

SUMMARY

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Investigation of the influence of selected organic additives on the properties of multi-component fertilizer granules

In the theoretical part of this thesis, a review and analysis of literature sources concerning the characteristics and classification of fertilizers, the characteristics of organic materials used in organic-mineral fertilizers, the production technology of granulated fertilizers were reviewed and the main goals of the work were discussed.

The production of fertilizer materials was carried out by the method of drum granulation in laboratory conditions and by the method of disc granulation on a semi-technical scale. As a result of granulation on a laboratory scale, three fertilizer formulas NPK 5-10-20, NPK 4-18-23 and NPK 3-10-12 and 60 fertilizer formulations modified with four different organic materials (Sieniawa lignite, Belchat6w lignite, peat and compost material), with five levels of their content (5%, 10%, 15%, 20%, 30%) were prepared. The effect of granulation on a semi-technical scale were two fertilizer formulas: NPK 5 10-20 and NPK 4-18-23, with three levels of Sieniawa lignite content (10%, 20%, 30%).

In the obtained materials, the granulometric composition, static and dynamic strength as well as the content of macro and micronutrients were analyzed. The properties of the produced fertilizing materials were verified in microbiological experiments and in pot experiments with the use of test plants.

Ściążko

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