

Contents

Genesis and Geography of Soils

Diagnostics of Compaction of Arable Soils in the Transvolga Region in Saratov Oblast

A. S. Sorokin and G. S. Kust

1

Cartographic Assessment of Soil Diversity in Russia

I. O. Alyabina

5

Ecological Safety

Adaptive Capability of the VERT_MIG Algorithm to Simulate Vertical Migration
of Radionuclides in Soils

*S. V. Mamikhin, D. N. Lipatov, D. V. Manakhov, T. A. Paramonova,
V. V. Stolbova, and A. I. Shcheglov*

11

Cesium-137 Root Uptake by Oat and Lettuce Test Crops
from Radioactively Contaminated Chernozem under Model Experiment Conditions

*T. A. Paramonova, N. V. Kuzmenkova, M. M. Godyaeva,
V. R. Belyaev, M. M. Ivanov, and G. I. Agapkina*

18

Study and Prediction of the Microelement Composition of Soils
of Model Phytocenoses of Soil Lysimeters

M. V. Evdokimova, V. M. Gendugov, G. P. Glazunov, and I. O. Plekhanova

26

Effect of Amorphous Silicon Dioxide on Cadmium Behavior
in the Soil–Rice Plant System

*Pengbo Zhang, Yuqiao Liu, E. A. Bocharnikova, V. V. Matichenkov,
D. M. Khomiakov, and E. P. Pakhnenko*

34

Soil Biology

Procedural Approaches to Field Determination of Root
and Microbial Respiration Contribution to CO₂ Emission by Permafrost-Affected Soils

*O. Yu. Goncharova, G. V. Matyshak, A. A. Bobrik,
M. M. Udovenko, and A. R. Sefilian*

39