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MICROBIOLOGICAL TRANSFORMATIONS OF SOIL NITROGEN

Summary

Nitrogen is one of the most important biogenic compounds, indispensable for growth and functioning of all the organisms. This chemical element exist in soil in many forms, some of which are very active. Microorganisms play an important role in the nitrogen cycle. Main processes involved in the nitrogen cycle consists of nitrogen fixation, ammonification (reduction of organic compounds to ammonia), nitrification (two-step process of oxidation of ammonium to nitrate) and denitrification (conversion of nitrate to gaseous nitrogen). Nitrogen fixation is the most important source of biologically available nitrogen in the biosphere.

The intensity of microbial processes in soil depends on type of soil, its humidity, oxygenation, kind of vegetation and fertilization. Acidity of soil also exerts influence on the nitrogen cycle. For most microbial species, their growth is optimal in neutral conditions. In acid soils activity of microorganism is inhibited.

Key words: nitrogen fixation, nitrogen cycle, soil microorganisms