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THE ASSESSMENT OF THE DEGREE OF RISK IMPLEMENTATION IN AGRICULTURAL LAND USE

ABSTRACT

Agricultural production is characterized by a high degree of risk. This is due to the fact that its effectiveness is influenced by weather and climate factors that predict and prevent their action impossible. In addition, the risk of natural hazards such as landslides (0.3% of the total area of the country) , flooding (12%), karst , subsidence of loess rocks affect both the quality and soil condition on the operating results. Risks environmentally destructive human impacts on soils reach scale: wind erosion (22 % of the total area) , water erosion (32.1%) , complex erosion (3.4 %), acidification of soils (17.7%), a decrease of humus content and nutrients , and others.

Increased soil degradation risk assessment necessitates land farms and forecasting.

In the general theory of environmental risk, its value is estimated as the product of the probability of hazardous events on the numerical value of the consequences of this event. In the agricultural land use basic quantitative values of the magnitude of the consequences is dangerous factor and its area of action. SW dangerous events can be predicted by research trends and the frequency of its occurrence in previous periods.

The paper considers the dynamics of the risks of land use within the Mykolaiv region. Natural risks will determine the results of the national report on the state of natural and technogenic security of Ukraine Ministry of Emergencies in the period from 2004 to 2011.

In terms of - the number of shifts per 100 km² ($\frac{1150}{246} = 4,7 \frac{units}{100km^2}$) landslide risk area defined as low. Number and percentage area increases and shifts in recent years (2001 to 2011). Slowly, and for the period 2007 to 2011 values of these parameters stabilized. Given that the area of landslides is 0,037 % of the area, the number of the active phase of the last five years has decreased by 30 units and landslides are mainly observed in the Black Sea and the river banks areas that are not used for agricultural land use, it is concluded that the risk is low, the probability of the forecast increase in the number of landslides and their minimum possible area .

Dynamics of flooding in the region indicates progressive process and the percentage of flooded areas the risk of flooding of land area defined as catastrophic.

In addition, over the past five years, the deviation from the average flooded area is $\pm 11 \dots 17.9\%$, indicating a high degree of uncertainty of flooding processes and therefore the risk.

Forecasts for the content of humus in the soil region according to the 130 years of observations, starting with V.V. Dokuchaev research and on the basis of nine rounds agrochemical survey engineering center " Oblderszhrodyuchist " indicates that the critical value of 2 % of the concentration in the soil reached already in 2025.

The analysis of the average content of elements of plant nutrition (moving nitrogen and phosphorus, potassium exchange) during nine rounds of agrochemical soil surveys in the area indicates a change macro elemental mode.

The most stable indicator was moving nitrogen content, an average of $19 \frac{mg}{kg}$ for minor deviations from this value. Although the nitrogen content of less rolling optimum value risk of reduction is small, and predictive probability of the minimum possible . The content of mobile phosphorus tends to increase to a slight stabilization in recent years. This can be explained by the mass application of chemicals from farming 60 years to 1990 and changes in the area of irrigation. The presence of mobile phosphates increases in terms of additional moisture and internal soil erosion. The average value $98 \frac{mg}{kg}$ for the last years in derogation $\pm 8 \dots 9 \frac{mg}{kg}$ suggests that it is at the secondary level at the lowest possible probability of decline in the period

projected . Exchangeable potassium tends reducing the average content in terms of the existing land tenure system would reduce its concentration below the optimal level $150 \frac{mg}{kg}$ where it is now. The deviation from the trend line consisting $\pm 10 \dots 15 \frac{mg}{kg}$, indicating the confusion. Thus reducing the risk of concentration of exchangeable potassium in soils of the region are in crisis with a high probability of occurrence in the period projected.

In light of the above prediction of dynamic changes of soil quality characteristics is an element of risk assessment of agricultural land to prevent negative trends in their development.