

Research about the potential use of agricultural waste and medicinal plants extracts to obtain bio-stimulants for plants, in term to increase the quality of agricultural crops

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Abstract

The idea developed in this project started several years ago when there have been extensive studies on the potential of obtaining bio fertilizers from waste plant mass after harvesting crops. Experimental products were obtained rich in nutrients, but unstable in terms of existing microorganisms. Therefore, they conducted further studies obtaining bio fungicide herb, so in all investigations undertaken so far in the laboratory, were able to conclude the following: vegetable material remaining after harvesting of crops is a resource rich in mineral nutrients, which can be obtained by bio degradation under the influence of microorganisms of the genus *Trichoderma* sp. and *Aspergillus* sp. Herbs (which are sometimes weeds in crops) are, on the other hand, a resource of antibiotics that can be used for combating diseases and pests of agricultural and horticultural crops, and, by the introduction of plant extracts with fungicidal effect obtained from herbs in bio fertilizers obtained by degradation of plant material post-harvest, we obtained various stimulants plant with nourishing and plant the crops and horticulture. In this project, we have two partners, Agricultural Research and Development Station of Braila and “Dunarea de Jos” University from Galati, Faculty of Engineering and Agriculture of Braila. By the partnership with the university, we seek design platform of bio degradation determine the most effective technology for these stimulants for plant and methods of the most economical in terms of energy for performing treatments in the field. By partnership with SCDA Braila, it is aimed at testing bio stimulants plant under

experimental conditions and production. The project coordinator has the ability to get bio stimulants for different categories of crops and facilitate to secure their markets - by implementing the project which will be both patented technology of bio-stimulants (platform for bio degradation) and biological products obtained. In the first stage, we made experiences in fields for three winter crops (wheat, barley and rape) and for three spring crops (corn, sunflower, soybean), with different doses of the bio-stimulants, and in two sub-experiences: with two and three applications.

Image

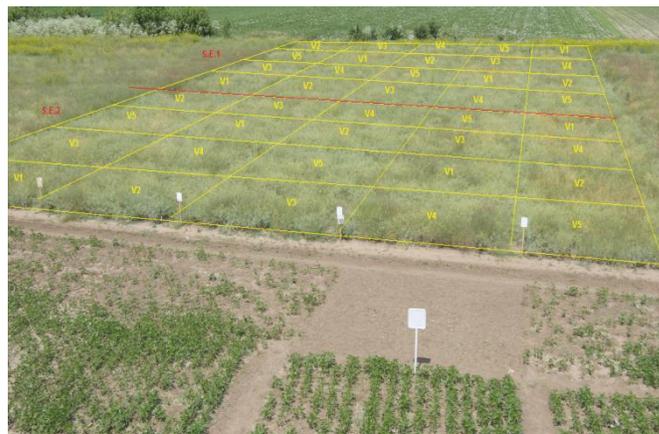


Image from the rape experience in field, takes by air drone

Recent Publications

1. Trifan D, Zeca D E (2017) The importance of association for smart, sustainable and inclusive development of rural area. Acta Universitatis Danubius: Oeconomica (13)1: 145-156.
2. Trifan D, Bularda M, Ispas R, Popescu N (2016) Establishing sowing density and optimal dosage of fertiliser for

- increasing production of winter wheat and barley, under climate change condition. Scientific Papers. Series A. Agronomy. Vol. LIX: 453-461.
3. Trifan D, Bularda M (2015) Studies regarding efficiency of biological fertilization with Algafix on winter rape and spring barley production Scientific Papers. Series A. Agronomy. Vol. LVIII: 340-343.
 4. Trifan D, Lungu E (2015) Studies on the influence of active substances from medicinal plants on some pathogen of wheat crops. Bulletin UASVM Agriculture. 72(2): 603-605.
 5. Trifan D, Bularda M (2015) The influence of biological fertilization (Algafix and Bactofil) on the corn and sunflower yields. International Journal of Geology, Agriculture and Environmental Sciences. 3(5): 65-69.
 6. TRIFAN Daniela, Marcel BULARDA, Ioan VIȘINESCU—Studies regarding dynamics of water and nutrients absorption in winter barley and wheat, Scientific Papers. Series A. Agronomy, Vol. LVII



Biography

Daniela Trifan has her expertise in agricultural and horticultural crops, and her passion is to improve the quality of crops by using the natural resources. She is PhD in Plant Breeding, and was Teacher in Agricultural Faculty, then was a Research Scientist for Plants Biology and Soil Sciences, but the most important activity is the plant nutrition and quality of crops, because she is Consultant for the farmers in an agricultural association with over 50 members. From 2016, she is Director of the project: “Research on obtaining vegetal bio-stimulants from agricultural post-harvest waste and medicinal plants, to increase the quality of agricultural and horticultural products - PN-III-P2-2.1-PTE-2016-0073”. The main objective is to design and build a bio-degradation platform for a technology to obtain specific recipes of plants bio-stimulants from post-harvest agricultural waste and medicinal plants extracts, followed by testing and obtaining a certification of technology and bio-stimulants produced.

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