PROTEIN HYDROLYSATES AND AMINO-ACIDS FERTILIZERS - PHYSICOCHEMICAL CHARACTERISTICS

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Abstract

The necessities of a sustainable agriculture require the use of fertilizing solutions and methods capable to respond to the needs of agricultural crops and to the requirements of the environment protection. In this regard, extra-radicular fertilizers and liquid fertilizers with application or incorporation into the soil respond to these priorities. In the past 20 years, the range of fertilizers has greatly diversified, currently being developed the compositions containing minerals together with natural or synthetic organic substances, with application to a wide range of crops. Organic substances added are intended to stimulate the activity of photosynthesis, absorption of nutrients, to provide a balanced nutrition, to combat nutritional deficiencies and reduce the effects of different stressors. The most frequently used organic substances are protein hydrolysates of plant or animal origin, and various amino-acids. Complex matrices resulted by including into NPK structures organic substances led to the development of new types of bio-fertilizers whose agrochemical effects were tested with positive effects on the nutrition of different crops in the conditions present in Romania. Through a careful selection of raw materials and technological processes, certain formulas of bio-fertilizers can be used in organic farming, where the imposed requirements are defined by European regulations and verified by certification bodies. In my own researches the concerns are directed towards producing these fertilizers and their testing in the vegetation/green house and in field. This paper shows the physical and chemical characteristics for some of the complex matrices with organic substances used in agriculture.

Key words: fertilizer, protein hydrolysate, ferric chlorosis