THE ORGANIC FARMING PERSPECTIVES IN ROMANIA AND POLAND, AS A GLOBAL REGULATORY PHENOMENON OF EU POLICY

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REVIEW ARTICLE

Abstract

A notable trend in recent regulations on the nature of the EU (EU) and its democratic legitimacy focuses, from our paper's subject, on the concept of ecological agriculture. In this sense, the EU has issued throughout its existence, a multitude of acts and norms, regulations, through which this field - ecological agriculture - can be practiced in the safest and cleanest conditions. From this perspective, the current paper proposes an overview of what organic means and the quality of organic from the point of view of farms classified as producing organic, bio products. Studying the European legislation on the matter, we came to the conclusion that doing ecological agriculture in the current times is perhaps the most important argument for life, its assurance and protection and human health. In the research carried out, we found that the EU cooperates with other countries through the United Nations (UN), Organization for Economic Co-operation and Development (OECD) and other international bodies to promote global solutions to the problems of ecological agriculture. Global situations, such as climate change, depletion of the ozone layer, tropical forests, biodiversity, are elements that can intervene in the way organic agriculture can ensure, at a high level, the food and products that humanity needs so much, in the days ours, to be healthy. For this, based on the vast bibliography studied in the field, we will focus our research on the study of the latest European - but also national, Romanian and Polish regulations - in the matter of ecological agriculture.

Keywords: modern agriculture, European legislation, production progress, safety food products.
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INTRODUCTION

With regard to organic farming, the applicable legislation from 1 January 2022 is Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018. This regulation includes the rules on organic production and labeling of organic products and repeals Regulation (EC) no. 834/2007 of the Council of 28 June 2007. This regulation provides for transitional periods for the implementation of certain new provisions for a limited period.

Considering the regulations of the EU Regulation mentioned above, we will say that organic production is considered a general management system of a farm, in which the production of healthy food must combine the best environmental practices and climate actions, a high level of biodiversity, the conservation of natural resources and the application of high animal welfare standards and high production standards in accordance with the demand of a growing number of consumers for products manufactured using natural substances and processes (Regulation (EU) 2018/848, art.1). By this we must understand that organic production offers a specific market that responds to consumer demand for organic products but also that, on the other hand, it provides goods accessible to the public that contribute to environmental protection and animal welfare, as well as rural development (Regulation (EU) 2018/848, art.1).

Modern agriculture, especially in economically developed countries, has achieved enormous production progress thanks to the widespread use of chemical means aimed at maximum yield increase and the advancement of biotechnology (new, more efficient animal breeds or better-yielding plants) (Government Ordinance no. 10/2021). However, it has contributed too many negative effects that are being felt more and more. Agriculture should be one of those sectors that most clearly shapes and emphasizes the essence of sustainable development, because it is a sector on which all humanity depends directly and, at the same time, the natural environment indirectly (Directive 2011/92/EU). Agriculture is the most

important sector of the economy ensuring food security, alleviating the effects of poverty and preserving basic natural resources (Mancia et al, 2021). However, modern agriculture does not fulfill these basic assumptions and, moreover, is the source of further problems. Production progress in conventional agriculture causes a local surplus of food products, which leads to a decline in their prices and profitability of production (Regulation (EU) 2017/625). Today we are dealing with the largest food production in the entire history of man. It can meet the needs of a much larger number of the world's population than today. However, the surplus of food in most cases, due to the lack of communication and cooperation between countries, does not reach the needy. This leads to losses and a huge amount of food waste. It can therefore be said that agriculture is a sector on which we are completely dependent. Not only has our well-being depended on it, but also the survival of present and future generations. Acid rain, deforestation, car exhaust fumes and industrial pollution, soil degradation, depletion of the ozone layer, discharge of toxic sewage into rivers and oceans are just some of the problems affecting the environment in which we live. The dangers also arise from unsustainable, intensive and ill-considered agricultural production.

The intensive use of mineral fertilizers and pesticides remains an important tool in agricultural production to increase yields. The intensification of agriculture in the last few decades has led to harmful effects, such as: the appearance of nitrates in groundwater, contamination of food products, eutrophication of water reservoirs, changes in the lower layers of the atmosphere. As long as food is not considered in qualitative rather than purely quantitative terms, modern agriculture is unlikely to be sustainable (Staniak, 2014). The growing and increasingly poignant problem of the harmful effects of intensive farming contributed to the introduction of the concept of organic farming in 1981 at the Atlanta conference. It was there that organic production was recognized as the appropriate form of agriculture, conducive to sustainable development and the sustainable use of natural and environmental resources.

The largest number of farms (mostly family-run) in the EU is in Romania (about 3.5 million), but this does not seem to help us even when it comes to organic products, which are usually obtained on small plantations.

With only 2,9% ecological surface of the total agricultural surface, Romania ranks last in agricultural products with high added value. The European average is 8,5% of the area - and the performers are Switzerland (25%), Sweden and Estonia with 20%, Italy and the Czech Republic with 15%. Germany and France each have 7,7%, Poland have 3,5 % of the ecological surface of the total agricultural surface.

MATERIAL AND METHOD

In recent years, many incidents have contributed to a decline in consumer confidence in the quality of food products (Government Ordinance no. 10/2021). BSE (bovine spongiform encephalopathy), contamination of food products with dioxins, the foot-and-mouth disease epidemic, avian flu and pesticide residues in food - these are the main threats affecting the food sector. As a result, the society began to pay more and more attention to the quality and safety of purchased products, and to appreciate food produced using organic methods. Due to the fact that organic farming is more labor-intensive and time-consuming, requires a lot of dedication and enormous knowledge and skills, these products are more expensive than those from conventional production. Thus, the demand for organic food is effectively held back by its prices. At present, ecological products (Government Ordinance no. 10/2021) are still a luxury commodity, available only to selected social groups. Another reason limiting the development of organic farming is the availability of its products (Zegar, 2018). The number of places where such food can be purchased is still small. This is a problem not only for Poland and Romania, but also for other EU countries. Public opinion polls in England have shown that 60% of the population would choose organic food if it were more readily available and did not cost more than conventional food. At the same time, one of the House of Lords reports that health is the main factor why society is willing to pay a higher price for organic food (Staniak, 2014). The belief that organic food is healthier than that produced conventionally emerged on the basis of general public awareness. This knowledge is based primarily on the perception of "healthy food" as having higher nutritional values, containing more vitamins, with better taste, and free from pesticides and chemicals derived from chemical fertilizers. Many studies confirm these beliefs, indicating that organic vegetables they

contain no pesticide residues or contain only a small amount of them. In addition, it has been shown that vegetables and fruits from organic production contain more vitamin C and β-carotene. Moreover, numerous studies and conducted experiments show that organic food has higher taste and organoleptic values. The meta-analysis of data shows that organic crops contain on average 48% less cadmium and four times less pesticide residues. However, when it comes to nutritional value, there is still some debate among scientists dealing with this issue. Do organic products really have a higher nutritional value and do they really contain more macro- and micronutrients? Some authors show that vegetables grown organically do not differ or differ slightly in nutritional value from vegetables grown conventionally. In addition, some publications highlighted the risk of contamination of ecological crops with pathogenic microorganisms and toxic products of their life processes, derived from animal natural fertilizers commonly used in organic farming.

So far, many definitions of organic farming have been formulated. Each of them contains important elements that make up the whole issue. Zimny (2007) defines organic farming as a type of agriculture used in a non-degraded environment, favoring the preservation and enhancement of soil fertility, favoring plant and animal species resistant to diseases. This system is subject to the rhythm of natural processes; therefore it does not disturb the ecological balance or pollute the environment. The World Health Organization (WHO) and also the Food and Agriculture Organization of the United Nations (FAO, 2021) on the other hand, characterizes organic farming "as a holistic management system that supports biodiversity, ecological cycles and soil fertility" (Reeve et al, 2016; Wesołowska et al, 2022; Smriti et al, 2022). This definition also takes into account the fact that regional conditions require the creation of local systems. In addition, WHO emphasizes that organic farming ensures that no agrochemical treatments are used in production, but cannot guarantee the complete absence of chemical residues due to global pollution of the environment. On the other hand, the legislation of EU defines organic farming as a system of sustainable management of plant and animal production within a farm, based on technologically unprocessed biological and mineral substances (Therond et al, 2017).

The basic rule is to reject agricultural, veterinary and food chemicals in the food production process. It is a sustainable, self-sufficient, ecologically, economically and socially sustainable system. By activating the natural production mechanisms on the farm, this system ensures sustainable soil fertility and animal health, as well as high quality of agricultural products (Therond et al, 2017; Luty et al, 2021). In addition, by excluding the production of industrially processed pesticides and fertilizers, as well as through sustainable animal husbandry, it does not cause soil, groundwater or air pollution, and additionally reduces the leaching of minerals from the soil and at the same time promotes the biodiversity of ecosystems. It is the most extensive and officially accepted definition of organic farming recognized in Europe. Organic farming is based on a few basic complexes. The most important of them is the production of high-quality food for human health. Another equally important goal of organic farming is environmental protection. In order for these goals to be realized, such a farm must be run in accordance with a few very important rules. The natural environment provides agriculture with all the necessary resources to produce high-quality food.

Activities within the organic farm are therefore aimed at maintaining and, if possible, increasing the natural value of these resources. It has been confirmed that organic farming improves landscape values (Popoviciu, 2019), contributes to the preservation and enhancement of biodiversity, as well as to the protection of wildlife. It prevents contamination of waters and soils, and also contributes to the improvement of their quality.

The ecological system of soil management and maintenance of soil health aims to increase its fertility and improve its condition by providing appropriate nutrients, improving the soil structure and efficient management of water resources. The most important measures used by organic farmers to maintain or improve the condition of the soil include:

*The use of multi-annual, varied crop rotation helps to reduce weed infestation and the occurrence of diseases and pests, helps to maintain soil fertility and ensures the supply of nutrients. Plants, such as clover, faba bean and lupine fix atmospheric nitrogen and enrich the soil with this element.

*The use of natural fertilizers, in addition to being a source of nutrients for

plants, helps to improve the structure of the soil and prevent erosion. In addition, organic fertilizers favor the biodiversity of soil microorganisms, which are responsible for the circulation of elements and the biodegradation processes of organic matter (Reeve et al, 2016).

*Prohibition of the use of synthetic mineral fertilizers and chemical plant protection products - the prohibition of any agricultural chemicals is primarily related to the quality of food products, but also allows avoiding long-term changes in the chemical composition of the soil.

*Sowing catch crops to cover the soil surface after harvesting - catch crops are not only the basis of animal feed, but also important from the point of view of soil protection, as it prevents soil erosion and leaching of nutrients.

In organic farming, water is treated not only as an indispensable element in the production process, but also as a necessary substrate for life on Earth, which must be protected and supported by rational management. One of the assumptions of organic farming is to preserve the natural resources of water, actively counteracting its run-off. Another is improving the soil structure and increasing its water capacity through the use of proper crop rotation and plant selection, as well as through the use of organic fertilizers. Proper soil cultivation is also of great importance (Reeve et al, 2016). Soil cultivated inappropriately has a lower capacity to accumulate water and also a low hold on to it, which may result in lowering the groundwater level. Mechanical tending treatments, by destroying the crust and too high concentration of soil particles on the surface of the field, regulate the water balance. In addition, the establishment and maintenance of mid-field trees, meadows and natural vegetation is very important as it prevents soil erosion and allows retaining rainwater. In addition, the ecological management system helps to maintain and even improve water quality by reducing the amount of agricultural chemicals used, which may enter lakes, rivers, streams and other water bodies and lead to its contamination.

Organically farmed lands have around 30% more biodiversity than conventionally farmed lands (Caprile et al, 2021).

The main source of gaseous emissions in agriculture is animal production (Smriti et al, 2022). The increasing amount of scientific data confirms that large-scale farms with intensive livestock production and Concentrated Animal Feeding Operations (CAFO) contribute to the increased emission of chemical compounds to the atmosphere. The most troublesome of them are fragrances (e.g. organic acids) and greenhouse gases such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), nitrogen oxides (NO_x), ammonia (NH_3), as well as reduced compounds sulfuric (H_2S). Moreover, intensive livestock production contributes to significant emissions of volatile organic compounds (Smriti et al, 2022). These are various compounds, e.g. (acids, alcohols, aldehydes, aromatic compounds, esters, etc.) responsible for unpleasant odors and negatively affecting the comfort, health and production efficiency of both animals and humans. In addition, the inappropriate use of mineral fertilizers significantly contributes to air pollution with various types of compounds. These compounds include, first of all, nitrogen oxides (NO, N_2O, NO_2), which have a much greater potential to cause the greenhouse effect than carbon dioxide.

The problem of air pollution is much less of organic farming. This is mainly due to the fact that organic farms do not use synthetic mineral fertilizers and livestock production is usually limited. It is connected with legal regulations defining the area of the enclosure for a specific number of animals. In organic farming there is no intensive livestock farming, which is the main source of gas emissions.

Organic agriculture in Romania is developing hard and more than half of the area of over 270.000 hectares, certified as such, is intended for crops to which no value is added through processing, such as cereals (33% of the organic area), in the higher exported. In Poland total area of organic farms was 509.000 hectares (Łączyński, 2021).

On the other hand, organic agriculture in Romania covers only 2,9% of Romania's agricultural area, the fifth smallest in the EU, after Malta (0,5%), Ireland (1,6%), Bulgaria (2,3%) and the United Kingdom (2,6% each), according to Eurostat data. For Poland the number of farms using organic agricultural production methods was around 18.600 and cover 3,5% agricultural total area (Łączyński, 2021). For Romania the number of organic farms in 2020 was around 10.000 (Willer et al, 2022).

The European Commission's target by 2030 is for the EU to use 25% of its agricultural land for organic farming.

In 2019, according to a SWOT analysis of MADR for the National Strategic Plan in the sector, from the total area of 395.576 ha cultivated in the ecological system, the largest share is held by cereals (32%), followed b:

- permanent pasture and hay crops 24%,
- industrial crops 19%,
- harvested green plants (forage) 8.46%,
- permanent crops (orchards, vines, fruit bushes) 4,85%,
- dry and proteinaceous legumes for the production of grains (including seeds and mixtures of cereals and legumes) 1,82%,
- fresh vegetables 0,17%,
- tuberous and root crops 0,13%.

Even a lot has been invested, post-crisis, in agriculture domain, in 2020 an investment differential is maintained in Romanian agriculture and investment in agriculture in Poland, for example, which represents for Romania an example of medium-term convergence.

I hope that by the end of this decade we will be above Poland.

The yield per hectare, for certain crops such as wheat, corn, sunflower, is above that in Poland even now, where the potential is very high.

Subsidies must be increased and agricultural areas consolidated because Romania is facing a high degree of fragmentation.

Agriculture has an important share in GDP, three times higher than the EU average and twice as high as in Poland.

CONCLUSIONS

There is no doubt that management in the ecological system has a positive effect on the environment and contributes to the improvement of the quality of soil, water and landscape. Moreover, the system promotes biodiversity and does not contribute to the emission of greenhouse gases and chemicals that pollute the air, which is often the case in intensive agricultural production. Undoubtedly, agricultural production consistent with the assumptions of organic production meets the basic goals of sustainable development, especially in the area of environmental governance. Even though the productivity is significantly lower compared to conventional production, organic products are of higher quality, both in terms of nutritional value, taste and safety. Taking into account the overproduction of food and the enormous waste that is currently observed on the food market, it should be considered whether this is the right way to meet the objectives of sustainable development. Is it not better to replace the intensive and environmentally destructive conventional production and the huge amount of low-quality agricultural products with products produced with respect for the environment of higher quality.

Even, for example, Romania was positioned above the level of Poland in terms of production per hectare, in 2019 there was a difference of over two billion Euros between Romania and Poland in terms of investments in agriculture.

Romania provides 7% of the EU's wheat production, 24% of the corn production and a third of the sunflower production. It is basically about an increasingly intensive agriculture. And that's why the governors and the authorities in the field should pay more attention to effective investments even if short-term in agriculture; we also consider that both countries - through specific national programs - should encourage their own population to consume local products.

The set of measures required for this sector of agriculture must be different from the regulations in commercial relations.

The legislative framework in this area of marketing local products should be much simpler to apply. Or, what we see today, any solution that aims to over regulate market mechanisms only succeeds in leading to an upheaval, to a confused, ambiguous situation of commercial relations, with negative effects on the market.

The European directive to combat unfair commercial practices and the package for the consumer, which are to be transposed, will certainly represent an opportunity for the farmers of the two countries, but also for the local consumers of the products of these farmers.

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