

DEVELOPMENT OF NEGLECTED LANDS IN THE LENINGRAD REGION

I. V. Sokolov

*Saint-Petersburg State Agrarian University**2, Peterburgskoye highway, Pushkin, Saint-Petersburg, 196601;**North-West Center for Interdisciplinary Researches of Problems of Food Maintenance**7, Podbelskogo highway, Pushkin, Saint-Petersburg, 196604**E-mail: 2902438@mail.ru*

Agricultural land in the Leningrad Region is quickly overgrown with woody and shrubby vegetation (WSV), and soils of these territories significantly change their properties without proper management. The field experiment, developed under industrial conditions, was aimed to the scientific search for ways to overcome the negative phenomena in the modern development of the shrubby idle lands using the resources of local ameliorants (milled raw dolomite and poultry manure). Model-field and production experiments, developed on poor sod-weakly podzolic gleyic heavy loamy soil were used for the study. The negative effects of crushed WSV embedded into gleyic sod-podzolic soil in the process of neglected agricultural land development were studied in these experiments. Measures to overcome the negative effects, based on the use of local fertilizer resources are proposed. Embedding of 100 t ha⁻¹ of crushed WSV in the form of wood chips and chaff into the heavy loamy gleyic sod-podzolic idle soil led to a 2.2–5.0-times decrease in the productivity of the first crop. At the same time, the content of raw protein in the green mass of annual grasses decreased by 13%, ash content – by 12%. The negative effect of WSV was also observed on the second and the third crops. As a result, the productivity of the crop rotation decreased by 16–34%. The effective way to prevent the losses was the use of an ameliorant complex, which included poultry manure (supplemented with mineral potassium fertilizer) and milled raw dolomite. Their combined application allowed to increase the rotation yield by an average of 48–87% (from 10.5–13.3 t ha⁻¹ to 19.6–19.7 t ha⁻¹). The use of full rates of milled raw dolomite and high rates of poultry manure guarantees an improvement in the main indicators of the soil quality and the quality of crops for feed production.

Keywords: idle land, woody and shrubby vegetation, idle land development, means of soil fertility reproduction, crop rotation, crop rotation productivity, agronomic efficiency.

