

Jumayev Javohir Jahon Ogli

*Teacher of Bukhara State University*

Ma'mirjonov Diyorbek Solijon Ogli

*Axmedova Aziza Azat Kizi*

Shamshodov Istoda Turakulova

*Teacher of Bukhara State University.*

Soils consist mainly of mineral, organic and organo-mineral substances. Mineral substances make up 85-90 percent of the soil mass. Half of the cultivated soils of our republic are gray, a quarter are grassy gray, infertile and sandy loam soils. The land, underground and aboveground resources, aquatic flora and fauna and other natural resources are a national treasure and are protected by the state. Rough treatment of nature is unacceptable, because it also protects us, feeds us and brings joy. people. Many scientific studies have proven that more than half of the harvest of agricultural crops and its quality is due to the use of mineral fertilizers. This, in turn, shows that the role of agrochemistry (mineral fertilizers) in the field is in order. To the evidence of world scientists: "In exchange for the use of chemical reagents (mineral fertilizers, pesticides, herbicides, defoliants, insecticides, desiccants, repellents, attractants, zoocides, fungicides, insecticides, acaricides and bactericides, etc.) chemicals per sowing area. This is 1.8-4.6 kilograms. However, the negative impact of agrochemicals on the ecology of the soil and biosphere largely depends on the application rate and technology. About 40 chemical elements of the periodic table of I.I. Mendeleev are examples of heavy metals. 13 of them are pollutants of the soil and the environment. Including: mercury, saul, cadmium, lead, arsenic, copper, vanadium, antimony, molybdenum, cobalt, etc. When using phosphorus raw materials in the production of phosphorus fertilizers (ammophos, superphosphate, etc.) (radium, uranium, thorium, strontium, radium, fluorine, cadmium, zinc, etc.) fall into the soil and accumulate. Remaining in the arable soil layer, these elements reduce productivity and worsen the ecological state. We consider it necessary to use organic (local fertilizers) per hectare (15-20 t / ha) to reduce the harmful amount of heavy metals in the soil. Because local fertilizers (manure, peat, green manure, etc.) decompose in the soil and emit heat. 25-30% by weight of carbon dioxide is released, the activity of microorganisms reduces the concentration of harmful and toxic salts in the soil solution. It ensures that heavy metals do not pass into the composition of plants and products, i.e. the ecological conditions for normal growth and development of the plant are renewed. Crop rotation increases soil fertility, increases crop yields, reduces water consumption and cotton disease, accumulates essential elements in the soil, as a result of which organic matter in the soil quickly decomposes and improves the agro-ameliorative state. Such processes lead to an increase in the humus content in the soil and an increase in crop yields.

Heavy metals include fluorine, vanadium, chromium, manganese, cobalt, nickel, copper, zinc, arsenic, molybdenum, cadmium, mercury, lead, tungsten, wusmuth and

others. Among the toxic metals hazardous to the environment: mercury, lead, cadmium, arsenic, selenium, fluorine. Zinc included. The metallurgical industry annually emits into the environment on average 150 thousand tons of copper, 120 thousand tons of zinc, 90 thousand tons of lead, 12 thousand tons of nickel, 1500 tons of molybdenum, 800 tons of cobalt, 30 tons of mercury. About 1000 mg/kg of copper, 1000 mg/kg of iron and 10 mg/kg of nickel were also found in chemical waste. Heavy metals also enter the soil with mineral fertilizers. Currently, most countries are introducing technologies for the production of environmentally friendly products, since chemical reagents used in agriculture have a negative impact on the quality of grown products, are the main cause of various diseases in agriculture. soil and people die. Given such negative aspects, for the effective use of local fertilizers in the production of abundant and high-quality products from agricultural crops (manure compost, composting of various agricultural waste, manure rotation, etc.), it is advisable to use local fertilizers together with mineral fertilizers and the widespread use of vermicompost, as well as restore the links that restore soil fertility. From scientific research it is known that various plant and animal organisms live in soil of any composition. They participate in the creation of soil fertility, play a large role in improving the agrochemical, agrophysical, melioration and biological properties of the soil, increasing the efficiency of fertilizers applied to the land.

Due to the application of mineral fertilizers and pesticides under crops for many years, the activity of living organisms in the soil has significantly decreased, as a result, soil fertility has decreased, and the efficiency of the applied fertilizers has decreased. It should be noted that the economic and environmental efficiency of fertilizers is reduced by irrational storage, transportation and use, as well as by the abundance of ballast and toxic metal additives in the composition, while the properties of mineral fertilizers and other factors are important. To eliminate the problems that arise when using chemicals in agriculture: - First of all: it is necessary to abandon chemical methods of combating plant diseases and pests and switch to completely biological methods. - Second: it is necessary to refrain from any chemical agents that destroy the biosphere, purified from additional harmful chemicals, free of heavy metals and toxic elements that meet the needs of plants, i.e. self-preserving macro- and microelements, myostimulating and "flotation" methods should be used. is widely implemented in the production of fertilizers containing nitrification inhibitors and in the preparation of fertilizers. - Thirdly: the development of theoretical foundations and practical methods for the restoration and systematic improvement of soil fertility, on the basis of which the improvement of the ecology and fertility of soils is one of the urgent tasks of this period.

Soil fertility is important all over the world. Soil has always been affected by human activity, and this has changed its fertility to varying degrees. Fertility is the basis of plantations, forests, and all terrestrial arable land. Soils contain most of the energy and matter transformations in ecosystems. Because soil restoration takes a very long time and is a slow process, we consider it a non-renewable resource. It is vital to learn to value and preserve soil. Maintaining soil fertility and protecting it from constant degradation means preserving nature.