

ESTIMATION OF MEASUREMENT UNCERTAINTY FOR POTASSIUM IN ORGANO-MINERAL FERTILIZERS

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Abstract

Along with nitrogen and phosphorus, potassium is one of the primary nutrients that provides significant yield increases when applied in amounts necessary for crop development. In order to avoid environmental pollution and to ensure the necessary content of this nutrient, it is important to know the amount of soluble potassium in the applied fertilizers. This article presents the evaluation of some parameters for estimation of measurement uncertainty for water-soluble potassium in organo-mineral fertilizers. Potassium was determined by flame-photometric method and the expanded uncertainty (U) of the method, obtained by multiplying the combined uncertainty by the coverage factor $k = 2$ (confidence level 95%) was 10.18%. The determinations were performed on a sample of organo-mineral fertilizer with a complex matrix and known composition in which the average of the determinations was 12.69% K_2O .

Key words: *measurement uncertainty, potassium, organo-mineral fertilizers, flame photometric method.*