

THE INFLUENCE OF FERTILIZATION WITH BROWN COALS, WASTE ACTIVATED  
SLUDGES AND THEIR MIXTURES ON THE CONTENT OF CHROMIUM AND  
NICKEL IN SOIL MATERIALS AND ITALIAN RYEGRASS

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Summary

In years 1998–2000 the pot experiment was carried out. The aim of this investigation was to determine the influence of brown coal, waste activated sludge, their mixtures and farmyard manure on the content of Cr and Ni in soil material and in the dry mass of *Lolium multiflorum* Kroto variety. The pots were filled with loamy sand as soil material, brown coal which had low energetic value from Sieniawa and Konin mines, waste activated sludges were taken from mechanical-biological sewage purification plants located at Siedlce, Łuków and Drosed (poultry processing plant) and mixed farmyard manure. In each year of experiment four cuts were harvested. The total content of Cr and Ni in soil materials and in dry mass of grass after dry combustion of samples was determinate by ICP-AES method on spectrometer Optima 3200 RL manufactured by Perkins-Elmer. The highest content of Cr and Ni was determinate in soil materials from objects fertilized with waste activated sludge from Siedlce. The average content of Cr in dry mass of grass reached 5.15 mg/kg and Ni 3.05 mg/kg.