

FERTILIZERS WITH HUMIC SUBSTANCES - DEVELOPMENT AND CHARACTERIZATION OF NEW PRODUCTS

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Abstract

Fertilizers with humic substances can be used on different types of soil, as well as in technologies for improving degraded or contaminated soils and they proved effective on a wide range of cultures. Due to the variety of sources from which they can be obtained, there are many types of fertilizers containing natural biostimulating substances. This paper presents the development of a range of complex NPK liquid fertilizers with humic substances, meso and micronutrients. The extraction processes, the humic substances separation, and the organo-mineral fertilizers technology were conducted regarding the physicochemical properties of the humic and fulvic acids in the alkaline/acidic reaction media, as well as their stability in the NPK, meso and micronutrients matrix. Two of the experimental fertilizers are physicochemically characterized and their agrochemical efficiency is shown by the results obtained in the National Fertilizers Testing Network. In the case of soil incorporation of the experimental fertilizers, the average yield increases, as compared to the unfertilized control, were ranging from 37.8% for sunflower crop to 42.3% for sugar beet crop.

Key words: humic substances, organic-mineral fertilizers, fertilization.
