

GRADUATE MODEL

6B08102- Soil science and agrochemistry

УМЕТЬ:

- lay out a soil profile, describe the morphological features of the soil profile horizons and give the full name of the soil;
- correctly compose (write) a soil essay;
- to provide a qualitative assessment of the soils being surveyed;
- conduct a collection of soil and plant samples;
- conduct a chemical analysis of soils, plants and fertilizers;
- conduct an agrochemical survey of soils;
- create cartograms of soil nutrient supply;
- develop a scientifically based system of fertilizer application;
- determine the need for fertilizers, the most effective timing and methods, and the technology for applying and incorporating fertilizers;
- analyze the results of laboratory studies of soil properties and the chemical composition of plants.

KNOW AND UNDERSTAND:

- The structure and composition of the Earth, exogenous and endogenous processes, and the main stages of crustal evolution;
- The main minerals and types of parent materials that make up the solid phase of soils, their properties, and classification;
- The composition, properties, regimes, genesis, classification, and geography of soils;
- The chemical composition of plants; the characteristics of plant nutrition and methods for regulating it;
- Patterns of plant growth, development, and crop formation, and methods for regulating plant productivity;
- The properties, classification, timing, and methods of fertilizer application;
- The principles and methods of soil and agrochemical survey of agricultural land, soil fertility assessment, and the compilation of soil maps and agrochemical cartograms;
- The fundamentals and principles of agrochemical and soil analysis methods;
- Laws of agriculture, plant life factors, and regulation methods;
- Statistical methods for processing experimental data.

BE COMPETENT IN THE FOLLOWING ISSUES:

- land cadastre, soil appraisal, and agricultural classification of soils;
- soil fertility conservation, improvement, restoration, and management;
- crop nutrition regulation;
- rational application of fertilizers and ameliorants, taking into account the specific soil and climatic zones of the Republic of Kazakhstan;
- soil and agrochemical survey of agricultural lands.