

# HEAVY METAL CONTAMINATION OF GRAY FOREST SOIL IN OILSEED AGROCENOSSES USING MINERAL FERTILIZERS

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**Introduction.** Currently, with increasing anthropogenic loads near large industrial cities, soil pollution is observed by chemical elements amid a shortage of plant nutritional elements. The purpose of the research is to study the features of contamination of dark gray forest soils with heavy metals, and to establish the yield of oil cabbage crops as a result of the use of various levels of mineral nutrition in the conditions of the Non-black earth zone of Russia. Objects of study: variety of spring rapeseed - Ratnik, white mustard - Rhapsody, Sizaya mustard - Rushena.

**Materials and methods.** The research was carried out on dark gray forest soil of the experimental agro technological station of the Ryazan region. The sampling of heavy metals was carried out before the test. The determination of heavy metals was carried out by atomic absorption spectrometry using a semi-quantitative sinter-tral method on a spectrophotometer in the laboratory of the State Station of the Ryazan Agrochemical Service and the laboratories of the university.

**Results and discussion.** Studies of samples taken from the pilot site showed that there is a relatively unfavorable environmental situation with regard to soil contamination with heavy metals. For some metals, the soil is highly polluted. The highest yields, both for spring rapeseed (19.3 c/ha) and for sizaya mustard (13.7) and white (12.2), were noted in versions with the action of N<sub>90-120</sub>P<sub>60</sub>K<sub>60</sub>. Oiliness of spring rapeseed 42-45%, sizaya mustard 36.5%. Low oiliness was observed in white mustard (about 30%). The yield of rapeseed and mustard seeds from 1 hectare under the action of increased mineral fertilizer standards increases, compared to control, by 15-33.5%, which clearly proves the high responsiveness of these crops to additional nutrition.

**Conclusion.** It has been found that heavy metals do not accumulate in the stems and root system of plants, so rape, mustard and other cabbage from the contaminated zone using mineral fertilizers can be used for oil production and further processing.