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## FERLENT® - A CONTROLLED RELEASE FERTILIZER PRODUCED FROM A POLYMERIC MATERIAL WITH AGRONOMIC BENEFITS

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### Abstract

The possibility to use release controlled fertilizers in the agriculture of the tropical countries is more important than in the agriculture of the countries of the cold regions. In this context, the purpose of this work is the characterization of an encapsulated commercial Fertilizer of Controlled Release named FERLENT®, which was covered with a polymeric material, obtained *in situ*, under controlled conditions, which allowed to corroborate the fairly well adjustment of the synthesis parameters for a succesful release of nutrients. It was characterized by Scanning Electron Microscopy (SEM), Thermogravimetric analysis (TGA), Nuclear Magnetic Resonance (NMR) and infrared spectroscopy (FTIR). The agronomic benefits of fertilizer were shown during the *in vivo* cultivation of tomatos using the method of transplantation from stakes. The fertilizer exhibited an ecological effect, acting as an alternative nutrition source for tomatos which achieved higher yields compared with traditional fertilization.

*Key words:* agriculture, controlled-release fertilizer, environment, polymer

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