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ABSTRACT

One of the major concerns of contemporary food security is the enormous amount of pesticides retained in foods and water consumed worldwide. Focused on this serious problem, a team of researchers from Brazil, Portugal and Argentina are achieving fantastic and very promising results, through a system and patented electroneutralizer method of pesticides contained in foods and water.

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System and Method to Electro-neutralize Agrochemicals from Food and Water

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I. ABSTRACT

One of the major concerns of contemporary food security is the enormous amount of pesticides retained in foods and water consumed worldwide. Focused on this serious problem, a team of researchers from Brazil, Portugal and Argentina are achieving fantastic and very promising results, through a system and patented electroneutralizer method of pesticides contained in foods and water.

Keywords: agrochemicals; electrolysis; electrons trap; food safety.

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II. INTRODUCTION

A postdoctoral research project title “Electroneutralizer System and Method to remove agrochemicals from food and water samples” [1] is being developed by the author Ph.D Charles A. Duvoisin at the University of Coimbra (UC) supervised by Ph.D. José Paulo de Souza in

partnership with the Federal University of São Paulo (UNIFESP), Brazil, supervised by Ph.D Rogério de Almeida Vieira with collaboration of Ph.D Diogo José Horst, and also supported by Ph.D. Dilmar Baretta and MSc. André Pscheidt from State University of Santa Catarina (UDESC), Brazil, in collaboration with Ph.D. Carlos Alberto Mourão Jr. from Federal University of Juiz de Fora (UFJF), Brazil, and also Ph.D. Mario A. Secchi from University Italian Institute of Rosario, Argentina, Dra. Sara Bernardes from Latin American Institute of Higher Education, Brazil, and MSc Juliano Froehner the Ambassador Chevening from the United Kingdom for the State of Santa Catarina from Brazil.

Nowadays many researchers have been providing interesting solutions to the serious problems imposed to the world population, however due to the difficulty of resources and also great bureaucracy and delay of governmental incentives is making difficult the evolution of important researches. The researchers from UC, UDESC and UNIFESP have been devoting themselves to further evolving this technology capable of electroneutralize foodstuffs as well as focusing on electroneutralize various other forms of contaminated products such as water, juices, meats, milks, processed foods, among others.

The great advantage of the innovative method presented is the technological ability to electroneutralize agro-pesticides in food and water samples, through electron trap effects, as preliminary results all the toxic gradients contained in both external and internal parts of foods are purified, without changing their

organoleptic properties in a quick, safe and with low operational cost process. So far all the results achieved are encouraging and promising, yet the researchers are still suffering from lack of monetary incentives and the scarcity of developers and investors for this important scientific development. The tests were carried out using a semi-industrial scale prototype, with clear capacity of viability on an industrial scale, as well as this technology could provide a new appliance capable of purifying food.

The technology proposed has internationalized intellectual property certified [1-2-3], and this innovation promises a great humanitarian benefit. The system and method has the capacity to purify food and ensure that this process fully electroneutralize the foods treated by this innovative apparatus and method, this project will certainly be of great benefit to world food security. When testing the agrochemical electroneutralization system and method [1], the researchers proved important features concerning the energizing capacity of foods and water samples [2-3] thus promising another interesting innovation in the matter of energy enrichment; however more studies should be carried out.

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