The influence of chemical soils composition on the thermodynamic probability of the air nitrogen fixation

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According to the simulation results, the oxidation of air nitrogen in soils to the highest degree of oxidation (nitrate ion) is thermodynamically possible. Clay soils are favorable for the process of air nitrogen oxidation.

- Sandy soils are inert in this respect, and the processes occurring in them are determined by other participants of the studied thermodynamic systems.
- Soils containing limestone and slaked lime are characterized by the highest efficiency of fixation of air nitrogen.
- The presence of nitrogen (+5) in the simulated systems creates thermodynamic prerequisites for reducing the energy barrier of the limiting stage of air nitrogen oxidation.