

## SOIL PHOSPHORUS AND POTASSIUM SOLUBILIZATION IN AN EXPERIMENT WITH FIELD CROPS IN THE GREAT BRĂILA ISLAND

Adriana Iulia GRAFU<sup>1</sup>, Nicoleta MĂRIN<sup>1</sup>, Mihaela LUNGU<sup>1</sup>

e-mail iuliana.grafu@icpa.ro

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### Abstract

Along with nitrogen, phosphorus and potassium are the most important nutrition elements for plants; they are to be found in all their organs, are components of the needed substances for vital processes, and have important roles in many biochemical reactions. Accessible fractions for plant nutrition are but small fractions of the total phosphorus and potassium soil contents. The influence of soil reaction (pH), humus content, and total forms upon phosphorus and potassium solubilization in the ammonium acetate lactate solution at pH 3.7, down to a 50 cm soil depth, was studied in an agro-chemical experiment carried out in six farms of the Great Brăila Island, with seven field crops diversely fertilized with nitrogen, phosphorus, sulphur, and – for only one of the crops and in small quantities – potassium; phosphorus available contents for plants were also computed as in neutral – slightly alkaline soils as it is the case they are not the same with the contents analytically determined in the used extractant. Phosphorus and potassium solubilization degrees were very significantly influenced by soil reaction and in the case of potassium by the organic matter content too. Because of the neutral – slightly alkaline soil reaction phosphorus soluble in the ammonium acetate lactate solution and the one available for plants, found out by computing, were differently influenced. Effects registered under each crop were very significant for phosphorus and less for potassium following the diverse fertilization systems.

**Key words:** solubilization, phosphorus, potassium