but not for all the application rates of soil moisture. The effects of application rate of zeolite and of the soil moisture on nitrification were different for the different soils.

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