

THE USE OF ^{32}P RADIOISOTOPE TECHNIQUES FOR INVESTIGATION OF SOIL FUNGI CAPACITIES TO DECOMPOSE INSOLUBLE COMPOUNDS OF PHOSPHORUS IN SOIL

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As a result of chemical reactions in the soil about 80 % of the brought phosphoric fertilizers transformed to insoluble compounds which become inaccessible to plants. The main part of soluble phosphorus binds by compounds of calcium, iron, aluminium. Thus in soil the pool of insoluble phosphates increase. On the other hand there is a problem of direct use of ore phosphorites (in the form of a phosphoritic flour) without their treatment in phosphoric fertilizers. It is known, that some soil microorganisms are capable to use for the feed phosphorus from phosphorites, releasing in the soil various organic acids. The objectives of the study were to isolate from cotton rhizosphere the soil fungi and to explore their capacity to decompose the insoluble compounds of phosphorus in soil. Rhizospheric soil samples were taken from the crops in field and taken to the laboratory to conduct a serial dilution procedure in specific medium culture to obtain pure strains. It was 83 strains were selected and investigated by the method with using phosphorus -32 in structure of insoluble three calcium phosphate- $\text{Ca}_3(\text{PO}_4)_2$ and only 11 strains have the highest characteristics of the capacity to decompose the insoluble compounds of phosphorus in soil. Preliminary greenhouse tests of treatment seeds before of sowing by spores of these strains have shown their positive influence on the germinating ability, growth and development of plants.