



concentration, dominoes, and card shuffles) and investigation of similarities and differences can be used to teach the meaning of these symbols.

REFERENCES

1. Ellerton N. F. Mathematics in language: A review of language in mathematics learning. / N. F. Ellerton, M. A. Clements. – Geelong, Vic. : Deakin University Press, 1991. – 298 p.

Halyna Kushnir

POLTAVA SOILS: ENVIRONMENTAL PROBLEMS AND SOLUTIONS

Soil is the basis of our existence, our breadwinner; it is an essential part of us. Unfortunately we face the serious problems connected with preservation and restoration of soils as people often destroy environment. Destructive ecological situation is connected most of all with the anthropogenic effect. That is why the research connected with soils condition is among topical ones.

Living in Poltava we decided to study the aspect in our region to know the real problems and find its solutions. There are about 50 different types of soil in the Poltava region, and they divided into 12 groups: black soil, marshy soil, sodic soil, solod soil, sod-podzolic, turfy, podzolized soil, meadow chernozem soil, meadow soil, meadow-swamp soil, peat-bog soil and peatery. The black soils occupy the biggest percent. This type of soil has a high fertility. It is characterized by granulated structure, high permeability of moisture, considerable organic substances level, etc. According to the research materials of the lands of the Poltava region that was conducted during 1888–1894 by V.V. Dokuchaev, this soil had on an average 6 % humus, and today, it is 4 % [1, p. 44]. It means that the yearly loss of humus in the region is about 3 million tons. Such a big damage of the soil of our region makes:

1) the abuse by human of chemical fertilizer and pesticide that leads to damage people, but also to the destruction of fertile soil layer;



2) a huge plowed as insensitive erosion and weathering of earth humus leads to the decrease of the volume of heat, phosphorus, iodine, iron, and, as consequence to deterioration of soil quality;

3) Wind and water erosion which is connected with the fact that there is a very high percent of plowed soils in Poltava. These territories occupy 70 % of all the area, and it is above the environmentally acceptable plowed of forest-steppe and steppe;

4) the development of forestry and agriculture: unnormalized environmental affairs damaged the interrelation of square of plough, forest and water resources. As a result, there is insensitive development of erosion processes, plow horizon of soil become tighten; there is a decrease of fertility, and also decrease of stability of natural landscapes of the region;

5) anthropogenic pollution means that the oil and gas enterprises are the reason of a great damage (in the way of construction and operation of wells), the objects of pipeline transport (in the way of its construction and damage), mining production (Poltava Mining Processing Plant (MPP), enterprises of gas-processing industry, including “Ukratnafta” (in the result of specific technologies) etc.

The fertility of lands is reduced, even in case of manifestation of such phenomena as acidity, alkaline condition and alkalinity on a certain level.

This happened because people have been using for years the land resources irrationally and do not care about their renewal. Nowadays all efforts should be made to improve the quality of our soils. The “Program to restore and maintain of the soil resources of Poltava region, 2005–2010” was developed for that. Its priorities are: protection and restoration of land; the introduction of contour-meliorative system of agriculture; the reforestation of coast protection zones; building antierosion structures; inventory of damaged areas, making their scheme; identifying the approximate dimensions of economic losses to the handling of work, etc. To achieve the aim, the range of actions should be done, such as:



- recultivation as a complete or partial reduction of soil capabilities and landscape that were destroyed by various kinds of anthropogenic human activities. Current trends of it still do not provide well-timed recovery of territories that were used previously because during the last years the paces of accumulation of the lands that were used previously overtopped the volumes of work with recultivation, that is why the detailed inventory must be done;

- transferring to light machines and equipments to preserve the physical soil properties – soil porosity, the optimum water-air regime, structure etc.;

- reviewing the basics of the land cultivation. Famous Academician T. S. Maltzev conducted a research work in our region and founded out that it is possible to refuse the traditional plow. The root of this system is scratching the soil with a special subsurface cultivator without changing a slice of furrow. Thus, the stubble and plant-food basis remain on the terrene.

- zero land cultivation as mechanical intervention is carried out once every few years. It is possible only at high cultivation of field by special plunging aggregate made with a help of drills. This process of land cultivation is intensively improved nowadays.

- such reclamations as cultivating reclamation as the improvement of soil by optimal land cultivation; forest melioration that provides the arboriculture, protection of soils from erosion with a help of an afforestation of hills, balks ravines; hydrotechnical reclamation used to improve water regime with a help of drainage or watering; chemical reclamation improves agrochemical and agrophysical properties of soils using peat, gypsum, compost, manure and other materials that enrich its organic;

- biological agriculture as soil cultivation without using of pesticides and fertilizers. Unfortunately, a small percent of fields in the Poltava region are cultivated in such a way, because the productivity of these lands is lower than that those ones chemistry is applied.



Thus, there are many negative factors that damage the soils of our region, and we have to work a lot to embody all programs and activities that have a purpose to protect the lands of the Poltava region.

REFERENCES

1. Докучаев В. В. Наши степи прежде и теперь / В. В. Докучаев. – М. : Сельхозгиз, 1953. – 152 с.

Tetyana Lymar

BRANCH STRUCTURE OF TRANSPORT SYSTEM OF THE POLTAVA REGION

The study of transport systems is not widespread aspect of research nowadays. However, it plays an important role in understanding the features of territorial organization of the population and regional economy, because transport communications are on the one hand depend on the resettlement of the population and its economic activities, and on the other hand they actively influence to further distribution of population and production.

Transport system of the Poltava region (its sectoral composition) is characterized in the references only in the context of general review of the region and also in periodicals, that is why it requires detailed studying (generalization and systematization) and scientific basis [1].

Highway, railway, pipe-line, air and water (river) transport form a single transport complex of the Poltava region.

Surface transport is the most common form of transport in the region. The length of highways is 8.9 thousand km (including a paved road – 8.9 km) and 571 bridges with the length of 20.0 km. They subordinate to the Service Road in the Poltava Region of State Road Service of Ukraine. The system of roads of national importance is 890.9 km. There are 7984.6 km of less important roads of general use, among them, the territorial roads – 611.6 km, regional roads – 4401.5 km and the district roads 2971.5 km. Within rural settlements there are 2345.6 km of public roads [2; 3]. The area takes the 4th place in Ukraine under the length of local roads.