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PRODUCTIVITY EFFICIENCY AND ECONOMIC EFFICIENCY OF ORGANIC AGRICULTURE IN THE ARAB REPUBLIC OF EGYPT

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Abstract

In spite of the comparative advantages of the Arab countries in terms of resource diversity and the availability of the suitable environment for organic agriculture, the areas of organic agriculture are still low compared to the total area of agriculture. For example, the total area in Egypt reached 85 thousand hectares, representing 2.27% of the total agricultural area for 2015 , And the importance of walking towards increasing the area of organic crops to achieve efficiency of production and maximize the use of available resources and sustainability of revenues. Fayoum is one of the most important governorates of the Republic in terms of area cultivated with medical and organic aromatic plants, estimated at about 7.2 thousand feddans, representing 28.3% of the total area of organic medicinal and organic plants in 2016. The study focused on the economics of organic agriculture in Fayoum Governorate, Productivity and economic value of both marjoram and peppermint mint in organic agriculture compared to traditional agriculture. The results were in favor of organic agriculture to increase the net yield per feddan. The problems faced by sample farmers for organic agriculture were identified and ways of solving these problems.
Keywords : Productivity efficiency, economic efficiency, Organic agriculture, clean agriculture, bio-fertilizers, compost

Introduction

Organic agriculture began in the Arab world in the 1980s and continued to develop despite the many organizational and legislative obstacles. The main reason for their proliferation is the efforts of NGOs and non-governmental organizations. Farming with the organic concept is very old in Egypt. Growing crops has depended on organic manure , natural materials and the fertile mud of the Nile. Crop rotation and organic manuring has maintained soil fertility (Taher, 2003).

The beginning of organic agriculture in the Arab world in the Arab Republic of Egypt was the beginning of the eighties in the Belbeis desert on an area of 63 hectares of medicinal organic herbs followed by some varieties of vegetables such as potatoes, onions, garlic, cucumber and pepper. In Morocco, organic agriculture was spread in the early 1990s with the cultivation of citrus and olives in Marrakech. The focus was on the production of organic olive oil, followed by the cultivation of vegetables and fruits. The vegetables were first exported in 1992 and then moved to the cultivation of medicinal and aromatic plants (see Hasbani, 2003).

Despite the importance and priority of bridging the gaps and providing food security in many Arab countries, benefiting from the relative advantages available to some Arab countries in terms of climate, biodiversity and others may constitute a path for developing important sources of hard currency necessary for overall development in general and rural development in particular. , And organic agriculture is one such source.

The increasing concern in the world of the spread of diseases associated with chemicals used in food production has led to the growth and acceleration of consumer orientation in developed countries towards eating foods produced using organic agriculture. The size of the market in the United States and the European Union in the field of organic foods is large and is expected to double over the coming years (see Arab Organization for Agricultural Development, 2003). Organic plantations in most countries of the world have reached a total area of about 50, 9 million hectares in the agricultural season of 2015.

The Arab countries have benefited only modestly from the open foreign markets for the import of organic agricultural products, as few Arab countries have entered this area by producing some fruit, vegetable, medicinal and aromatic crops. This is due to the lower arable area than the cultivated area in the world. The door remains wide open to take advantage of the comparative advantage available to many Arab countries by entering into this area to support their economy and support development at the rural level.

Research Problem

Despite the comparative advantages of the Arab countries in terms of resource diversity and the availability of the suitable environment for organic agriculture, the areas of organic agriculture are still low compared to the total area of agriculture. For example, the total area in Egypt reached 85 thousand hectares, representing 2.27% of the total agricultural area for 2015 (See www.organic-world.net). Therefore, the real challenge for the Arab countries lies in the possibility of increasing the area of organic agriculture and the introduction of organic farming practices in high-yielding agricultural systems to allow them to achieve food security on the one hand and to produce surplus for export to and competition from international markets on the other. Here, it is important to move towards increasing the area of organic agriculture so as to achieve efficiency of production and maximize the use of available resources and sustainability of revenues.

Objectives of Research

The research aims to:

- Understanding the concept of organic agriculture**.**
- Studying the development of the area cultivated with organic crops in Egypt for the period (2001/2016)
- Clarification of the area of organic crops in Fayoum Governorate for the agricultural season (2015/2016)

- Presentation of some organic crops for medicinal and aromatic crops in the research sample in some villages of central Fayoum and Abshwai of Fayoum Governorate for the agricultural season (2015/2016)
- Determination of productivity and economic indicators of marjoram and peppermint crops in the research sample
- Identify the main problems faced by organic sample farmers and their proposals to solve these problems solve these problems.

Research Importance:

This research is of great importance as health awareness has increased and global and local demand for healthy food has increased. Due to the special importance of the organic product, it is necessary to carry out studies and research aimed at improving production in quantity and quantity, and to educate farmers about the importance of organic agriculture in maintaining human health, reducing pollution, and producing high quality and clean food free of harmful chemicals. In the conservation of soil, water and biodiversity.

Due to the lack of treatment in most of the studies of alternatives that can be used as inputs in organic and biological agriculture where there are no studies directly exposed to the economic aspects and impediments to the production and marketing of organic fertilizers, but most studies were limited to reference to the importance of the use of these fertilizers in reducing diseases and reduce environmental pollution and increase Agricultural exports. (Abdul Ghani, 2011).

Data Sources

Due to the paucity of data published in the field of organic agriculture, the research relied on two sources to collect the data in question, including the published and unpublished secondary data of the official bodies represented in the records of the Egyptian Center for Organic Agriculture, the FAO website and the website of organic agriculture in the world, The second source is to conduct a field study to take a vertical sample in Fayoum, Abshway, Fayoum governorate, for the traditional and organic peppercorns and peppermint mints for the agricultural season (2015/2016**)**.

Materials and Method:

The study was based on descriptive and quantitative statistical analysis. Statistical analysis was used to identify the general trend of the area of organic agriculture in Egypt and its relation to the total agricultural area and compare it with the organic area in Africa and the total world during the period 2001-2016. To study the economics of organic agriculture and the relative importance of the area cultivated by organic and traditional crops in the centers of Fayoum governorate and to study the productivity and economic indicators of both marjoram and peppermint mint in organic agriculture and compare them with conventional agriculture and identify the problems faced by sample farmers for organic agriculture and ways to solve these problems.

The Research Sample

Fayoum Governorate is considered one of the most important governorates in the Republic in terms of area cultivated with medical and organic aromatic plants, estimated at about 7.2 thousand feddans representing about 28.3% of the total area of medicinal and organic aromatic plants at the level of the Republic estimated at 25.4 thousand feddans in 2016, Similarly, a village was selected for each center. A questionnaire was prepared for 120 farmers for the agricultural season (2015/2016) distributed as shown in Table (1).

Table 1 : Distribution of questionnaire forms for the study sample for 120 farmers for the agricultural season (2015/2016):

Farming method / Center	Organic Agriculture	Traditional agriculture
Fayoum Center (Mansheyet Sukran Village)	30 farmers	30 farmers
Abshawai Center (Abu Jinshu)	30 farmers	30 farmers
Total	60 farmers	60 farmers

Source: It is designed by the researcher

Theoretical framework

Definition of organic agriculture

Is the fertilization of organic fertilizers manufactured from agricultural waste to recover the fertilizer elements taken from the soil during the growth of plants. When organic fertilizers are added to the agricultural soil, microorganisms are treated with demolition and analysis, producing simple organic compounds and nutrient-rich fertilizer elements which remain in the soil for a long period of time and continuously increase their fertility, thus protecting the environment from pollution by rationalizing the consumption of mineral fertilizers. Human and animal free of chemicals. Organic fertilizers are characterized by the quality of decomposition, lack of odor and high content of fertilizer elements and free of weed seeds, nematodes and pathogens (see www.fao.org/organicag/oa-faq/oa-faq6/ar/).

As defined by the International Federation of Organic Agriculture Movements (IFOAM, 2005) as a method of agriculture in which no type of chemicals are used during and after agricultural operations, which maximizes the conservation of fertility and soil productivity as well as human and animal health.

In Egypt (El-Araby, 2001), for instance, the certified organic agriculture started 23 years ago, gaining impetus from the European organizations (German and Swiss, and later on, French organizations); nevertheless, the lack of a national regulation, which has not represented an obstacle so far, because marketing was guaranteed abroad through the certification by foreign bodies, might become a problem at present, due to the broadening of organic product markets and the creation of a free-trade area.

Global importance of organic food production:

According to (Babiker, 2003), the US National Organic Standards Board defined organic agriculture as follows: "Organic agriculture is an ecosystem management system that promotes biodiversity and soil biological cycles and is

based on minimal use of inorganic inputs and on management practices that Restore, maintain and strengthen ecological harmony ".

It has recently become a global demand for food free of chemical pesticide residues, synthetic fertilizers and genetic modification by consumers in developed countries. These food crops have found a wide open door in international markets, resulting in very profitable prices compared to traditionally produced prices.

As a result, many international organizations and scientific institutions eventually emerged to encourage the production of these crops, especially after the outbreak of the dreaded diseases of mad cow disease, foot-and-mouth disease and others. Several international organizations have been established in the United States and Europe to formulate and develop standards and agreements governing the production, processing, processing and marketing of these organic food products.

Ways to develop organic agriculture

The development of Arab agriculture depends on its progress in expanding sustained production in a sustainable manner that enables the conservation of current and future natural resource capacities in order to address growing food needs. It is known that the main problem in the Arab countries is not limited to the limited natural resources, but to a greater extent in the backwardness of their human resources and production patterns adopted (Hasbani, 2003).

After the inclusion of the environmental dimension in development in general and agriculture especially as one of the modern requirements at the global level, and almost new at the level of the Arab world, in order to preserve the environment and preserve its capabilities for the future, the adoption of organic farming systems in the Arab countries and their expansion is still very much linked to the commercial and monetary economy, On these products in international markets and second in the domestic markets. This global demand for organic products and the policies of developed eco-states are guiding the Arab countries towards adopting the concept of sustainability as a basis for organic agriculture. Organic agriculture in the Arab countries continues to include traditional agriculture by introducing some sustainable practices such as soil conservation and the non-use of chemicals and as a direct result of the easing of subsidies on inputs to new markets.

The real challenge for Arab countries lies in the possibility and process of introducing organic agricultural practices into high-yielding agricultural systems to allow them to achieve food security on the one hand and to produce surplus for export to, and competition from, global markets on the other, based on available resources. The importance of Arab coordination and cooperation to benefit from the comparative advantage of the Arab countries in the production, manufacture and marketing of organic products in order to achieve efficient production, maximizing the use of available resources and sustaining their revenues.

Increase Production

The main issues in the development of organic production in the Arab world are concentrated in the ability to improve crop productivity and expansion at a lower cost and using local inputs and inputs from within the system. Increased demand for food necessitates an increase in organic production through horizontal and vertical expansion. The main determinants of this horizontal and vertical expansion are to fortify and build soil fertility and ways to control pests in vital and natural ways. It should be noted that the adoption of an integrated strategy for vertical expansion by increasing organic production through soil conservation and conservation of capacity and building, maintenance and exploitation of untapped land horizontally forms the focus of expanding the spread of organic agriculture in the Arab world.

The use of organic methods such as reduced tillage, cyclical adoption and crop diversification contribute to increased horizontal productivity and promote biodiversity and ecology. The increase in agricultural productivity of organic products in the unit of land and water depends on the focus on the transformation of small farms scattered in the Arab countries, which constitute the majority of agricultural areas.

The ways to take advantage of the available marketing opportunities revolve around the accuracy of information about markets and quantities of production and how to secure it continuously and the comparative advantages of each country. Market prices are determined by the quantity of products offered as well as consumer willingness to pay prices that are often about 20% higher or higher for organic products compared to the prices of similar products prevailing.

The organic market for organic products is expanding and the demand for these products has increased significantly, especially in recent years. The global sales of organic products account for 1-2% of total food sales. Although this growth appears to be slow, Past years are encouraging. It is worth noting that this increase is expected to continue strongly in the short term as the demand for these products in the world markets is much greater than supply, which necessitates continued imports. Hence, the opportunity for Arab countries interested in commercial organic production to supply these markets with the organic products they need, provided that these products conform to organic standards in the importing countries.

It is also expected that the cost of marketing organic products will decrease with the growth of production and the organic marketing sector to equal the cost of marketing traditional products. The price of organic products is up to an additional 50%. This value remains acceptable to the consumer, contributing to the rapid expansion of the organic market share.

The economics of organic agriculture:

The economy in organic agriculture should be considered not only by studying the economic indicators of investment such as the internal return and the period of capital recovery and the expected profits, but it is an investment that has a positive impact on the environmental and social aspects and this of course the economic return of another kind, which shows that overall achieve sustainable development.

The assessment of the economic performance of organic agriculture is not concentrated on a given crop or a given year but the assessment needs to be at the level of a full agricultural cycle. There are few studies that have addressed this issue as such. Overall, these studies indicate that organic

agriculture achieves the same level of profitability of conventional agriculture Both Europe and America, although the former supports organic agriculture other than America where there is no such support and one of the main reasons is the difference in prices of organic and traditional products, which range from 10-50% at the consumer level and this ratio is acceptable to the majority of consumers, For the 100-200%, have found that the high price difference 50% limit consumer desire as always the traditional product supply (Haddad, 2003).

The situation is different in developing countries where mineral fertilizers, pesticides are expensive, labor is cheap, and organic agriculture earns higher profits than traditional ones (Philippines - Madagascar - Egypt). The cost of organic farming may increase the costs of inspection and certification, Independent stores and increased transport costs due to the dispersal of farms, and the control of pests and diseases in organic crops is still somewhat limited.

Definition of Productivity Efficiency and Economic Efficiency, (Nassar, 1997)

Productivity Efficiency

Means obtaining the maximum possible production of the same amount of productive resources available or obtaining the same amount of production using an optimal amount of available resources. It means identifying how to properly mix productive resources so that the maximum possible production of available resources can be achieved.

Economic Efficiency

Means maximizing the yield at a certain supplier cost or obtaining the same return at a lower cost than the same previous stock combination.

Results and Discussion

1 - Evolution of the area of organic agriculture and its relative importance to the total agricultural area in Egypt:

The data in table (2) indicate that the organic area in 1000 hectares in Egypt during the study period (2001-2016) increased by a minimum of 3 thousand hectares in 2001 with a relative importance of 0.08% for the total agricultural area, Ha in 2016 with a relative importance of 2.8% for the total agricultural area, while the average period was about 50.4 thousand hectares with a relative importance of 1.3% for the total agricultural area in Egypt during the study period.

The equation of the general time trend for the development of the organic area in one thousand hectares in Egypt during the study period (2001-2016), as shown in Equation (1) in Table (3), shows that the organic area in 1000 hectares in Egypt has taken an increasing general trend, Thousand hectares annually representing about 14.5% of the annual average area of organic area in thousand hectares in Egypt during the same period. The coefficient of selection indicates that about 91% of the change in the organic area in 1000 hectares in Egypt during this period is due to the factors reflected by the time variable.

Table 2 : Shows the evolution of the total area of organic agriculture and its importance to the total agricultural area in Egypt, Africa and the world.

	Egypt		Africa		Total World	
Years	**Organic area (thousand hectares)**	**% Of the total agricultural area**	**Organic area (thousand hectares)**	**% Of the total agricultural area**	**Organic area (thousand hectares)**	**% Of the total agricultural area**
2001	3	0.08	233.4	0.03	17220	0.41
2002	4	0.12	317	0.03	19764	0.47
2003	15	0.19	358.3	0.04	25671	0.6
2004	17	0.19	514	0.05	29711	0.69
2005	24.5	0.72	490	0.05	28970	0.67
2006	14.2	0.41	685	0.07	30076	0.7
2007	19.3	0.54	862.4	0.09	32310	0.75
2008	40	1.13	858	0.08	35231	0.81
2009	56	1.58	1027	0.1	37094	0.85
2010	82.2	2.23	1076	0.1	37041	0.85
2011	82.2	2.23	1073	0.1	37483	0.9
2012	85.8	2.33	1149	0.1	37940	0.9
2013	85.8	2.33	1227	0.1	43091	1
2014	85.8	2.29	1263	0.1	44404	1.1
2015	85	2.27	1684	0.1	50919	1.1
2016	106	2.8	1802	0.2	57817	1.2
Average	50.4	1.3	913.7	0.1	35296.4	0.8

Source: www.organic-world.net

Table 3 : Equations of the general time trend of the evolution of the total area of organic agriculture in Egypt, Africa and the world during the period (2001-2016).

Item	Country	Equation number	The equation	R^2	F
The organic area is a thousand hectares	Egypt	1	*Y^h = -11.8 + 7.3 X1h (12) ***	0.91	(144) **
The organic area is a thousand hectares	Africa	2	*Y^h = 100.8 + 95.6 X1h (17.8) ***	0.96	(316.5) **
The organic area is a thousand hectares	Total world	3	*Y^h = 17092.2 + 2141.7X1h (13.4) ***	0.93	(179.6) **

Source: collected and calculated from Table (2).
Yh = the estimated value of the area in the year (i), Xi = variable time, (i)= 1, 2 , 3,...,n). (**) Indicates a significant regression model or when the level of significance (0.01).
R^2= R Square., (F) = F value calculated.

2. Evolution of the area of organic agriculture and its relative importance to the total agricultural area in Africa

The data in Table 2 indicate that the organic area in Africa in the period 2001-2016 was increasing at a minimum of 233.4 thousand hectares in 2001 with a relative importance of 0.03% for the total agricultural area, with a maximum of 1802 thousand Ha in 2016 with a relative importance of 0.2% for the total agricultural area, while the average period was about 913.7 thousand hectares with a relative importance of 0.1% for the total agricultural area in Africa during the study period.

By estimating the general time trend equation for the evolution of the organic area in one thousand hectares in Africa during the study period (2001-2016), as shown in Equation (2) in Table (3), the organic area in one thousand hectares in Africa has taken a general and increasing trend of 95.6 Thousand hectares per year representing about 10.5% of the annual average of organic area in one thousand hectares in Africa during the same period. The limiting factor indicates that about 96% of the change in the organic area in Africa in this period is due to the factors reflected by the time variable.

3- Evolution of the area of organic agriculture and its relative importance to the total agricultural area in the world

The data in Table (2) indicate that the organic area in the world in thousand hectares during the study period (2001-2016) increased by a minimum of 17220 thousand hectares in 2001 with a relative importance of 0.41% for the total agricultural area, with a maximum of 57817 thousand Ha in 2016 with a relative importance of 1.2% for the total area of agricultural, while the average period was about 35296.4 thousand hectares with a relative importance of 0.8% of the total agricultural area in the world during the study period**.**

In terms of the general time trend of the development of the organic area in one thousand hectares in the world during the study period (2001-2016), as shown in Equation (3) in Table (3), the organic area in one thousand hectares in the world has taken an increasing general trend and moral significance estimated at 2141.7 Thousand hectares per year representing about 6.1% of the annual average of the organic area in one thousand hectares in the world during the same period. The coefficient of selection indicates that about 93% of the change in the world's organic area in one thousand hectares during this period is due to the factors reflected by the time variable.

The relative importance of the area cultivated by organic and traditional crops in Fayoum governorate centers:

Table (4) shows that the total area of summer and winter organic crops for the total of the governorate centers amounted to about 8877 feddans. Fayoum center came in the first rank by 41.7% according to the ranking of the centers according to the relative importance of the area of organic agriculture, Followed by the centers (Abshwai, Yousef Al-Siddiq, Atsa, Sinnouris, Tamiya**)** at rates (29.6%, 9.3%, 8.4%, 7.4%, 3.6%) respectively.

Table (4) shows that the total area of traditional crops for the total of the governorate centers amounted to about 41154 feddans. The center of Abshway was in the first order with 34.6% according to the ranking of the centers according to the relative importance of the traditional agriculture area to the total traditional area in the governorate followed by centers (Fayoum, Sinnouris, Yousef Al-Siddiq, Atsa and Tamiya) At rates (15.5%, 14.4%, 12.4%, 12.0% and 11.1%), respectively.

Table 4 : Areas cultivated by organic and summer crops and winter at the level of the centers in Fayoum Governorate for the agricultural season (2015/2016) feddan.

	Organic Agriculture			Traditional agriculture		
Center	**Total of feddan**	**% Of total governorate**	**Ranking**	**Total of feddan**	**% Of total governorate**	**Ranking**
Fayoum	3700	41.7	1	6388	15.5	2
Abshway	2630	29.6	2	14251	34.6	1
Yousef Al-Siddiq	823	9.3	3	5112	12.4	4
Atsa	744	8.4	4	4930	12	5
Sinnouris	660	7.4	5	5917	14.4	3
Tamiya	320	3.6	6	4556	11.1	6
Total Governorate	8877	100		41154	100	

Source: Ministry of Agriculture and Land Reclamation, Fayoum Agriculture Directorate, unpublished data, for the agricultural season 2013.

Area planted with organic crops in selected sample villages:

This section will review the area of organic peppermint and organic marjoram in the selected sample centers and villages.

First: Fayoum Center:

The peppermint mint and marjoram were selected from organic crops in Mansheyat Sukran village in Fayoum. Table 5 shows that the area cultivated with flaxseed was about 280 feddans, representing about 27.2% of the total area of organic agriculture in the center. The area for organic marjoram was about 320 feddans representing 31.1% of the total area of organic agriculture in the center.

Table 5 : Total area cultivated with organic crops and selected crops for selected sample villages in Fayoum Governorate for the agricultural season (2015/2016) in feddan.

Center	the village Selected For the study sample	Total area of organic agriculture in feddan	Organic area of peppermint mint In the feddan	% Of the total area of the Center	Organic area for marjoram feddan	% Of the total area of the Center
Fayoum	Mansheyat Sukran	1030	280	27.20%	320	31.10%
Abshway	Abu Jinshu	365	90	24.70%	100	27.40%

Source: Ministry of Agriculture and Land Reclamation, Fayoum Agriculture Directorate, unpublished data.

Second: The center of Abshway

Peppermint mint and marjoram were selected from organic farming crops in the village of Abu Jinshu in the center of Abshway. Table 5 shows that the area cultivated with peppermint mint is about 90 feddans, representing about 24.7% of the total area of organic agriculture in the center. The area of the marjoram is about 100 feddans, representing 27.4% of the total area of organic agriculture in the center.

Productive and economic indicators of marjoram and peppermint crops

Table (6) shows the productivity and economic indicators of both peppermint and marjoram in organic agriculture and compared with conventional agriculture, as follows:

1. Peppermint Mint

Table 6 shows that productivity in organic agriculture decreased by 9.1% of productivity in traditional agriculture, whereas the average variable costs in organic agriculture increased by about 5550 pounds compared with the traditional agriculture, with an increase of about 26.1% while the increase in the total revenue per feddan In organic agriculture for the revenue of feddan in traditional agriculture by 55.9%. In terms of net revenue per feddan, it increased in organic agriculture compared to conventional agriculture, with an increase of 68.8%. This reflects the average farm price of a ton of organic peppermint to about 14.8 thousand pounds 8.6 l Pounds per ton in traditional agriculture and an increase of about 71.5%.

Table 6 : The most important productive and economic indicators (for peppermint mint, marjoram) Traditional and organic in the study sample for the agricultural season (2015/2016)

Crop	Peppermint Mint			Marjoram		
Indicators	**Traditional agriculture**	**Organic Agriculture**	**% the increase**	**Traditional agriculture**	**Organic Agriculture**	**% the increase**
Average production per feddan	2.2	2	-9.1	2.8	2.6	-7.1
Average variable costs per feddan	4400	5550	26.1	4350	8725	100.6
Total revenue per feddan	18920	29500	55.9	12880	39650	207.8
Net revenue of the feddan in pounds	12420	20970	68.8	7380	29730	302.8
Average total costs	6500	8530	31.2	5500	9920	80.4
(Total return / total costs) x 100	291.1	345.8	18.8	234.2	399.7	70.7
(Net revenue per feddan / average variable cost) x 100	282.3	377.8	33.9	169.7	340.7	100.8
Average farm price per ton	8600	14750	71.5	4600	15250	231.5

Source: Collected and calculated from the survey questionnaire for the agricultural season (2015/2016).

2 - Marjoram crop:

Table 6 shows the decline in productivity of organic crops in organic agriculture by about 7.1% of productivity in traditional agriculture, while the average variable costs in organic agriculture increased by LE 8725 compared with the traditional agriculture by 100.6% In organic agriculture compared to conventional agriculture by 207.8%. In terms of net revenue per feddan, organic agriculture increased in comparison to conventional agriculture with an estimated increase of 302.8%, reflecting the average farm price of a ton of organic marjoram to about 15.3 thousand pounds compared to 4.6 Thousand pounds Per ton in traditional agriculture and an increase of about 231.5%.

Problems faced by sample farmers for organic farming:

It is clear from Table (7) that the problem of the decline in the production of feddan has captured about 91% of the respondents' opinions, while 9% did not approve. The problem of the lack of fertilizers and organic fertilizers in the market was approved by 88% while 12% did not agree.

Table 7 : Problems faced by farmers with organic agriculture research sample

Problems	Agree%	Disagree %
Low productivity per feddan	91	9
Lack of fertilizers and organic fertilizers in the market	88	12
High prices of fertilizers and organic fertilizers are vital in the market	90	10
Lack of specialized agricultural counselors to deliver recommendations	75	25
The length of transformation from traditional agriculture to organic	85	15
Problem of diseases and fungi	87	13
Weed spread problem	70	30
Lack of marketing complexes	100	0
Decreased government subsidies to farmers	95	5

Source: Computed from the questionnaire form with the sample of the study of organic agriculture for the agricultural season (2015/2016).

The problem of high prices of fertilizers and organic fertilizers in the market was approved by 90%, while 10% did not agree. The absence of specialized agricultural consultants to deliver the recommendations was approved by 75% and 25% disagreed. 85% While the problem of disease and fungi was not approved by 87% of the respondents. The problem was not supported by 13% of the respondents. About 70% supported the problem of weed spread while 30% did not support it. Marketing approved by 100%, while the problem of low government subsidies provided to farmers 95% agreed and 5% did not agree.

Proposals for solutions to problems faced by sample farmers for organic agriculture:

Table 8 shows that the proposal to establish marketing links and complexes for organic crops was approved by 97%, while 3% did not agree, while the proposal to provide fertilizer and organic fertilizer in the market at reasonable prices was approved by 95% while 5% The proposal to activate the role of agricultural extension in the awareness of farmers of organic agriculture was approved by 85%, while 15% did not agree, while the availability of low cost analysis laboratories close to the areas of organic agriculture approved by 96%, while 4% did not agree, and the provision of training centers for packaging and packaging The transfer and marketing of organic products approved by 85% while 15% did not agree, while establishing A fund to compensate those affected by the disasters associated with agriculture and agreed to all the sample items by 100%, and the proposal to provide suitable means of transport for organic crops approved by 90%, while 10% did not agree.

Table 8 : Proposed solutions to the problems faced by farmers in the organic agriculture research sample

Suggested solutions	agree %	disagree %
Establishing marketing links and pools for organic crops	97	3
Provide organic fertilizer and bio-fertilizers in the market at affordable prices	95	5
Activating the role of agricultural extension in raising awareness of farmers of organic agriculture	85	15
Provide low cost analysis laboratories close to organic farming areas	96	4
Providing training centers for the packaging, packaging, transport and marketing of organic products	85	15
Establishment of a fund to compensate those affected by disasters associated with agriculture	100	0
Provide suitable transportation for organic crops	90	10

Source: Computed from the questionnaire form with the sample of the study of organic agriculture for the agricultural season (2015/2016).

- Decreased area of organic agriculture compared to the area of traditional agriculture in the world, Africa, Egypt, as well as the governorates of Egypt.
- Despite the availability of conditions, environment and factors suitable for the expansion of organic farming methods, it is still much less than expected.
- Decreased productivity of acres of organic crops compared to traditional crops.
- The average variable and total cost of organic crops compared to traditional.
- The average net revenue per acre of organic crops compared to traditional.
- Higher prices of organic crops compared to traditional crops.
- There is a deficiency in the extension role associated with awareness of organic farming methods and methods
- Lack of training in the methods and requirements of organic agriculture and marketing of its products.
- Decreased government subsidies to farmers of organic agriculture.

Recommendations

Supporting the establishment of associations for organic farmers capable of reaching local and foreign markets.

Expand extension and training base to include as many small farmers as possible so that organic production does not become monopolistic for large farmers.

Develop guidance programs to assist and support farmers facing problems during and after the transition to organic farming directly.

Securing seeds, seedlings, organic fertilizers and biocides. Facilitating farmers' access to the information required for marketing services and markets.

Increased government support to farmers of organic agriculture.

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