

RESEARCH ON THE INFLUENCE OF SLAG FROM THE STEEL INDUSTRY ON MAIZE CULTIVATION

Petcu VALENTINA MIHAELA¹, Mihalache MIRCEA¹

e-mail: mihaelapetcu2505@yahoo.com

Abstract

The recovery of by-products from the steel industry, such as steel slag, in agricultural activities, has become increasingly important, as it contributes to reducing the accumulation of this waste in the surrounding environment, to increasing the production of agricultural crops, and it also contributes, due to its chemical properties, by increasing the pH values and the concentration of macroelements and microelements found in soil and in crop plants. The main chemical components contained in this waste, that are important for their use in agriculture, are CaO, MgO, SiO₂, FeO and MnO. The quantity of these components, in each type of slag, varies greatly depending on the raw materials used, the type of steel manufactured, the processing unit and other aspects. The research followed up on the effects resulted from the use of two types of steel slag that were applied in different doses (1 t/ha, 3t/ha and 5 t/ha) and of two calcareous amendments and their influence on the quality and quantity of maize cultivated in the experimental field at Moara Domnescă. The results showed an increase in maize production, an increase in biomass and also an increase in the concentration of macroelements and microelements found in maize grains.

Key words: liming materials, slags furnal, heavy metals, soil
