

For example dynamics of change of Na, Ca, Ba in the soil and water are presented in the figure. It is seen from the figure, that at the first one hour of the contact of soil with water up to 20%-Na, 20-22%-Ca and 40%-Ba transfer into water.

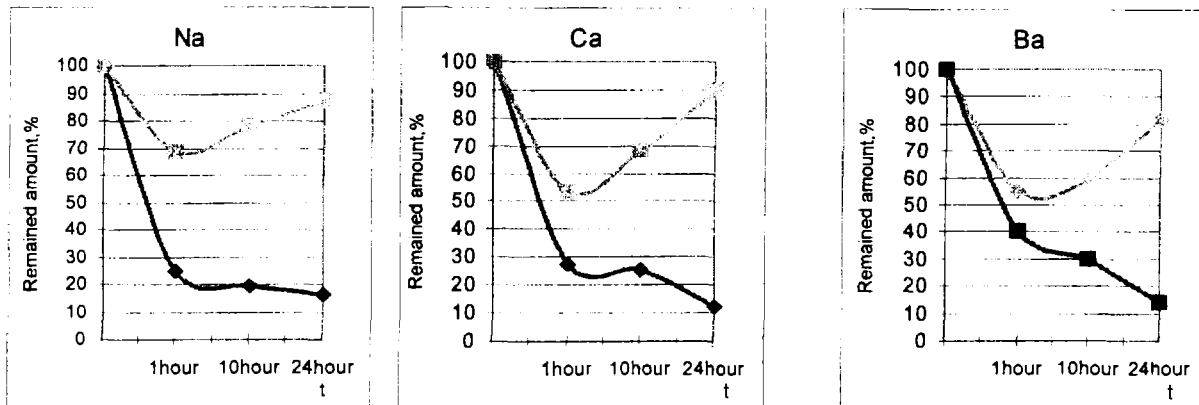


Figure. Dynamics of the change of Na, Ca and Ba aster contact of soil with water. (—◆— dissolved part elements in the water, —■— remained content of element in the soil).

Further, sorption of elements with soil takes place and a process of washing elements goes in the reverse direction. Results for remained elements will be presented in the presentation.

Obtained experimental data are important in agrochemistry at washing off salts. Experiments carried out in the field conditions are in good agreement with the data obtained in laboratory.

Metrological characteristics for neutron-activation analysis of natural water, soil sampled from Aral area, results of investigation are presented in the report. The region of their use on ecological status of drinking, irrigation and collector waters are evaluated.

NEUTRON-ACTIVATION ANALYSIS FOR INVESTIGATION OF BIOCHEMICAL MANGANESE IN SOILS COTTON SOWEOL ZONE OF UZBEKISTAN

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For many years we neutron activation analysis of soils sampled from different areas of landscape-geochemical regions of Uzbekistan including zone of extreme ecological catastrophe of Aral. Content of manganese and some other elements in the "soil-cotton" system was investigated.



Neutron-activation method of manganese determining with productivity up to 400 samples on shift with detection limit of $1,1 \cdot 10^{-5} \%$ and discrepancies not more than 10%. Was developed extremely uniform distribution of manganese in cotton sowed soils of the Republic (340-1800mg/kg) is determined. Practically all soils of cotton-sowed zone of Republic are with lack of manganese.

Distribution of manganese on soil profile of separate organs of cotton (leaves seeds etc.) was studied. Correlation between gross concentration of manganese and its active part extracted by distilled water on the basis of quantity analysis was found.

Successive comparison of gross content of manganese in the soil with crop capacity of cotton in different zones of Republic made it possible to find interconnection between these quantities, which proves necessity of using micro-additions of manganese in the soils where its low concentration is detected.



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MICROELEMENTS CONTAINING IN ROCK OF THE ARAL REGION. AGROGEOCHEMICAL PROBLEMS.

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Lately chemization of agriculture has been done not only by mineral nutrification and pesticides but also by melioration with rocks and industrial waste. However, increase in soil fertility and the related efficiency of production requires systematic control and analysis of the chemization so as not to disturb the existing balance in ecosystem. The experiment on bringing mountain rocks up 30ton/hecttar in soil shows that the socks have variable element contents (up a few orders of value) and under this condition the soil may be poisoned with undesirable toxic elements.

Thus, it becomes actual to analyse the total element contents of soil and the inserted meliorants (rocks and other resources available in the region) used in agriculture production. Besides, the obtained information about element contents of mountain rocks allows to solve not only geochemical problems but also to evaluate soil formation process. Choose of a mountain rockhaving soil. Lack of microelements in soil can be made up by fitting optimal doses of meliorants consisting of mineral (NPK) and local fertilizers, mountain rocks or industrial waste.

We proved earlier, that the soils of cotton plantiog area of Uzbekistan are exhausted with the nutritious elements (Co, Fe, Zn, Cu, Mn, Mo, Rb, Cs, K and rarer P). Besides, the soil are polluted with As, Sb, Br, U, Th, REE and the Republics. Owing to pollution of the region soil with toxic elements, deficit of the nutritious in the environment, one can expect progressing of several diseases (sick rattr) in the population. Relating to the update agry-state of the soil of