# Studii asupra fosforului total si a fosforului legat organic in sol

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Phosphorus (P) is an essential element classified as a macronutrient because of the relatively large amounts of P required by plants. One of the main roles of phosphorus in living organisms is in the transfer of energy. In soils phosphorus may exist in many different forms. The solution phosphorus contain the orthophosphate form, but small amounts of organic phosphorus may exist as well. The fixed form of phosphorus contains inorganic phosphate compounds that are very insoluble and organic compounds that are resistant to mineralization by microorganisms in the soil. Citrate ion forms complexes with many metals and it removes the metals from soil humic substances. This greatly increases the solubility and reactivity of the soil organic phosphorus compounds and leaves them susceptible to hydrolysis by enzymes. Our research is attempting to develop method to assess the potential bioavailability of organically bound soil phosphorus. The approach is to treat soils with and without citric acid and to measure the amount of orthophosphate. In these experiments, dry soil was incubated at 37oC for one hour in solutions containing citrate in a 0.1 molar sodium acetate buffer at pH 6. The concentration of orthophosphate was then determined by the molybdenum blue colorimetric method.The correlation between the total phosphorus, soil pH and presence of elements as calcium, magnesium, aluminum, iron were done.