

METHODS OF TREATMENT OF SEWAGE SLUDGE AND THE EVALUATION OF THEIR RECOVERY AND VALORIZATION IN AGRICULTURE

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The present work illustrates the main results fields long-time experiments with sewage sludge used on agricultural land, in order to assess the influence of sewage sludge on willow, potatoes and on wheat crop productivity. The experiments were carried out in Covasna area, Covasna county, Romania. The sewage sludge was from “Covasna” wastewater treatment plant, Covasna County (non-fermented sewage sludge from the dewatering press). In all three cases, the usage of sewage sludge was beneficial, a positive increase was remarked. The results are as follows: a dose of 25 t/ha sewage sludge application provides highest wheat crop productivity, while Cd and Pb concentration levels in soil and wheat grain were under the maximum values allowed by the regulation; a dose of 25 t/ha sewage sludge used is ensuring the highest productivity level of potatoes and the entire crop requirement of nitrogen; and in the case of willow, a dose of 50 t/ha/month non-fermented sewage sludge used on land is ensuring an important energy willow crop productivity of about 84%. For the experiments, in order to identify the most suitable quantity concerning the used sewage sludge dose, soil chemical characterization was first realized. In conducting the experiments it was used a control crop and sludge-fertilized crop. To sum up, the usage of sewage sludge on crops (wheat, potatoes, willow) has a significant impact on productivity and is in according with the legal regulation.