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**FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION**  
**DEPARTMENT OF MANAGEMENT**

# **PH.D. THESIS**

## **SUMMARY**

**Contributions to the Improvement of Production Processes**  
**Management of Organic Food**

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## 2. KEY WORDS:

ecological agriculture, organic food product, ecological management, food safety, organic product labelling, genetically modified products, food additives, organic food production, comparative analyses.

## 3. INTRODUCTION

Social progress brings on changes that happen in all areas of activity and assume new qualitative dimensions. These essential requirements are mainly met by nature. Taking into consideration man's demands, nature has always been and still is less generous due both to numerical growth and to the emancipation of the human population. After a short-term analysis, at a human scale, nature's aim is to conserve, maintain and restore the expressions of life, under continuous interaction with the abiotic nature. Such a process nature does not resonate well with the ideals of man, who aim at eternal movement, followed by moral refinement. Nature, during the short life span of individuals of every species, seems to be motionless, conservative, limited, combating deterioration and anthropization. Under these circumstances, man had to produce for himself part of his food and the materials necessary for constructions and clothes through a series of activities which fostered productivity for the main natural agricultural components: soil, climatic factors, plants and animals.

Regarded as human activity, agriculture is closely related to nature. As a result of the growing need for food and of the chase after profit, agriculture has increasingly estranged from nature, simultaneously with the development of human creations – mechanisation, chemicalisation, irrigation and now genetic engineering.

In this context, nature's sufferings increase in number and emphasis and will sooner or later recoil on man as a result of the intensification of the destructive phenomena – floods, landslides, snow slides, soil natural fertility decline, desertification, pollution etc, and as a result of the explosion of diseases affecting plants, animal and human immunity system in all its components. Productivity growth in agriculture enabled the reduction of the number of workers but it determined a significant increase of energy inputs (fuel for agricultural machines, ensuring the operation of the irrigation systems, industrial production of pesticides and chemical fertilisers, electricity for animal feeding and rearing automatic systems). But the most undesired effects resulted from the use of chemical treatments applied on a large scale to various types of crops.

**The reasoning** behind this paper is directed at least towards the following issues: people's interest in the research topic at international level, the dynamics and complexity of the scientific

background covered, the research directions which generated multiple debates and still have not led to a unanimously-accepted consensus on all levels, as well as, in an equal measure, the attached economic implications, that is the more and more importance attached by unit managers who work in ecological agriculture.

**The role** of ecological agriculture is to produce fresher food, more appropriate to human metabolism, yet completely correlated with the preservation and development of the environment, with respect for nature and its laws. One of the main aims of ecological agriculture is the production of tasty food products, with an authentic and attractive texture and qualities. These food products are obtained during the farm production stage by strict interdiction of genetically modified organisms (GMOs and their derivatives) and by drastic restrictions on the use of synthetic fertilisers and pesticides, growth stimulators and regulators, hormones, antibiotics and animal intensive growth systems.

The relationship AGRICULTURE - NUTRITION - HEALTH is more and more obvious, because most of “modern civilisation diseases” are attributed to a qualitatively inadequate nutrition, to the excessive usage of chemicalisation as part of the intensive technologies and therefore the “organic” products market is increasingly sought after and appreciated.

It is widely recognised, mainly by economic analysts and decision-makers that entrepreneurship is a social generator of wealth, a decisive factor in achieving economic growth and creating jobs. Ecological agriculture is highly important for long-term economic growth and plays a major role in improving environmental condition. This type of agriculture may have a fundamental contribution to rural development, making it viable through the expansion of economic activities of high added-value and through the generation of jobs. Our country may exploit the advantage of our less polluted soil by activating a motor of economy – ecological agriculture. Supporting entrepreneurship in the field of ecological agriculture may be the solution to reviving national agriculture and mitigating the risk of falling into poverty. Given that 45% of the population of Romania lives in the rural area, fostering the formation or development of a business in this field must become a priority.

In conclusion, ecological culture appears today as a modern practice, with results based on scientific data creating a new thinking on life, labour and agriculture, of increased efficiency, being able to provide products which meet consumers’ strict requirements.

#### 4. RESEARCH OBJECTIVES and WORKING HYPOTHESES

In keeping with the importance of the research topic, we would like to mention that the **general objective** of the scientific endeavour is represented by the identification of those factors which contribute to the improvement of production processes management of organic food products and of best practices in the area, in order to generate a high economic efficiency and effectiveness. For this purpose, we would like to determine the existence of some connections and associations between customer orientation and the economic and financial results, management practices and activity efficiency, all these with the intention to establish the level of improvement of the production processes management of organic food products.

**Specific objectives** derive from the general objective and may be summarised as follows:

- presentation of theoretical aspects regarding the concept of ecological agriculture by reference to the expert studies in the area;
- development of the concept of ecological agriculture and the creation of some sustainable, diversified and balanced agricultural systems, which would ensure the protection of natural resources and the consumers' health and life;
- integrating ecological agriculture into economy, as a motor of sustainable development of the rural environment;
- analysis of ecological agriculture at national and international level;
- identification of the strategies pursued by the units that operate in the area of ecological agriculture and of the policies they practise so as to achieve the general objective;
- integrated approach of agricultural and environmental policies, as well as the correlation of those actions specific to ecological agriculture management at national and local level;
- definition of the organic food product and presentation of its main characteristics;
- analysis of food safety offered to the customer by the organic product as compared with the similar product obtained from conventional agriculture;
- identification of the characteristics of production processes of organic food products;
- analysis of the economic efficiency of organic production systems based on comparative studies on the economic efficiency of conventional products versus organic products;
- identification of the connections between customer orientation and the economic and financial results in order to improve organic food processing management – profile identification of the consumer of organic food products;

- identification of the diversification dimension of organic food products through the case-analysis of producers and processors of organic food products (on the particular case of Suceava County);

In this context, the main hypotheses of this paper which will subsequently need to be proven may be summarised as follows:

- **Hypothesis 1:** ecological agriculture may remain close to its principles and objectives so as to address the food requirements of the population, combining environmental best practices, a high level of biodiversity, conservation of natural resources and the high production standards based on natural substances and processes;
- **Hypothesis 2:** by boosting consumer confidence in organic products, we may quantitatively and qualitatively improve ecological agriculture in Romania;
- **Hypothesis 3:** ecological agriculture is economically viable, it addresses the exigency of the demand for healthy and high-quality produce, it is an agriculture that guarantees the long-term protection and improvement of natural resources and hands them over unaltered to the future generations.

## 5. RESEARCH METHODOLOGY

In order to reach the objectives proposed, we used as bibliographical and information sources:

- specialised books published in Romania and abroad by nationally and internationally famous authors;
- articles published in national and international data bases;
- periodicals of some Romanian institutions: Official Gazette and IFOAM, FiBL, MADR data.

The data collected was analysed, using various processing methods so as to capture the progress of the phenomena and to draw correct conclusions. The economic indicators used highlighted the progress registered in the growth of production and economic efficiency and the relation between the effort deployed and the result obtained.

The research methods used in this paper are the following:

1. *Documentation*, mainly theoretical documentation, by analysing specialised literature, thus studying many books, national and international articles.
2. *Statistical methods*, such as classification, synthesis, graphic representation of the events and phenomena investigated.

3. *Interdisciplinary research methods* based on knowledge from the other fields, such as technology, statistics, mathematics, informatics, law.

4. *Comparative analysis*, used in comparing the indicators specific to organic and conventional farming.

The empirical study presented in this doctoral thesis is a deductive research firstly based on dealing with the current theory and determining the way in which theoretical aspects may be put into practice in the agricultural environment from Romania. Therefore, we have collected information starting from two samples, based on a series of standard questions.

The two methods used to obtain information were the quantitative method and the qualitative method respectively. In order to reach the objectives set out and to test the hypotheses mentioned above, we applied the survey as the data collection method, while the tool employed was the questionnaire.

Using the research objectives as a point of departure and based on the specialised literature study, we have built two questionnaires: the first in order to determine the attitudes and demands of the consumer of organic products and thus to build the profile of the consumer of organic products, and the second to analyse the situation of the producers and processors of organic food products (with the particular case of Suceava County) in order to identify the problems they are facing.

The studies regarding the attitude and demands of the consumers of organic food products and the study regarding the identification of the problems that the organic sector operators have to face have been carried out at the level of some rather large survey samples, so that the answers could represent average values as closer to the absolute average as possible (theoretical average, at the level of the entire population for which the study is performed). The survey sample for the first study comprised 318 respondents eager for organic food products. The interview was performed directly, based on “face to face” model. A standard questionnaire was built, with 20 questions, of which 10 referring to the respondents’ socio-professional group and 10 questions to reveal consumers’ attitude and preferences. The study of consumers’ attitude and preferences was performed in the North-Eastern region (counties: Suceava, Iași) during the period November 2013 - March 2014, in the supermarket chains which sell organic foodstuff: Metro, SellGros, Carrefour and Real. In my endeavour, I received the help of the markets’ representatives who distributed the questionnaires at the stands selling organic foodstuff.

In what concerns the questionnaire preparation activity, we can summarise the following structure of the questionnaire:

**I.** Questions which group the respondents according to sex, age, average income, number of family children, number of family members, rural or urban domicile, and so on and which define the profile of the consumer of organic products.

**II.** Questions which characterise the consumer's attitude towards organic food products and refer especially to the level of information on this type of product.

In what concerns the study on the situation of the producers and processors of organic food products from Suceava County, we administered a questionnaire that comprises 15 closed questions. The questionnaire was presented to a number of 115 operators. Questionnaires were administered to the producers in 2014, referring to the situation from 2013, in the period August – November 2014. Filling in the questionnaires was performed as follows: for the big producers we contacted a legal representative at the company headquarters, as for the small and individual producers, we used the “face-to-face” method, with the help of small farmers' meetings at the mayor's office headquarters to which they belong, when signing the necessary documentation to receive the state subsidies. It is worth mentioning that the individual producers who took part in this survey lived from livestock rearing for milk and from apiculture.

The second method used in this research is represented by the **qualitative method**. Research results are qualitative: ideas, perceptions, feelings, associated values, reasons, preferences, suggestions, with the purpose to clear the nature of a problem and to provide qualitative information. In this research we used the structured interview (based on a guide comprising all the questions that shall be asked during the interview) and the semi-structured interview (the guide comprises the most important questions and some continuation possibilities according to the interviewee's answers) because it represents the most common and also the most valuable qualitative method of market research.

In order to analyse and interpret the collected data, we turned to Microsoft Excel, with which we structured and organised the information collected “in the field” using the questionnaires. Except for the questions regarding the number of family members and the number of dependent family members respectively (from the first questionnaire) all the other questions are closed questions, the respondent being able to choose only one answer through which he could express his agreement with that statement. A number of questions from the first questionnaire have been constructed so as the answer could be quantified using the Likert scale with five alternative answers. The Likert scale is among the most widely used methods to measure customer satisfaction with company products.

## **6. RESULTS OF EMPIRICAL RESEARCH**

Experimental research aimed at identifying the factors that may contribute to improving the production processes management of organic food products and the best practices in the field, with the purpose of achieving high economic efficiency and effectiveness.

Regarding the research hypotheses, we may admit that they are largely verified using the following observations:

Organic products are more expensive than classical ones because more work is needed to obtain them, production is smaller, while certification is costly. Prices vary according to the degree of difficulty in obtaining a certain organic variety. Therefore, in case of organic honey the price is 20% higher than the price of classical honey, while the price of a kilogram of organic potatoes is 100% higher than that of a kilogram of non-organic potatoes.

The main weak point of organic food industry is currently represented by the processing, packaging and trading of such products. This weakness of such industry is mainly determined by the high cost of the industrial and packaging equipment corresponding to organic agriculture standards. Thus in Romania, the problem of shortage of processors focused on this field of activity is very acute at the moment. Unfortunately, we export large quantities of organic raw materials which we subsequently import as end products.

Livestock rearing, a very important field of agriculture could soon become a huge national wealth. For that purpose, strategic programs, with an imperative need for financial support, must ensure not only the growth in the number of animals, but also the productivity per animal, the quality of production and economic efficiency, as a result of obtaining and exploiting animal products.

In order to obtain high-quality, unpolluted and healthful animal products, together with ensuring the preservation of organic balance, beneficial to human and animal health, it is necessary to improve the professional knowledge of all categories of breeders. Through the development solutions of livestock housing and their provision with milking, watering and manure evacuation facilities, we shall reduce physical effort, increase labour productivity and profitability of family farms.

In line with the European Union farming structure, in Romania too it will be necessary that most of the livestock production intended for consumer market be produced in family zootechnical farms. This type of farm cannot appear and cannot develop on its own, but through a stimulated, supported and managed process. If the public administration could contribute to the emergence of family zootechnical farms, using the legal and economic instruments at hand, then the universities may contribute to their development through *extension programs*.

Organic production methods certification becomes more and more important in international trade, offering thus the guarantee that the products were really produced in accordance with organic production standards. We did not register major problems with the certification process, but unfortunately for the subsistence farming, registering small production overloads intended for trade, these certification costs may be inhibiting. On the other hand, costs may be considerably reduced by

implementing group certification, harmonising certification procedures among various organisations from different countries.

Moreover, very small farms are not viable from an economic and ecological point of view. Adopting organic production techniques may be limited by the lack of know-how, as well as by the lack of training and other facilitations. Farmers must be sure that they will be the ones benefiting from the investment, for example by improving soil fertility.

The difficulty encountered in accessing loans is another factor intended to block initiatives and the implementation of conversion projects, financial issues being more acute, especially in this last period of 2-3 years, when products cannot be sold as organic. Organic farming is in line with the general patterns of Romanian farming: very small area, low performance, which actually reveals its subsistence nature. Therefore, 75% of farms cover a total area that is inappropriate to carrying out an efficient economic activity, owning less than 10 ha of arable land, while 90% of the farms own less than 20 ha.

Another drawback is represented by the restricted dimension of markets, mainly centred in the European Union, United States of America, Canada and Japan, making it more difficult for farmers to access marketing information and markets themselves. Moreover, special labels may predominate over some markets, demanding higher standards or slightly different from ordinary standards.

The main shortcomings of this type of agriculture are those related to product sale, financial resources, lack of information and business partners, meaning that kind of shortcomings that denote the lack of organisation in this sector.

Starting from the general objective and the objectives specific to experimental research, the analysis conducted based on the survey administered on the two representative samples (consumers of organic food products, that is organic farming operators) allowed us to make a series of **proposals for improving organic agriculture management** in order to increase the efficiency and effectiveness of specific activities. They can be summarised as follows:

- improving the information on organic farming, by organising training courses for trainers, operators and inspectors, by involving the National Agency for Agricultural Consultancy, organic agriculture associations and agricultural universities of higher education;
- enhancing the promotion of the concept of organic agriculture, through specialised institutions, in order to increase cultivated lands based on organic method of production;
- adding the organic technologies for plants and animals to the research topic, so as to make them available to those producers who want to practise organic agriculture;

In order to promote the development of organic agriculture in our country, we draw from the developed countries' experience *the following measures that could be adopted*:

- setting up a system of payments-grants for products on the producer-consumer route. At European level, a big part of the growth registered in organic agriculture is due to the introduction of grants;

- granting low-interest loans;
- directing more important funds towards research in the field;
- promoting organic products in the big market chains;
- concerning exports, we must promptly exploit market niches;
- it is necessary to have a more detailed information system of consumers, using marketing-specific methods, through label texts, as well as prices regulation and upgrading to increase domestic consumption.

- it is necessary to coordinate and develop producer and consumer organisations, and grants in order to foster this activity;

- it is necessary to build some national and regional plans of action in order to develop organic agriculture. Farmers need bigger and equal (or almost equal) grants for cultures and regions, to those granted at European level,

- the manufacturing process needs bigger financing and research. The Romanian export structure is mainly represented by raw materials;

- encouraging the forms of direct marketing with delivering products directly at the farm's entrance gate, promoting among the farmers the practise of organic agriculture;

- encouraging farmers to organise in associations;

- offering consultancy in marketing/ distribution mainly by the public authorities, such as the Agriculture Unions whose activity in this field is so little indicated by farmers;

- involving governmental /non-governmental organisations in stimulating consumption as part of some public institutions such as hospitals, schools, kindergartens;

- informing the consumers on the positive effects of the consumption of this type of food on health and on the environment as well;

## 7. RESEARCH CONCLUSIONS AND CONTRIBUTIONS

The main purpose of this paper is **to make consumers aware** of their care for the environment, for a healthy nutrition and also of their responsibility to leave future generations a legacy of positive examples for leading a beautiful life. The paper also covers the economic part precisely in order to exclude the main consideration that "it is expensive to lead a healthy lifestyle". Positive results can be encountered with the consumer who, by choosing healthy foodstuffs makes a long-term "investment", thus reducing future expenses in health recovery (chapter 4.5.3 supports this idea by analysing a number of foodstuffs containing additives which can be found in most food products constituting the common food stack) as well as with the producer, who may run his business towards success by benefiting from the higher price advantage for organic food products.

Ecological awareness defines and helps at understanding the sources of unbalance between man and nature, which must be searched in the way in which we see and relate nature with religion, culture, science, technology and progress. Due to the fact that culture is man's own creation, nobody except him can be responsible for its alienation. The effects of a consumer society are more influenced by politics and economy than by science, technology and religion. Political decisions and economic crises may influence in a negative way the well being of humanity, contributing to increasing the environmental issue.

### **Theoretical and Methodological Contributions:**

The main contributions to increasing knowledge in the area of organic food products are both conceptual and practical, and are summarised as follows:

1. Drawing up a consistent desk-based study based on recent information gathered from specialised literature and other sources, on a series of up-to-date results of scientific research regarding the complex issue of organic production, trade and consume of organic food products. Organic agriculture is presented as a form of sustainable form of development of agriculture, with emphasis on education in the field of nature conservation.
2. In order to adopt management policies and strategies for the development of organic agriculture in Romania, we considered necessary to analyse the tendencies for the development of this type of agriculture at European level. We have identified an increased share of organic agriculture reflected in the main indicators analysed, due to some modifications in the consumers' nutritional behaviour generated by the awareness of the benefits of healthy eating.
3. Based on an analysis of the organic food product from specialised literature, we have identified the characteristics of the supply and demand of organic foodstuffs. In what concerns the organic

companies, producing organic products represents an essential field of operation. Within this framework, the decisions on innovation (developing new products) or variation (modifying products) seem appropriate and constitute the basis of the organic product policy.

4. A very important aspect for the consumers is the communication policy in what concerns organic products. If a consumer does not know the difference between two foodstuffs, he will then choose the most price-affordable product. This can lead to the emergence of counterfeit products and does not give an advantage to the development of the production system of organic food products. People have a broader picture of “organic”, but they are not familiarized with the more specific aspects of organic agriculture, of their processing and of the certification system.

### **Practical Contributions:**

The study and synthesis of specialized literature have contributed to the validation of the empirical analysis, used to check the hypotheses built.

1. A first practical contribution of this paper is the comparative analysis of the economic efficiency of conventional and organic products, a detailed analysis as part of subchapters 6.5.1, 6.5.2 and 6.5.3 for the following products: cereals, tomatoes and wine. In order to increase economic efficiency of organic agriculture, each and every farm has to make an effort to capitalize all products and organizational structures, and also to faster increase the profitability of every sold product until reaching the level of competitiveness required by the competitive market. The third hypothesis of this topic is thus certified, according to which organic agriculture is economically viable, it responds to the exigency of healthy and high-quality food demand and is an agriculture which guarantees the long-term protection and improvement of natural resources and passes them over unaltered to the future generations.
2. In order to come up with management strategies and policies to develop organic agriculture, we carried out two surveys to identify the profile of the buyer of organic food products, which must be taken into consideration by the operators working in this field, as well as the main impediments that organic food operators and processors have to face, identifying the steps which they have to take in order to receive state funds for financing their business – aspect detailed in chapter 7. The main barriers to this type of agriculture are connected to product sale, financial resources, lack of information and business partners, the kind of impediments that denote the lack of organisation in this field. It is worth mentioning that the second hypothesis from this paper – laying down that enhancing consumer confidence in organic products may result in a qualitative and quantitative

improvement of organic agriculture in Romania is partially proven precisely because of the limitation of our research to the south-eastern part of Romania.

3. Becoming aware of the use of a real chance for national economy, that is organic farming. Organic farming is a real chance for rural economies, contributing to their sustainable development by improving employment in the agricultural sector, in processing and related services, being beneficial to the process of economic and social cohesion in rural communities – this proves the first hypothesis advanced in this Ph.D. thesis. Due to the economic, structural and social background, Romania has a major potential for organic agriculture, perhaps the greatest from the European Union. We may admit that this potential is huge and the global setting is extremely favourable for the development of organic agriculture. In certain regions, the shortcomings of the Romanian agricultural sector (poor chemicalisation, uncultivated lands and large number of family subsistence farms) may turn a competitive disadvantage into an advantage.

### **Limits of Research and Topic Development Approaches**

This Ph.D. thesis is a pioneer in our country and we are aware that under these circumstances errors are inevitable.

Just like all scientific papers, this one too may suffer modifications and improvements as a result of future research.

The research based on the questionnaire and the interview are subjective to a certain degree, taking into account the features of agricultural management and the possibility to gather relevant information, in our case this combination of research methods being the most appropriate.

The case studies conducted may become through their consistency an important reference point for other operators who were not part of the sample under study.

The main limitations affecting the results of the research are the following:

- *The low level of notoriety of the organic food product:*

“Organic” does not mean “natural”. Food industry uses the word “natural” to indicate that a foodstuff was processed to a minimum extent and that no preservatives were added. Natural foodstuff may include organic food products, but not all natural foodstuffs are organic. Consumers persist in not distinguishing organic products and in confusing “organic” products and “natural” products. We must take into account the promotion of the logo specific to organic agriculture and the creation of a consumer culture in this special field, beyond the spectacular but less nutritional aspect of “conventional” products.

- *The difficulties encountered in collecting responses:*

Many consumers refused to take part in the study due to a lack of an appropriate food culture or invoking the lack of time.

- *The current pioneer stage of Romanian organic agriculture:*

Organic agriculture is certainly at an early stage of development in our country, if we consider the number of farms involved and the cultivated lands. Organic farming falls under the general pattern of the Romanian agricultural farm: small area, low performance, indicating its subsistence nature.

### **Research Perspectives:**

The future directions of research automatically begin from the limitations indicated above. Improving the sampling method would increase the scientific value of the thesis. Due to the high degree of own consumption and probably the consumption of uncertified organic products in the rural areas, we continue to insist on the analysis of the urban population.

This thesis may be dealt with more in depth with more success in the future, and our suggestions aim at the following aspects:

- the study was conducted among the operators who run their businesses in the south-eastern part of Romania. For this reason, we consider appropriate to extend the geographical area included in the study at national level so as to determine the degree to which results are confirmed and to cooperate with other international studies in the field so as to compare the results obtained.

- supporting entrepreneurship in the field of organic agriculture may represent a solution to relaunch national agriculture and mitigate the risk of falling into poverty. In the context of the fact that 45% of the Romanian population lives in the rural area, encouraging people to set up or develop a business in this field of activity must become a priority.

Passing in review this series of conclusions and considerations in favour of organic agriculture is not aimed at launching new revolutionary concepts in agriculture or at considering this kind of activity as an alternative for conventional agriculture. It is obvious that these systems may cohabit, as it happens in the other countries as well. But becoming aware of the fact that this type of agriculture is of vital necessity, adapted to our conditions should represent a logical keystone calling for concrete actions for the development of a legal, institutional and technological framework that could enable people to walk towards a better life, which everyone of us deserves. I considered necessary to deal with this topic of study because of the increasing tendency or preoccupation to assimilate ecological education and also because there is still a big gap between the recommendations, resolutions and studies conducted at international or national level and educational practice.

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