

Abstract of habilitation thesis

Contributions to the study of Solanaceum vegetable of fruits in organic system

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Abstract

Scientific activity, professional and teaching held later conferring the doctorate in the field of horticulture in 2008. It comes to prove the constant concern and relevance of interdisciplinary research in horticulture, vegetable growing and ecology majors.

The thesis of habilitation is the result of inter and trans-disciplinary research that focus on fundamental specialized research, in an area of maximum importance, such as the applied life sciences. Thus, because of the activities made in recent years I have managed to create a synergy between research and teaching, which has focused on the following specific objectives:

- Assessing the conversion potential of vegetable production in the NE area of Romania;
- Studying an assortment of vegetables used in setting up and establishing an ecological suitability criterion of resistance to pathogens and pests;
- Assessing the influence of inputs for organic crop fertilization and contamination of the products obtained;
- Evaluating the influence of methods and measures to pathogens and pests control of *Solanaceum* fruits under organic cultivation;
- The dynamics of contaminants in soil and vegetable products in the field and protected areas;
- Measuring attitudes and consumer preference towards organic vs conventional vegetables.

The studies carried out in recent years have not been described in specialized literature, the results being useful for both the academic and economic fields, which make a major contribution to the adaptation of vegetable crops in the agro-ecosystem and sustainable development now becoming a global problem.

In this area, as director or scientific responsible, I have coordinated two national projects and one international project and have participated as a member of the research team in many other national and international ones.

Scientifically, I have exercised a sustained activity, which resulted in the emergence of seven articles in ISI journals with impact factor, an article in ISI without an impact factor, four ISI Proceedings, 99 articles/studies published in specialized journals of international databases indexed sustained in national and international conferences as well as sessions.

During the period 2008 – 2015, I participated as researcher or principal investigator (scientific responsible), in the research teams of seven research project types CEEEX, PN II, etc. financed by UEFISCDI, one sectorial grant financed by MAPDR, two projects funded by Phare and POC-MIS by CBC, two projects funded by the Leader Axis in training specialists in organic agriculture and a project with an economic agent (Microspore Italy).

Regarding the project funded by POC-MIS/CBC, I acted as Project Director and in the other two projects coordinated by USAMV program CEEEX and PN II I acted as Scientific responsible. In a project financed with private funds from Microspore Italy, I was the one who managed it.

My professional experience was enhanced with the widespread participation in trainings / national and international collaborations, including post-academic courses in the field of organic crops and the inspection and certification of organic products.

Some of the research undertaken was facilitated by transferring the knowledge to socio-economic fields, through two projects Phare-CBC for organic crops and a patent by participation at the Inventions fair in Iasi.

In 2010, as part of a team with colleagues from the Al.I.Cuza University and Gh. Asachi Polytechnic University from Iași received a diploma and silver medal for - *Experimental installation for the study of specification, migration and inter-phase distribution Processes of heavy metals in soil*, EUROINVENT 2010.

Plans for scientific development in the field of vegetable cultivation in ecological systems are moving towards the same themes above, basing it on the latest research on Solanaceae fruits, an increase in the content of nutrients and a decrease of contaminants (pesticides, hormones and heavy metals).

Future research will address interdisciplinary in vegetable growing field, physiological and biochemical protection but will focus on the influence of technological measures applied in the context to increase the content of active compounds.

Regarding the teaching activity, I carried out a sustained activity which resulted in the appearance of 13 books, teaching courses and practical guides, including seven as a single author or first author as well as two brochures.

As a teaching activity I was constantly working on renewed collections of plants, teaching materials and organization of experimental fields and collection of plants are necessary for optimal conditions of teaching and research in order to adequately prepare students.

I actively participated in organizing the following fields of experiences is necessary for optimal use of research and teaching to prepare students: S.D. Iași - Adamachi Farm (2008-2015, Vegetable Research Station from Bacau (2008-2011), family farms (Tg. Frumos, Roman, Matca and Andrieșeni) etc.

As a grant responsible or member from a different research team I improved the material for the disciplines, such as: Vegetable growing, Organic Vegetable Crops and Vegetable Plant Breeding and Seedling Vegetable Production by purchasing specific equipment and software, which are now at the highest level from the university.

Since universities are a fundamental link that integrates research and education, with a decisive role in disseminating knowledge on a social and economic level, aimed at involving teaching and academics, I consider sustainable development; by developing research involving forms and methods of study, whose foundation is to ensure a balance between the natural potential of plant and its socio-economic systems.

According to current estimates and contracts signed, this will be possible through the publication of books and papers on the research of vegetable plants, aiming to appear in Springer Publishing House and Infotech (chapter book that is as appearance).

In the last year I have been trying to publish my studies in journals with an impact factor, considering that these publications are those which give visibility, impact and international prestige, those involved in education and research and as a confirmation of this.

At present, I am member in the Editorial Board at two journals indexed International Database and one recognized by CNCSIS respectively, Bioterra magazine.

Research is a must for a modern education system. I do not think we can talk about international prestige of a university without research. Considering the modest results obtained (after conferring the title of doctor of science), proven through contemporary, I think that I can continue this research, and the results will be the creation of models for specific plant cultivation in a diverse ecological system of enforcement thereof.

Development of a strategy formulation of my future career is defined by the strategic mission of the university (it can deduce such strategic objectives needed to be achieved), choosing the right strategy objectives and ways to fully achieve my duties. This will be addressed so as to contribute to the visibility of research and exploitation of knowledge in order to prepare an educational study closely linked to the needs and motivations of learners.

I wish that the transfer of knowledge to be flexible enough to meet several objectives. When it comes to selecting content, I hope to be able to adapt with maximum accuracy specific teaching needs. I am aware that the purpose of teaching / learning is to arm the learner with a set of knowledge and skills in order to get them to meet their needs and communicative, providing support for diversity and social cohesion and sustainable development, opening for compliance values and the personal lives of others.