# The use of MP-AES for determination of plant available P in soil by DL method and distribution of soils into P status classes by DL, AL and Mehlich 3 methods.

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Only small percentage of soil total phosphorus is easily exchangeable between solid and solution phase. Plants are able to assimilate P from environment only in the form of orthophosphate ions ($H_2PO_4$– and $HPO_4^2$–) from soil solution. Deficit of P in soil solution prevents plant normal growth and decreases yield quantity and quality. The excess of P in soil solution causes the pollution of environment and eutrophication of water bodies. Therefore it is important to give to the plant producers the correct fertilization recommendations.
Lot of analytical methods are developed for the determination of plant available P in soils. In the Baltic Sea region seven different soils' P analysis methods in use. Each method has its own gradation and often there is more than one gradation for the same method depending from agroecological conditions. For agricultural soils in Estonia there are soil P status gradations according to Mehlich 3, DL and AL methods.

Phosphate content in soil can be determined by molybdate method Vis-spectrometrically. Very often for analysis of soils' P content also ICP-OES, ICP-MS and also MP-AES instrumental methods are used
The aim of our work was to investigate the possibility of using MP-AES for determination of plant available P in soil by DL method and also to compare how the analysed soils are distributed to M3, AL and DL fertilizer requirement groups according to the P content.