



## Nitrate nitrogen the preferred N-source for maize

The nitrogen utilization of two maize hybrids (Pioneer 3732 and Volga) of similar yield potential was studied under greenhouse conditions. In a three-year model experiment, plants were grown in pots filled with 40 kg dry clay soil. 150 mg N/kg soil was applied as  $\text{NH}_4\text{Cl}$  or  $\text{KNO}_3$ , besides PK base fertilisation. In the first two experimental years,  $^{15}\text{N}$ -labeled N-sources (5 atom%  $^{15}\text{N}$ ) were also applied to study the utilization of different N-forms. Volga showed a more favorable response to nitrate-fertilization in terms of grain yield production. The N-uptake of both hybrids was considerably higher from the  $\text{NO}_3\text{-N}$  source than from the  $\text{NH}_4\text{-N}$  source. The  $^{15}\text{N}$ -fertilizer utilization was higher with the application the  $\text{NO}_3\text{-N}$  source. On average, it amounted to 48-62%, while only 32-54% was measured with the application of the  $\text{NH}_4\text{-N}$  source.