

**ORGANIC FARMING - DEFINITION, PRINCIPLES, DATA AND REALITIES**

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***Abstract:** Organic farming aims to produce clean food with the help of practices sustain the mission of preserving and developing the environment. By means of organic agriculture it is desired the sustainable development of the agriculture, the increase of the economic activities but also the increase of the interest towards the development of the rural area by capitalizing the valid natural resources. The conversion to organic farming represents a solution to global environmental problems, such as global warming, acid rainfall, biodiversity reduction and desertification.*

*The main interest of this scientific paper we propose to be the definition, principles, data and realities of the organic farming, focusing of definition, principles and rules of organic farming, the status of organic farming in the world and in Romania.*

***Key words:** organic farming, definition, principles, realities*

**INTRODUCTION**

Organic farming is gaining an increasing importance and is constantly expanding. This development is supported by the growing consumer demands for organic agricultural products, which are becoming more aware and interested in ensuring health through the consumption of products, to which are added also the society's demands for sustainable agricultural development, as well as the multitude of favorable effects, at the level of agricultural farm and environment. [2,3,4,7]



**Figure 1. Organic farming - what represents**

*Source: own processing*

Organic farming represents a new approach of the agricultural production system, which emphasizes the quality of the products and their nutritional value, without affecting the production process from the environment. It is also called "organic farming" or "bio farming" and is an agricultural system whose objective is to produce the highest quality food, according to human metabolism and in full correlation with the conservation and development of the environment. The term first appeared in the twentieth century, when there were numerous movements against chemicals used in traditional agriculture, but also for the need to consume healthier products. [1,11,12,18]

In organic farming, plant cultivation, animal husbandry and food production are achieved through the use of technologies that respect the environment and the natural life cycle of ecosystems.

Organic farming is fundamentally different from conventional agriculture, with drastic restrictions on the use of synthetic fertilizers and pesticides, growth stimulators and regulators, hormones, antibiotics and intensive animal husbandry systems, and also by strictly banning genetically modified organisms (GMOs) and their derivatives.

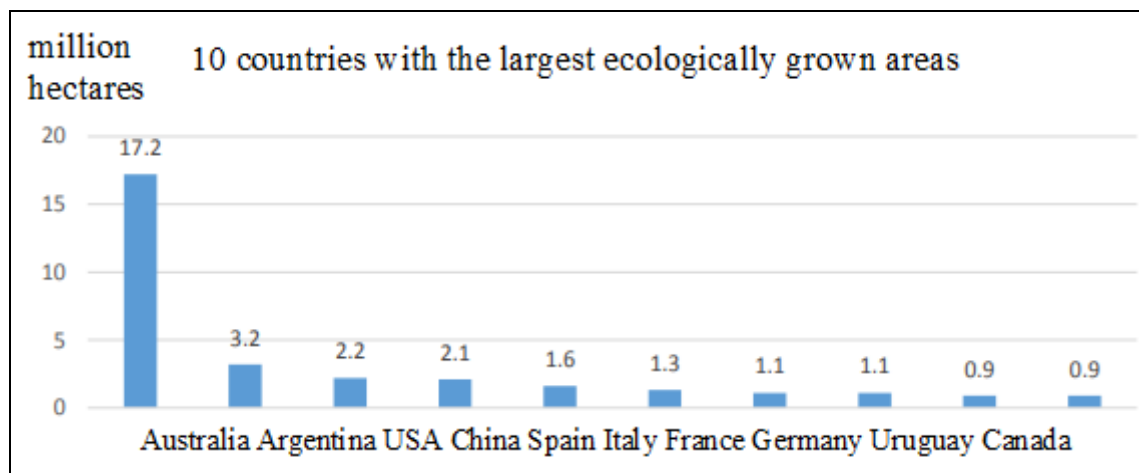
Organic farming is also called "organic" or "bio", terms commonly used and accepted by the European Union.

Organic farming has grown steadily over the last decade, both at the global level and in our country, associated with the diversification of organic production and an increasing organization of the ecological system. [8,9,16]



**Figure 2. Organic farming in the world**

Source: <https://www.cameradicommercio.ro/file/2019>, [19]



**Figure 3. Countries with the largest surface of land cultivated in organic system**

Source: <https://ec.europa.eu/eurostat/statistics>, [20]

Europe is one of the predecessors of organic farming and its positive development is due to many reasons, among which we can mention:

- the strong consumer demand for this type of products,
- legal protection and the requirements for the production and
- labeling of organic products, due to the requirements of the European Union and individual national laws.

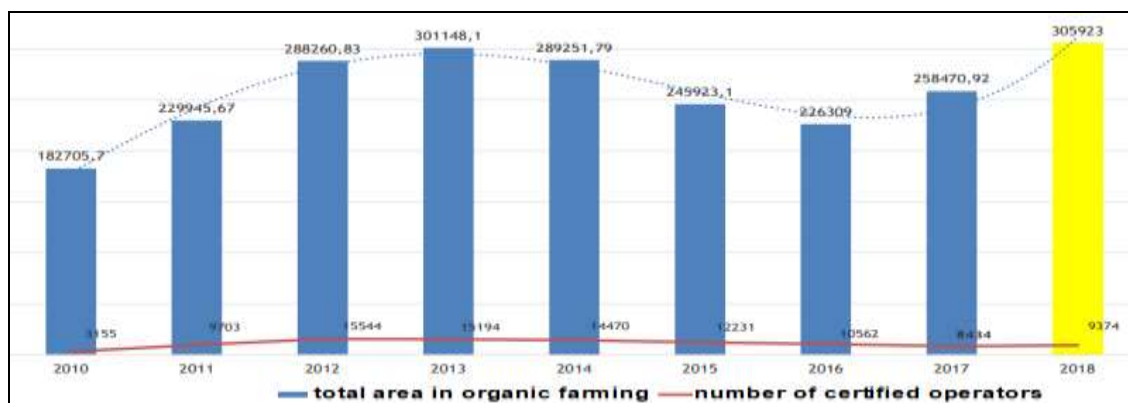


Figure 4. Total area and number of certified operators in organic farming

Source: <https://ec.europa.eu/eurostat/statistics>, [20]

Europe is second, ahead of Oceania, in the ranking of the continents with the highest percentage of land dedicated to organic farming in all arable land.

## MATERIALS AND METHODS

We propose that the main interest of this scientific paper to be the definition, principles, data and realities of the organic farming. In this regard we concern the attention on some aspects:

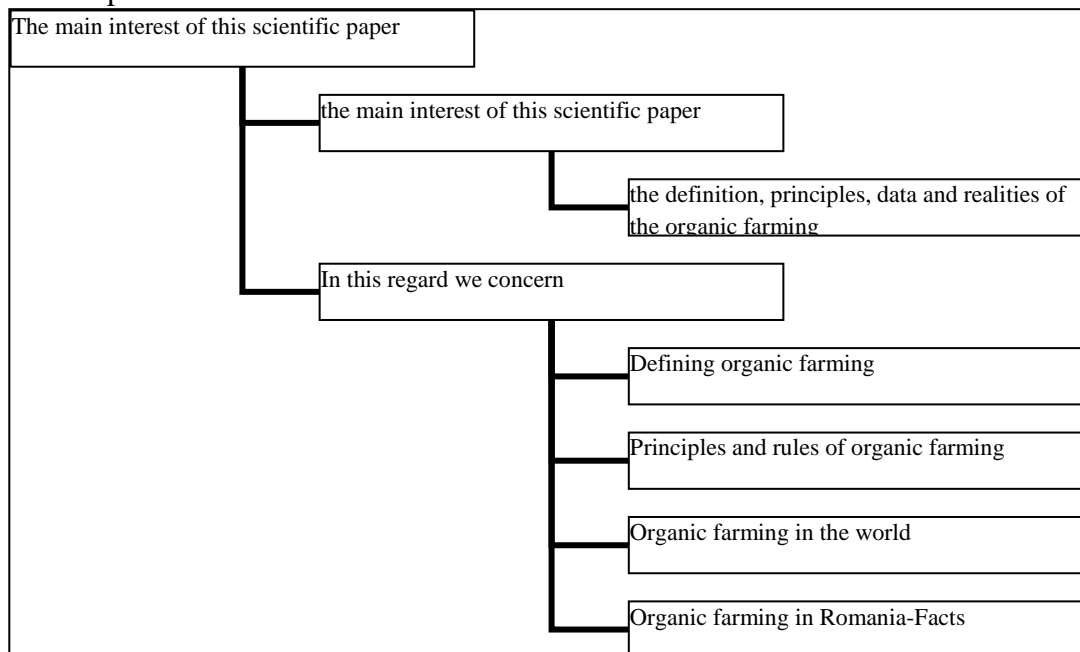


Figure 5. The main interest of this scientific paper

Source: own processing

- Defining organic farming
- Principles and rules of organic farming
- Organic farming in the world
- Organic farming in Romania-Facts.

## RESEARCH RESULTS

### - *Defining organic farming*

Organic farming is a way to grow plants and grow animals, without using the means that interfere with natural processes. Organic farming (term similar to organic or bio farming, the term being used predominantly in the US) is a modern process of growing plants and raising animals, without using fertilizers, synthetic pesticides, hormones, antibiotics, stimulants and breeding regulators and intensive animal husbandry systems.

The strict rules underlying organic farming make it very different from the conventional one. Organic farming is a process whose main purpose is to follow the most faithful laws of nature in order to produce a type of clean food, which is better tolerated by the human body and which contributes to health.

The application of the laws of the organic producers is the observed by inspection and certification bodies that issue the organic product certificates. They control the chain of obtaining the product, starting from the inspection of the cultivated land and the processes by which the final product is obtained.

A producer can move from conventional farming to organic farming only after a transitional period, called the "conversion period", during which time animals fed with hormones and soils treated with chemicals must go through a "purification" process, (for example, 2 years for annual field crops).

According to a research study, the current human eating behavior would make it impossible to feed the planet only from organic farming. By 2050, according to calculations and statistics, we will be nine billion people, and in order to consume only organic products, the area grown organically must grow by at least 30%. The conversion to organic farming can only respond to the world food demand and only if the food waste (which has reached alarming levels) will decrease by more than 50% and only and only if the meat consumption will be greatly reduced. [5,18]

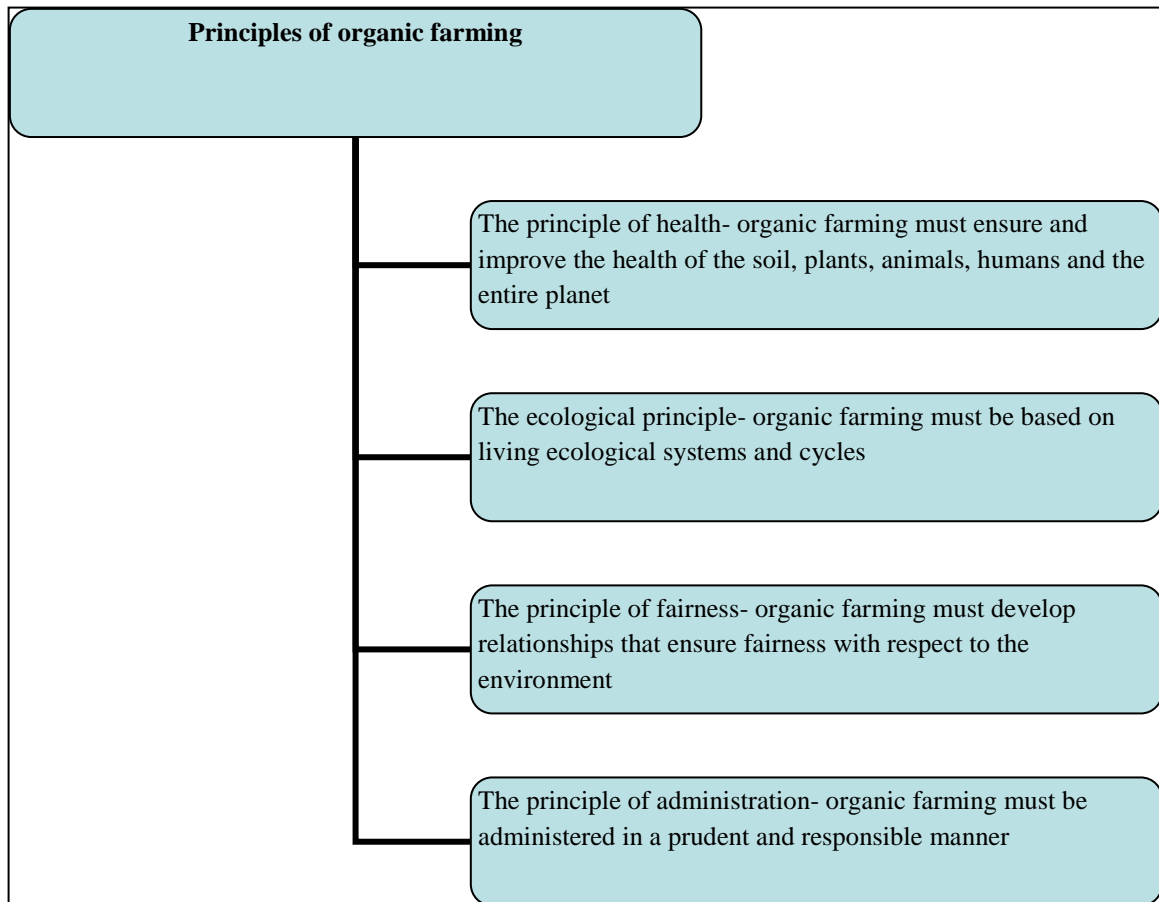
### - *Principles and rules of organic farming* [10,13,14]

1. The principle of health, according to which organic farming must ensure and improve the health of the soil, plants, animals, humans and the entire planet, as a whole and indivisible. Organic farming is intended for the production of healthy foods with a higher nutritional quality, which contributes to the prevention of diseases and the maintenance of well-being.

2. The ecological principle, according to which organic farming must be based on living ecological systems and cycles, to work with them, try to stimulate and support them. Organic farming must reach an ecological balance by organizing agricultural production systems, managing habitats and maintaining genetic and agricultural diversity.

3. The principle of fairness, according to which organic farming must develop relationships that ensure fairness with respect to the environment and living conditions. Fairness is expressed through fairness, respect, justice and consideration for the surrounding world, both in the relationships between people and in the relationships between people and other living beings.

4. The principle of administration, according to which organic farming must be administered in a prudent and responsible manner, to protect the health and well-being of present and future generations, as well as the environment. Organic farming must prevent major risks from occurring, by adopting appropriate technologies.



**Figure 6. Principles of organic farming**

*Source: own processing*

The rules for agriculture, as to be organic, should be: [4,7,13]

- Environment protection. In organic farming, the aim is to reduce or eliminate the practices that involve the use of synthetic or natural products that harm the useful organisms from the soil, exhaust the non-renewable resources and diminish the quality of water, air and agricultural products.

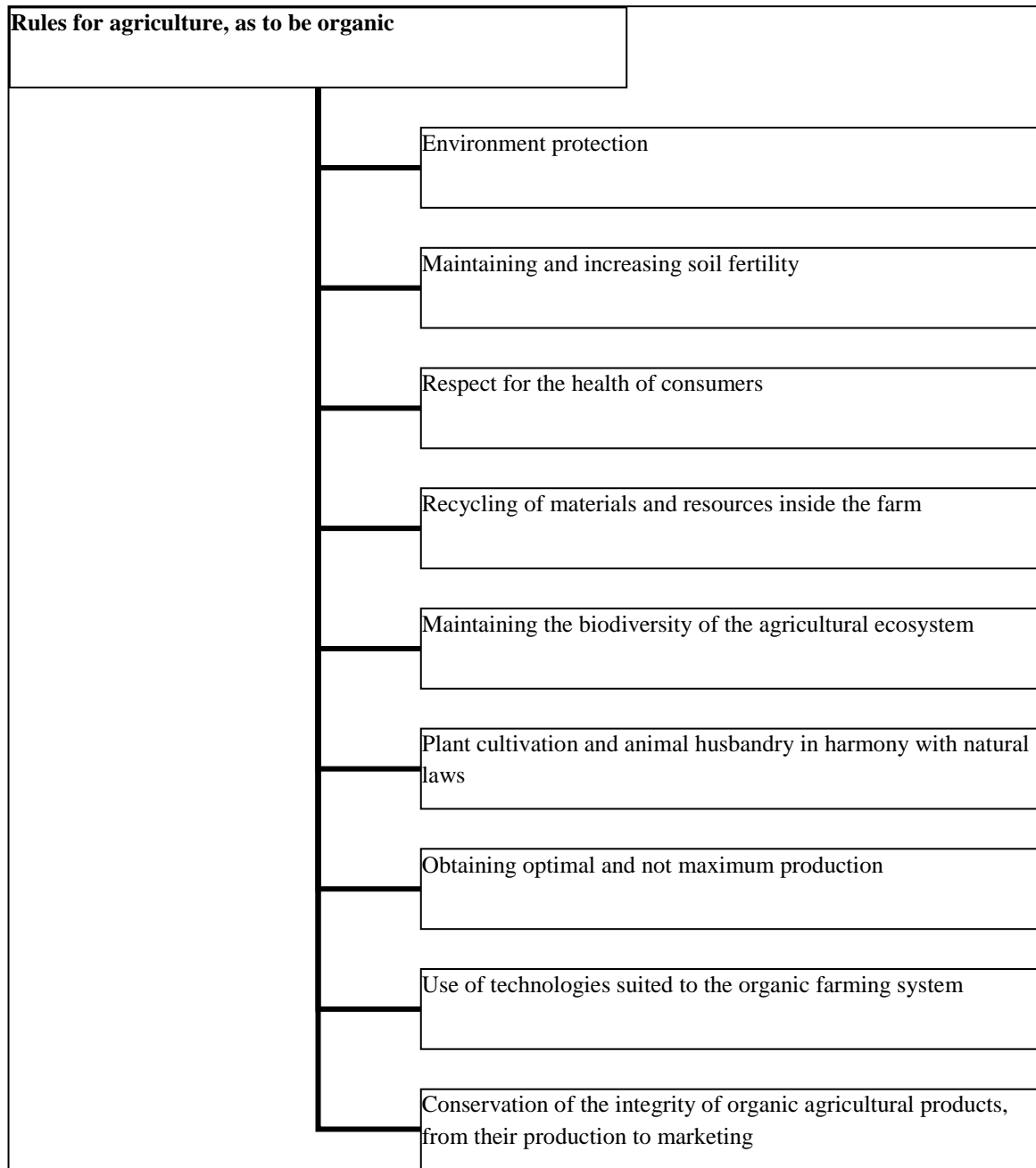
- Maintaining and increasing soil fertility. The soil is considered a living, complex environment, which interacts closely with plants and animals, which is at the center of the concerns of organic farming. Through its specific practices, organic farming intends to increase the activity of microorganisms from the soil, in order to increase its fertility.

- Respect for the health of consumers. By practicing organic farming, the aim is to obtain quality agricultural products, without pesticide residues, with a balanced content of proteins, carbohydrates, lipids, vitamins, organic acids and mineral salts.

The ecological farm must be a balanced unit. In organic farming, a narrow specialization and intensive, unilateral exploitation are being abandoned. It is always considered that the organic farm is a component of the ecosystem.

- Recycling of materials and resources inside the farm. The nutrients used by the plants are reallocated to the soil from sources coming from the farm itself (vegetable residues, organic fertilizers, green fertilizers).

- Maintaining the biodiversity of the agricultural ecosystem. Biodiversity is of major importance for ensuring the sustainability of the agro-eco-system.



**Figure 7. Rules of organic farming**  
*Source: own processing*

- Plant cultivation and animal husbandry in harmony with natural laws. In organic farming, plant cultivation and animal husbandry are in harmony with natural laws, using, protecting and respecting nature.

- Obtaining optimal and not maximum production. Maximum yields are obtained in most cases with abuse of resources and degradation of the environment. Organic agricultural systems aim to obtain optimum yields, under environmental protection, agricultural products and conservation of non-renewable resources.

- Use of technologies suited to the organic farming system. Organic farming uses technologies for plant cultivation and breeding of specific animals, based on understanding natural biological systems.

- Conservation of the integrity of organic agricultural products, from their production to marketing. Organic agricultural products, as well as the ingredients, additives

and auxiliary processing products they contain, are produced, processed, manufactured and handled in accordance with the principles of organic production and transformation.

- ***Organic farming in Romania-Facts.***

The European Commission encourages the development of organic farming in member countries and finances land conversion for this type of agriculture or product promotion. However, the cultivated areas and the number of farmers practicing organic farming, has decreased in the last six years, so that Romania [6,15,17] has become named among the "counter-performers" of the sector.

A study by the Research Institute of Organic Agriculture FiBL from Switzerland, published in February, notes Romania's modest performance in the organic farming sector. Thus, of the Eastern European countries analyzed in the study, only Romania and Poland registered a decline of the ecologically certified areas. On the other hand, sales of organic products have increased, based on increased interest of buyers.

The market for organic products from Romania had an estimated value of about 40 million euros in 2016, an increase with 30% compared to 2014, according to a report made by the Department of Agriculture of the United States of America (USDA)

Romania and Poland have been declared counter-performers in the field of organic agriculture, and the data of the Ministry of Agriculture and Rural Development confirm that the total area cultivated in organic farming has decreased from over 300,000 hectares in 2013 to 226,000 hectares in 2016. The number of certified operators has decreased from over 15,500 in 2012 to about 10,500 in 2016.

Last year, the ecologically cultivated area registered a slight turnaround, rising to 258,000 hectares, but the number of farmers decreased sharply, with over 2,000, to only 8,434 certified operators.

Although it is an important player in European agriculture, Romania has an insignificant position in the organic farming sector in the EU. Spain and Italy each cultivate about 2 million hectares in organic farming.

In Romania, the land certified for organic farming represents only 1% from the total area used in agriculture. In the EU, the cultivated areas occupy 6.7% from the total agricultural area, but the sector is constantly growing.

Thus, the organic agricultural sector is valued at about 27 billion euros and has increased by 125% in the last decade

## CONCLUSIONS

Organic farming tries to respect the life cycle of plants and all the elements necessary for the process. To achieve this, this system is based on a number of objectives and holy principles. In addition to using organic fertilizers, another extremely important element is crop rotation because each agricultural plant has its own diet, growth and development. It is not advisable to maintain the same culture on the same land for many years since production will decrease. And each plant has different water consumption. In organic farming, the environment is respected, but also the products used. Agro-toxic products, synthetic fertilizers, chemicals or pesticides are never used. Organic fertilizers have certain advantages, such as: they improve the soil and increase its ability to maintain water and nutrients, of course after decomposition. [18]

Practicing organic farming requires from the farmer:

- knowledge about organic farming;
- a strong motivation for a production mode in harmony with the laws of nature, which protects the environment, the health of the agro-ecosystem and the consumers of agricultural products;

- belief that what he does is good, both from the farmer and his family;
- a farm that is suitable for organic farming, which includes more crops and preferably a livestock sector;
- a very good organization and planning of agricultural activities.

According to the data provided by the European Commission, in 2015, there were 11.1 million hectares cultivated organically, and in 2016 11.9 and is expected to grow from year to year. In comparison, in 2002 there were "only" five million hectares. Over the last decade, the organic area has grown by almost 500,000 hectares every year in Europe. Although it may seem like a lot, this area represents only 6.2% from the total area for agriculture. For a surface to be called organic, it must go through a conversion process, which can take between two and three years, depending on the crop.

Our country is on 9th place in terms of organic cultivated agricultural area. If we consider that the surface has tripled in ten years, between 2006 and 2016, the figures show a decrease in the last years. The upward trend from the European Union level does not apply in the case of our country, where the areas cultivated eco fell from 350,000 hectares in 2011 to 250,000 hectares in 2015. Farmers blame the state and say that organic farming is not sustainable in our country. However, in 2017, there were over 12,000 farms growing cereals, vegetables and fruits without chemicals. Ten percent of these lands are in Tulcea, but the prices are slightly more expensive than the traditional products and they are obliged to send more than three quarters of the production for export. Romania is not yet a market for their products. [18]

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