**Abstract:** The objective of this study was to examine the influence of various zeolite levels on NH3 volatilization from urea fertilizer applied to sandy and calcareous soils. A laboratory incubation experiment in a closed dynamic air flow system was conducted in a completely randomized design with three replications. Four zeolite (clinoptilolite) levels of 0, 12.5, 25 and 50 g kg-1 soil and two urea levels of 250 and 500 kg urea fed-1 (wt/wt) were used. The treated soils was moistened with distilled water at field capacity level and incubated for 29 days. The volatilized NH3 from the soil chambers was collected and titrated every 24 hours during incubation period. The results indicated that zeolite applications reduced the average percentage of ammonia loss from 26.07 and 67.09% for the control treatment to 5.04 and 15.64% for the highest (50 g kg-1) level of zeolite added to the sandy and calcareous soils, respectively. Therefore, additions of zeolite as a soil conditioner reduce ammonia loss and increase the use efficiency of urea applied to sandy or calcareous soils.