

**CHANGE IN THE MICROSTRUCTURE OF SOD-PODZOLIC SOIL UNDER INFLUENCE OF PERIODIC
APPLICATION OF MANURES**

S. V. Neprimerova

*Agrophysical Research Institute
14, Grazhdansky pr., St. Petersburg, 195220
E-mail: neprimerova@list.ru*

The paper discusses the effect of periodic incorporation of manures on the microstructure of sod-podzolic sandy loam soil of varying degrees of fertility, used in a six-year vegetable crop rotation. The samples for investigation were collected at the beginning of the experiment, after the completion of the first circle of the crop rotation and after the completion of the second circle of the crop rotation. Soil samples with undisturbed structure were collected from soil pits. They were naturally dried and then used to make transparent thin sections. In the course of micromorphological analysis of the soil, it was found that even a single application of manure led to a significant improvement in the microstructure. However, after six years without any manure, the positive effect of the first application has decreased greatly. Application of manure once every three years was sufficient to maintain an optimal microstructure and preserve the basic mineral components of the soil. The optimal rate of manure was 80 t ha⁻¹. Higher rates are poorly processed by microorganisms, humic substances migrate down the soil profile and are being washed out of the soil. Smaller rates do not allow to preserve the effect achieved earlier.

Key words: micromorphology, sod-podzolic soils, manures.

