

Vol. 8. No. 4. 2021

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Contents available at:

www.crdeepjournal.org

International Journal of Social Sciences Arts & Humanities (ISSN: 2321-4147)(CIF: 3.625)
A Quarterly Peer Reviewed Journal



Full Length Research Paper

The Competitiveness of Egyptian Orange exports to the most important World Markets

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ARTICLE INFORMATION ABSTRACT

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Article history:

Received: 06-10-2021

Revised: 08-10-2021

Accepted: 16-10-2021

Published: 18-10-2021

Key words:

Competitiveness,
Orange exports, World
markets, Egypt

Orange crop is the first fruit crop in Egypt that is grown for local production and export. The research aims to identify the current productive situation of the Egyptian orange crop, as well as to identify the current situation of exports of the Egyptian orange crop, in addition to measuring the export performance indicators of the Egyptian exports of the orange crop, and identifying the importance of this crop as one of the productive and export crops, in addition to the possibility of developing or increasing Egyptian exports to the countries of the world. The research relied on both descriptive and quantitative analysis methods, using some indicators (market share, apparent comparative advantage, instability coefficient, market penetration coefficient). The results showed: the annual growth rate in the total production, quantity and value of exports and the export price of the Egyptian orange crop reached about 4.7%, 10.3%, 17.7%, 7.4%, respectively, and the significance of this increase was statistically proven at a relevant level of 1% during the period (2000-2018), and by studying the indicators of the export performance of the Egyptian orange crop using the competitive advantage index, we find that it exceeded the correct one during the period (2010-2018), On the order during the study period, and by studying the instability coefficient for the quantity, value and price of the Egyptian orange crop exports, we find that the quantity was more volatile than the price, while the value was the most volatile during the same previous period. And by studying the market share of the Egyptian orange crop exports to the most important importing countries (Saudi Arabia, the Russian Federation, the Emirates, the United Kingdom) at rates of about 59, 41, 35, 14, respectively, during the study period.

Introduction

Egyptian exports in general, and agricultural exports in particular, play an important role in economic development, as agricultural exports are one of the most promising sources of increasing the state's earnings of hard currency. Therefore, exports are receiving great and growing interest from the state, to the extent that they have become a priority for decision-makers in recent times. The development of Egyptian agricultural exports is closely linked to global events and changes, so there is great and growing interest in creating a better export climate, which contributes to increasing the ability of these exports to penetrate foreign markets, by increasing their competitiveness, so that the trade balance deficit can be reduced. The orange crop considers the first fruit crop in Egypt that is grown for local production and export. The fruitful area of the orange crop reached about 252.65 thousand feddans, representing about 69% of the total fruitful area of the fruit, and the production reached about 247.48 million tons, representing about 72% of the total Citrus production (), and Egypt produces the equivalent of 9.2% of the total global production of oranges, and the value of Egypt's exports of oranges amounted to about \$279.2 million, which represents about 7.4% of the value of global production of oranges for the average period (2000-2018).

The interest in export is increasing because it is one of the most important sources of obtaining hard currency, and one of the sources of national income, so the agricultural sector is interested in raising the value of its exports, especially of citrus in general and oranges in particular, as one of the most important agricultural exports with the suffering of exports in the recent period and with the high rate of growth of agricultural imports, The growth rate of agricultural exports, which led to a deficit in the total trade balance amounting to about 916.95 million pounds, and the deficit in the agricultural balance amounted to about 34.97 million pounds in 2018, in addition to the presence of competing countries in the export of oranges, which negatively affects all From the Egyptian producer and exporter, which threatens the Egyptian exports of this crop in the global markets. The research aims to develop Egyptian oranges exports by increasing their competitiveness, and to assist the makers of the export policy in the possibility of increasing the amount of oranges exports, and to achieve the main objective, it is necessary to study the following sub-objectives:

- 1- Studying the current situation of Egyptian foreign trade of oranges.
- 2- Geographical distribution of Egyptian orange exports and identification of the most important importing countries.

3- Identifying the most important indicators of the external marketing efficiency of the Egyptian orange crop during the period (2000-2018) and measuring its competitive position in world markets, as well as measuring the competitiveness of Egyptian orange exports in foreign markets in an attempt to identify the most important obstacles that stand in the way of increasing the amount of Egyptian orange exports.

4- Reaching a set of recommendations that could benefit the Egyptian economic policy makers in general and the agricultural policy makers in particular to advance this important export crop.

Materials and methods

Methodology and source of data:

Some indicators of the external marketing efficiency of the orange crop were used, which are represented in the price competitive position index, and the instability coefficient, with the measurement of the fulfilment of export operations. The research depend on secondary data issued by various authorities, including the Central Agency for Public Mobilization and Statistics, the Information Centre of the Ministry of Trade and Industry, in addition to the websites of the United Nations and the World Bank on the Internet.

Revealed Comparative Advantage:

It expresses the ratio between the relative importance of the exports of a crop in a country to the relative importance of the exports of the crop in the world. When the value of the index is greater than one, there is an advantage for the exports of this crop in this country. To estimate the apparent relative index of a commodity, the following equation is used:

$$RCA_j = \frac{X_e^j}{X_e^a} / \frac{X_w^j}{X_w^a}$$

Where it represents:

RCA_j : apparent comparative advantage.

x_e^j : the value of the country's exports (e) of commodity (j) to the world.

x_e^a : the value of the country's agricultural exports (e) to the world.

X_w^j : the total value of world exports of the commodity (j).

X_w^a : the total value of world agricultural exports.

Market share:

Market share is one of the competitive indicators, as its increase represents one of the main objectives of the process of expanding the volume of foreign sales of any country. It expresses the ratio of the country's exports of a particular commodity to the total imports of that market of the same commodity. It is calculated using the following equation:

$$MS_{ji} = \frac{X_{jci}}{M_{cwi}} \times 100$$

Where:

MS_{ji} : The country's market share (j) of commodity (i) in a given market.

X_{jci} : Exports of country (j) to country (c) of commodity (i).

M_{cwi} : The country's total imports (c) from the world's countries of the commodity (i).

Market penetration coefficient: It is the ratio between the imports of the most important importing countries of the particular commodity and the apparent consumption of the commodity.

where:

MPR_{ij} : the country's market penetration coefficient (i) of commodity (j).

Me_{ij} : Imports from Egypt of the commodity (j) for the country market (i).

Q_{ij} : The country's production (i) of commodity (j)

M_{ij} : Country (i) imports from the world of commodity (j).

X_{ij} : Country exports (i) of commodity (j)

Price Competitiveness Index:

This indicator is used to judge the competitive price situation of Egypt compared to the competing countries for an export commodity. The lower the export price of a country compared to its counterpart in other competing countries, this means that there is a price advantage for the exported commodity and a higher competitive ability, and it can be calculated using the following equation:

$$PA_j = \frac{pc}{pe}$$

Where:

PA_j : The ratio of the price of the competing country to Egypt's export price for a commodity.

pc : The export price of the competing country to Egypt for a commodity.

pe : Egypt's export price for the same commodity.

If the value of this indicator is greater than the correct one, this indicates that the country exporting the commodity has a price advantage in exporting that commodity and vice versa.

Coefficient of instability:

It is considered one of the important indicators through which it is possible to identify the extent of stability of exports of a particular commodity to a particular market, and the extent of fluctuation in it, whether in terms of quantity, value or price, which

can help to correctly formulate and formulate policies to encourage exports to those markets, and it is calculated through the following equation:

$$S.C = \frac{|y_i - \hat{y}_i|}{\hat{y}_i} \times 100$$

Where:

S.C: instability coefficient

y_i: the actual value of the variable per year

\hat{y}_i : Estimated value of the variable per year

Efficient performance of export operation:

The efficiency of export operations affects the competitiveness of Egyptian exports in light of the increasing intensity of world competition, and includes the efficiency of operation romance, starting from the process of assembly, storage, packaging, packaging and shipping to the final consumer, in addition to the specifications required by different markets and adherence to quality standards. This indicator was measured using the following equation:

$$EPX = \frac{TVX_i}{TGDP} * 100$$

Where:

EXP: Efficient performance of export operation

TVX: Total country exports

TVP: Total gross domestic production

According to this indicator, the higher this percentage, the more efficient the systems, policies, bodies and institutions within the country will be.

-The standard estimate of the competitiveness of the Egyptian orange exports crop, which is represented in:

-Relative price: depends on the sensitivity of demand to changes in prices. Countries can win new markets by reducing export prices for their products. Countries may acquire new markets through export subsidies or customs exemptions.

-Relative price factor = the export price of the competing country for commodity n / Egypt's export price for commodity n

-The ability to meet export requirements: The ability to meet export requirements is one of the most important things to build confidence between exporters and importers, maintain foreign markets and open new markets.

-The relative measure of the coefficient of instability of the quantity of exports = the coefficient of instability of the quantity of exports of the competing country of the crop n / the coefficient of instability of the amount of Egypt's exports of the crop n

-The efficiency of the performance of export operations: The efficiency of the performance of export operations is concerned with the quality of the operations of collection, assembly, storage and shipping to the final consumer, in addition to specifications in international markets and quality specifications, in light of the presence of the current global conglomerates.

-The efficiency factor for the performance of export operations = the value of the country's total exports / the value of the country's GDP

-The ratio of the exported quantity = the quantity of the competing country's exports of the crop / the quantity of Egypt's exports of the crop

A multiple model can be made using the linear and double logarithmic form in which the dependent factor (R) is the ratio of the exported quantity, (Q₁) the relative price, (Q₂) the ability to fulfill export requirements, (Q₃) the efficiency of the performance of export operations.

Results and Discussion:

The research deals with the development of the quantity of exports and the export price of Egyptian oranges during the period (2000-2018), the relative price of Egyptian exports of oranges and the most important competing countries, and the estimation of the coefficient of instability of Egyptian exports of oranges compared to competing countries, then measuring the competitiveness of the Egyptian orange crop.

First: The evolution of the quantity, value and price of Egyptian oranges during the period (2000-2018)

Egyptian orange exports: It is evident from the data of table No. (1) that deals with the amount of Egyptian orange exports, where the average period (2000-2018) reached about 568.84 thousand tons, with a minimum of about 127 thousand tons in 2002 and a maximum of about 1129 thousand tons in 2014 with a standard deviation of about 336.02 thousand tons, with a coefficient of variation of about 0.59%. The determination (R²) is about 0.68, which means that about 68% of the changes in the quantity of orange exports are due to factors whose effects reflect the element of time. By evaluating the general time trend of the development of orange quantity exports during the same period as in table No. (2), equation No. (1) shows that it took a general statistically upward trend at the familiar levels of morale, with an annual growth rate of about 10.3%, and the value of (F) is about 35.54, which is a significant level of 1%, and the value of the coefficient of determination (R²) is about 0.68, which means that about 68% of the changes in the quantity of orange exports are due to factors that reflect the effects of time.

The value of Egyptian orange exports: It is evident from the data of table No. (1), which deals with the value of Egyptian orange exports, where the average period (2000-2018) amounted to about 301.89 million dollars, with a minimum of about 27 million dollars in 2002 and a maximum of about 538 million dollars in the year 2011, with a standard deviation of about \$215.28 million, with a coefficient of variation of about 0.71%. And by evaluating the general time trend of the development of the value of orange exports during the same period as in table No. (2) equation No. (2) shows that it took a general statistically upward trend at the familiar levels of morale, with an annual growth rate of about 17.7%, and a significant level of 1%, and the value of the

coefficient of determination (R^2) is about 0.78, which means that about 78% of the changes in the value of orange exports are due to factors whose effects reflect the element of time.

The price of Egyptian orange exports: It is evident shown from table No. (1) that deals with the price of Egyptian orange exports, where the average period (2000-2018) amounted to about \$460.74/ton, with a minimum of about 196 dollars/ton in 2001 and a maximum of about \$751/ ton in 2012, with a standard deviation of about \$198.74/ton, with a coefficient of variation of about 0.43%. Through the equation of the general time trend of the development of orange exports price during the same period as in table No. (2) equation No. (3) shows that it took a general statistically significant upward trend at the familiar levels of morale, with an annual growth rate of about 7.4%, with significant level of 1%, and the value of the coefficient of determination (R^2) is about 0.75, which means that about 75% of the changes in the price of orange exports are due to factors whose effects reflect the element of time

Table (1): Evolution of some economic indicators of Egyptian oranges during the period (2000-2018)

	Export quantity (10 ³ ton)	Export value (\$ million)	Export price (\$/ton)	Production (10 ³ ton)	(1)/(4) %
Year	(1)	(2)	(3)	(4)	
2000	234	50	212	1611	14.5
2001	258	51	196	1696	15.2
2002	127	27	209	1809	7.0
2003	167	39	235	1768	9.4
2004	222	67	300	1850	12.0
2005	214	75	350	1940	11.0
2006	283	65	230	2120	13.3
2007	272	99	365	2055	13.2
2008	655	382	582	2138	30.6
2009	822	495	602	2372	34.6
2010	820	484	591	2401	34.1
2011	1042	538	516	2578	40.4
2012	608	456	751	2786	21.8
2013	1109	493	445	2855	38.8
2014	1129	442	392	3136	36.0
2015	664	482	726	3351	19.8
2016	749	502	670	3572	21.0
2017	706	492	698	3461	20.4
2018	727	497	684	3516	20.7
Mean	568.84	301.89	460.74	2474.47	21.78
Upper limit	1129	538	751	3572	40.4
Lower limit	127	27	196	1611	7.0
S.D	336.02	215.28	198.74	671.69	10.71
C. V	0.59	0.71	0.43	0.27	0.49

Source: Compiled and calculated from the data of the Ministry of Agriculture and Land Reclamation - Economic Affairs Sector - Central Administration of Agricultural Economy - Bulletin of Agricultural Crops Statistics - Various issues.

Table (2): Equations of the general time trend of the evolution of the quantity, value and price of Egyptian oranges during the period (2000-2018)

Dependent variable	E no.	Equation	R^2	F	Mean	Growth rate %
Export quantity (10 ³ ton)	1	$y = e^{5.10 + 0.103t}$ (25.82)*(5.96)*	0.68	35.54*	568.84	10.3
Export value (\$ million)	2	$y = e^{3.49 + 0.177t}$ (13.59)*(7.84)*	0.78	61.54*	301.89	17.7
Export price (\$/ton)	3	$y = e^{5.29 + 0.074t}$ (44.95)*(7.16)*	0.75	51.39*	460.74	7.4
Total production (10 ³ ton)	4	$y = e^{7.31 + 0.047t}$ (382.94)*(28.19)	0.98	795.12*	2474.47	4.7

Source: It was calculated from the data of Table No. (5) using the SPSS statistical program.* Significant at the 1% level ** Significant at the 5% level.

Egyptian orange production:

Table no. (1) shows that deals orange production amounted to about 2474.47 thousand tons, with a minimum of about 1611 thousand tons in 2000 and a maximum of about 3572 thousand tons in 2016 with a standard deviation of about 671.69 thousand tons with a coefficient of variation of about 0.27% during average period (2000 - 2018). And by evaluating the general time trend for the development of orange production during the same period as in table no. (2) equation no. (4) shows that it took a general statistically significant upward trend at the familiar levels of morale, with an annual growth rate of about 4.7%, at a significant level

of 1%, and the value of the coefficient of determination (R^2) was about 0.98, which means that about 98% of the changes in orange production are due to factors whose effects reflect the element of time.

The percentage of Egyptian orange exports from the total production

It is evident from the data of table no. (1), which deals with the percentage of orange exports from the total production, where the average period (2000 - 2018) reached about 21.78%, the orange production with a minimum of about 7% in 2002 and a maximum of about 40.4% in 2011, with a standard deviation of about 10.71%, with a coefficient of variation of about 0.49%.

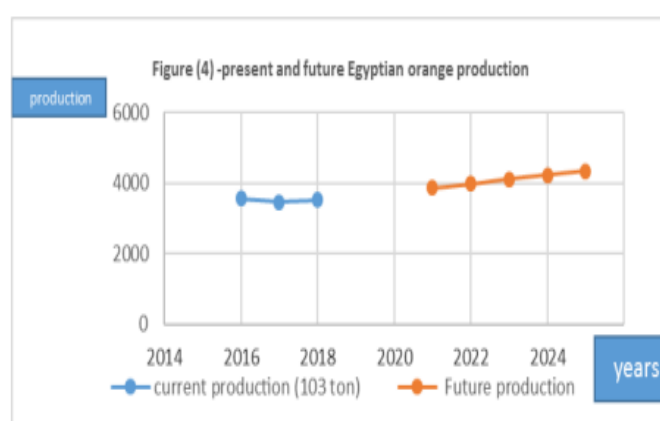
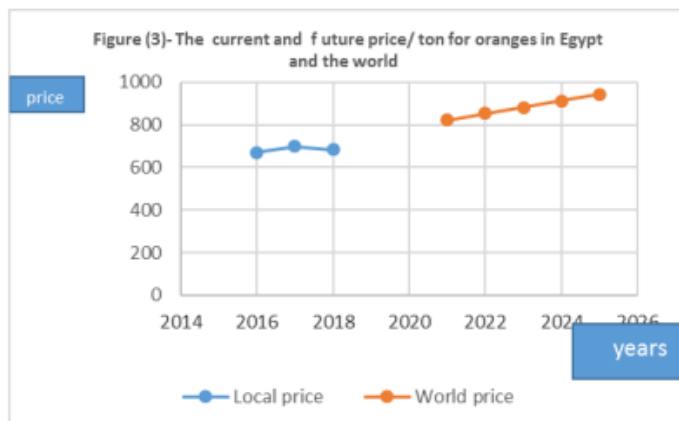
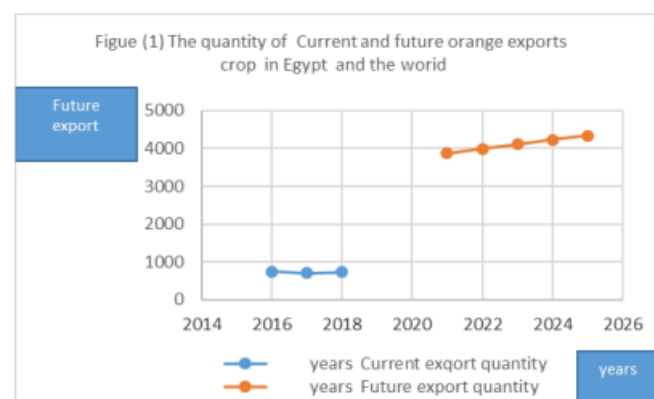
Second:-Prediction of some economic indicators of the Egyptian orange crop during the period (2019-2025):

The results of table no. (3) indicate that the Egyptian orange crop in the external market indicates that there is more than one indicator of marketing efficiency, but the study focuses on the most important of these indicators, as it was found that the average quantity of production of oranges was 3,991 during that period, while its minimum reached about 3,641 thousand. tons in 2019, and the maximum production quantity is expected to reach 4,341 thousand tons in 2025. The average export price is \$ 852 dollars per ton. It also became clear that the upper limit of the export price was \$ 942 per ton in 2025, while it became clear that the lowest price per ton of oranges was in 2019 with about \$ 762, and it can be predicted that the average amount of exports of oranges will reach about 1165 thousand per ton, as it turned out that the upper limit of the export quantity is 1303 thousand tons in 2025, while it became clear that the least amount of oranges exported was in 2019 with about 1028 thousand tons, and it can be predicted that the average value of exports of oranges will reach about \$ 741 million, and it turned out that the maximum value of exports was \$ 842 million in 2025, while it became clear The lowest amount of orange exports in 2019 was about \$ 639 million.

Table (3) The development Egyptian oranges production, the quantity of exports, the export price, and the value of current and forecast exports during the year (2021, 2023, 2025)

	Export quantity (10 ³ ton)	Export value (\$ million)	Export price (\$/ton)	Production (10 ³ ton)	(1) /(4)
Year	(1)	(2)	(3)	(4)	%
2019	1028	639	762	3641	32
2020	1074	673	792	3758	33
2021	1119	707	822	3874	34
2022	1165	741	852	3991	35
2023	1211	774	882	4108	36
2024	1257	808	912	4225	37
2025	1303	842	942	4341	38
Average	1165	741	852	3991	35

Source: Table No. (1) Data and forecasting using Excel.



The most important orange exporting countries in the world:

Table no. (3) data indicate that the most important orange exporting countries worldwide during the period (2000-2018) amounted to about 6008.5 thousand tons, Spain acquired the largest share among the countries of the world by about 15000.7 thousand tons, representing about 25% of the total amount Orange exports at the world level, followed by South Africa with about 944.6 thousand tons, representing about 15.7% of the total amount of orange exports at the world level, and then come the United States of America, Egypt, Greece, Turkey, Morocco, the Netherlands, Australia, Italy China, other countries, about 585.8, 551.4, 307.4, 239.1, 211.3, 200.7, 134.4, 122.4, 72, 1138.3 thousand tons in the same order, representing about 9.8%, 9.2%, 5.1%, 4%, 3.5%, 3.3%, 2.2%, 2%, 1.2%, 19% of the total amount of orange exports worldwide, in the same order.

Table (3): The most important countries competing for orange production in the world during the period (2000-2018)

Country	Export quantity		Export value		Export price
	(10 ³ ton)	%	(\$ million)	%	(\$/ton)
Spain	1500.7	25	1111.4	29.3	740.6
South Africa	944.6	15.7	404.5	10.6	428.2
USA	585.8	9.8	460.5	12.1	786.1
Egypt	551.4	9.2	279.2	7.4	506.3
Greece	307.4	5.1	145.7	3.8	474
Turkey	239.1	4.0	126.2	3.3	527.8
Morocco	211.3	3.5	103.9	2.7	491.7
Netherlands	200.7	3.3	169.1	4.5	842.6
Australia	134.4	2.2	108.9	2.9	810.3
Italy	122.4	2.0	88.7	2.3	722.3
Chain	72	1.2	47.9	1.3	665.3
Oiher countries	1138.3	19	752.6	19.8	661.2
Total	6008.5	100	3798.6	100	632.2

. Source: Compiled and calculated from the United Nations - Merchandise Trade Statistics website <https://www.comtrade.org>.

Data in table no. (3) indicate that the total value of orange exports at the world level amounted to about \$ 3798.6 million . Spain ranked first in terms of the value of orange exports worldwide by about \$ 1111.4 million, at an export price of 740.6 dollars / ton, representing about 29.3% of the total value of orange exports worldwide, followed by South Africa by about \$ 404.5 million, at an export price of 428.2 dollars / ton, representing about 10.6% of the total value of orange exports worldwide. Then comes the USA, Egypt, Greece, Turkey, Morocco, the Netherlands, Australia, Italy, China, and other countries, with about \$ 460.5, 279.2, 145.7, 126.2, 103.9, 169.1, 108.9, 88.7, 47.9, 752.6 million respectively, at an export price of 786.1, 506.3, 474, 527.8, 491.7, 842.6, 810.3, 722.3, 665.3, 661.2 dollars / ton in the same order, representing about 12.1%, 7.4%, 3.8%, 3.3%, 2.7%, 4.5 %, 2.9%, 2.3%, 1.3% and 19.8% of the total value of orange exports worldwide, respectively.

The most important orange importing countries in the world markets:

Table No. (4) data indicate that the most important orange importing countries worldwide during the period (2000-2018) are about 6024.7 thousand tons. Germany acquired the largest share among the countries of the world 529.9 thousand tons, representing about 8.8% of the total amount of orange imports at the world level, followed by France with about 449.9 thousand tons, which represents about 7.5% of the total amount of orange imports worldwide, and then the Netherlands, the Russian Federation, the United Kingdom, Saudi Arabia, Canada, Hong Kong, Belgium, Japan, and the UAE. Other countries, about 443.1, 438.7, 310.4, 318.9, 199.5, 200.3, 152.9, 108.7, 143.8, 2728.9 thousand tons respectively, representing about 7.4%, 7.3%, 5.1%, 5.3%, 3.3%, 3.3%, 2.5 %, 1.8%, 2.4%, 45.3% of the total amount of imports worldwide, respectively.

Table (4) The most important orange importing countries in the world during the period (2000-2018)

Country	Import quantity		Import value		Import price
	(10 ³ ton)	%	(\$ million)	%	(\$ / ton)
Germany	529.6	8.8	364.6	8.6	688.4
France	449.9	7.5	353.2	8.3	785.1
The Netherlands	443.1	7.4	310.9	7.3	701.6
Russian Federation	438.7	7.3	291.7	6.9	664.9
U.K.	310.4	5.1	208.7	4.9	672.4
KSA	318.9	5.3	140.3	3.3	439.9
Canda	199.5	3.3	140.3	3.5	750.4
Hong Kong	200.3	3.3	167.2	3.9	834.7
Belgium	152.9	2.5	130.7	3.1	854.8
Japan	108.7	1.8	112.7	2.7	1036.8
UAE	143.8	2.4	111.1	2.6	772.6
Other country	2728.9	45.3	1909.7	44.9	699.8
World	6024.7	100	4250.5	100	705.5

Source: Compiled and calculated from the United Nations - Merchandise Trade Statistics website <https://www.comtrade.org>

Data of Table (4) also indicate that the total value of orange imports for the most important importing countries in the world amounted to about \$ 4250.5 million. Germany ranked first in terms of the value of imports by about \$ 364.6 million, representing about 8.6% of the total value of imports worldwide, followed by France At about \$ 353.2 million, representing about 8.3% of the world's total, then each of, then the Netherlands, the Russian Federation, the United Kingdom, Saudi Arabia, Canada, Hong Kong, Belgium, Japan, the UAE, and other countries, About \$ 310.9, \$291.7, \$ 208.7, \$ 140.3, \$140.3, \$ 167.2, \$ 130.7, \$112.7, \$111.1, \$1909.7 million in the same order, representing about 7.3%, 6.9%, 4.9%, 3.3%, 3.5%, 3.9%, 3.1%. Data of table (4) also indicate that the total price of orange imports for the most important importing countries in the world amounted to about 705.5 dollars / ton. Japan ranked first with about 1036.8 dollars / ton, followed by Belgium at about 854.8 dollars / ton, and then each of the Hong Kong countries Kong, France, UAE, Canada, Netherlands, Germany, United Kingdom, Russian Federation, Saudi Arabia, other countries, about 834.7, 785.1, 772.6, 750.4, 701.6, 688.4, 672.4, 664.9, 439.9, 699.8 dollars / ton respectively.

Geographical distribution of the quantity, value and price of Egyptian orange export:

Table No. (5) indicate to the geographical distribution of the quantity, value and price of Egyptian orange exports to international markets worldwide during the period (2000-2018), where the total amount of Egypt's exports of oranges to the countries of the world amounted to about 874.2 thousand tons, Saudi Arabia acquired the share the largest among the world's countries is 188.4 thousand tons, representing about 21.6% of the total amount of Egypt's exports of oranges worldwide, followed by the Russian Federation with about 180.6 thousand tons, representing about 20.7% of the total amount of Egypt's exports of oranges worldwide. Then comes Ukraine, the United Kingdom, the Netherlands, the Emirates, Sudan, Oman, Kuwait, Malaysia, Bangladesh, Lithuania, Qatar, France, India, Iraq, and other countries, with about 443.1, 438.7, 310.4, 318.9, 199.5, 200.3, 152.9, 108.7, 143.8, 2728.9 thousand tons respectively, representing about 6.8%, 5.0%, 4.7%, 5.7%, 2.8%, 2.1%, 3.0%, 1.5%, 2.9%, 1.3%, 1.0%, 0.3%, 2.3%, 2.5%, 15.8% of the total amount of Egypt's exports worldwide, respectively. It also indicates that the total price of orange imports for the most important importing countries in the world amounted to about 705.5 dollars / ton. Japan ranked first with about 1036.8 dollars / ton, followed by Belgium at about 854.8 dollars / ton. Then Hong Kong, France, the Emirates, Canada, the Netherlands, Germany, the United Kingdom, the Russian Federation, Saudi Arabia, and other countries, with about 834.7, 785.1, 772.6, 750.4, 701.6, 688.4, 672.4, 664.9, 439.9, \$699.8/ton respectively.

Table (5) - Geographical distribution of the quantity and value of Egyptian orange exports during the period (2000-2018)

Country	Export quantity (10 ³ ton)		Export value (\$ million)		Export price (\$/ton)	
		%		%		
KSA	188.4	21.6	94.9	19.6	503.7	
United Russia	180.6	20.7	105.7	21.8	585.3	
Ukraine	59.8	6.8	32.2	6.6	538.5	
United kingdom	43.6	5.0	20.8	4.3	447.1	
Netherlands	41.1	4.7	23.3	4.8	566.9	
UAE	49.9	5.7	27.7	5.7	555.1	
Sudan	24.1	2.8	11.9	2.5	493.8	
Oman	18.3	2.1	9.7	2.0	530.1	
Kuwait	26.1	3.0	14.4	3.0	551.7	
Malaysia	13.6	1.5	8.1	1.6	595.6	
Bangladesh	25.5	2.9	16.2	3.3	635.3	
Lithuania	11.4	1.3	7.4	1.5	649.1	
Qatar	8.9	1.0	4.8	1.0	539.3	
France	2.2	0.3	1.3	0.3	590.9	
India	20.5	2.3	12.4	2.5	604.9	
Iraq	21.8	2.5	11.1	2.3	509.2	
Other countries	138.4	15.8	83.5	17.2	603.3	
Total	874.2	100	485.4	100	555.2	

Source: Compiled and calculated from the United Nations - Merchandise Trade Statistics website <https://www.comtrade.or>

Data in table (5) also indicate that the average price of Egypt's export of oranges to the most important exporting countries in the world amounted to about \$ 555.2 per ton. Lithuania ranked first with about \$ 649.1 per ton, followed by Bangladesh by about \$ 635.3 per ton, and then comes after each of the countries Saudi Arabia, Russian Federation, Ukraine, United Kingdom, Netherlands, Emirates, Sudan, Oman, Kuwait, Malaysia, Qatar, France, India, Iraq, other countries, about 503.7, 585.3, 538.5, 447.1, 566.9, 555.1, 493.8, 530.1, 551.7, 595.6, 539.3, 590.9, 604.9, 509.2, 603.3 dollars/ton respectively.

Table (6): The apparent comparative advantage index for Egyptian orange exports during the period (2010-2018)

(Value in millions of dollars)

Item Year	Orange export value	Egy. agr. export value	World orange export value	World agric. export value	Apparent comparative advantage
2010	484	3129	4516	1084742	37.15
2011	538	3022	4817	1320239	48.79
2012	456	2711	4688	1337671	48.00
2013	493	5071	4859	1396563	27.94

2014	442	5170	4774	1367117	24.48
2015	482	4877	4816	1381840	28.36
2016	502	5023	4795	1374479	28.65
2017	492	5023	4795	1374479	28.08
2018	497	4974	4802	1376933	28.65
Average	487.3	4333	4762	1334896	31.53

Source: Compiled and calculated from the United Nations - Merchandise Trade Statistics website <https://www.comtrade.or>

The apparent comparative advantage index of the Egyptian orange crop during the period (2010-2018):

It is clear from Table No. (6) that the apparent comparative advantage index of the Egyptian orange crop was greater than the correct one during the period from (2010-2018), where the value of this measure ranged between a minimum estimated at 24.48 in 2014, due to the decline in the value of Egyptian exports of Egyptian oranges in that year, and a maximum of about 48.79 in 2011 due to the high value of Egyptian exports of Egyptian oranges in that year, with an average of about 31.53, which indicates that the Egyptian orange crop has a comparative advantage in foreign markets in that period.

Market share:

The market share of Egyptian orange exports to the most important foreign markets was estimated to identify the extent of the ability of Egyptian orange exports to penetrate into these markets, cover the requirements of those markets and the possibility of increasing export efforts to those markets, and increasing their market share. Table No. 7 data shows), market share

Table (7): The market share of imports from the most important Egyptian orange importing countries during the period (2000-2018)

Country	Export quantity (10 ³ ton)	Ex quantity (10 ³ ton)	Market share%
KSA	188.4	318.9	59
United Russia	180.6	438.7	41
UAE	49.9	143.8	35
United kingdom	43.6	310.4	14

Source: Compiled and calculated from the United Nations - Merchandise Trade Statistics website <https://www.comtrade.or>

The Egyptian orange exports to the most important countries during the period (2000-2018):

As it was found that the market share reached its highest level in the Saudi market, reaching about 59% of the average total Saudi imports during the period under study, and the Russian Federation market comes in second place. It amounted to about 41% for the same previous period, and the UAE market came in third place, as the share of that market of Egyptian oranges was estimated at about 35%, and the UK market came in fourth place with about 14% of its total imports of Egyptian oranges during the same previous period.

Market penetration rate for the Egyptian orange crop: The market penetration rate for a commodity is one of the most important and most widely used metrics to measure the competitiveness of any country in exporting those commodities, because it represents a measure of the extent to which foreign markets absorb the exported commodity under study, which also shows the extent of the possibility of increasing exports. of that commodity in these markets, and then it contributes to setting policies for the external marketing of the commodity in each external market, that is, it measures the ability of the markets to absorb additional quantities of the exported commodity under study, and the value of this indicator ranges between zero and the correct one, and therefore the greater the resulting value indicates This is due to the breadth of the market and its ease of entry as a result of its reliance on imports to a large extent in the expansion of domestic demand and vice versa.

Table (7): The rate of penetration of imported markets for Egyptian oranges during the period (2010-2018)

Country	KSA	United Russia	UAE	UK
Year				
2010	0.37	0.32	0.31	0.22
2011	0.62	0.40	0.38	0.18
2012	0.48	0.27	0.24	0.10
2013	0.59	0.47	0.47	0.26
2014	0.79	0.45	0.39	0.24
2015	0.35	0.32	0.21	0.08
2016	0.38	0.33	0.26	0.14
2017	0.51	0.37	0.29	0.15
2018	0.41	0.34	0.25	0.12
Average	0.50	0.36	0.31	0.17

Source: Compiled and calculated from the United Nations - Merchandise Trade Statistics website <https://www.comtrade.or>

The data of table (7) indicate the penetration coefficient of Egyptian orange exports to the most important importing markets for Egyptian oranges during the period (2010-2018), where the Saudi market took the lead compared to the rest of the other import markets, where its minimum reached about 0.35% in 2015, and the maximum reached about 0.51% in 2017, with an annual

average of about 0.50, and this value means that Egyptian orange exports to Saudi Arabia represent about 0.50% of the total amount of orange consumption inside the Kingdom of Saudi Arabia. This indicates that the Saudi market can accommodate a larger amount of Egyptian exports of oranges. The Russian Federation market came in second place as it ranged between a minimum of about 0.27 in 2012 and a maximum of about 0.45 in 2014, with an annual average of about 0.36. This value means that Egyptian orange exports to the Russian Federation represent about 0.36% From the total amount of orange consumption within the Russian Federation market, and this also shows the increase in the average value of the penetration coefficient of Egyptian oranges to the Russian Federation market, while in the third place came the UAE market, where it ranged between a minimum of about 0.21 in 2015 and a maximum of about 0.47 in the year 2013, with an annual average of about 0.31 and this value means that Egyptian orange exports to the UAE market represent about 0.31% of the total amount of orange consumption within the UAE market. This also shows an increase in the average value of the Egyptian orange penetration coefficient to the UAE market, while in the fourth place came the UK market, where it ranged between a minimum of about 0.10 in 2012, and a maximum of about 0.26 in 2013, with an annual average of about 0.17 and this value It means that Egyptian orange exports to the UK market represent about 0.17% of the total amount of orange consumption within the UK market, and this shows that the UK market is one of the least markets for Egyptian orange exports. On the other hand, orange.

Coefficient of instability of the Egyptian orange crop:

Table No. (8) indicate that the quantity of Egyptian orange production in thousand tons is characterized by instability during the period (2000-2018), where the value of the stability coefficient of the quantity of Egyptian orange production increases from zero in all years and ranges between a minimum of about 2.71 in 2000, and a maximum of about 2.71 in the year 2000. It reached a maximum of about 19.74 in 2016, with an engineering average of about 85.8%, as it was shown from the table that the quantity of exports of that crop in thousand tons was unstable during the same previous period, as the value of the instability coefficient increased from zero in all years and ranged between a minimum of about 4.4 in 2002, and a maximum of about 17.58 in 2016, with an engineering average of about 9.26%.

Table (8): Evolution of the instability coefficient for the production, quantity, value and price of Egyptian oranges during the period (2000-2018)

Year	Production (10 ³ ton)	Export quantity (10 ³ ton)	Export value (\$ million)	Export price (\$/ton)
2000	2.71	5.81	4.17	3.88
2001	3.45	6.12	4.20	3.48
2002	4.43	4.40	3.62	3.81
2003	4.08	4.93	3.91	4.47
2004	4.79	5.65	4.58	6.13
2005	5.59	5.54	4.77	7.39
2006	7.13	6.45	4.53	4.34
2007	6.57	6.31	5.35	7.78
2008	7.29	11.34	12.13	13.30
2009	9.32	13.54	14.84	13.80
2010	9.57	13.51	14.58	13.52
2011	11.11	16.43	15.87	11.62
2012	12.92	10.73	13.91	17.59
2013	13.51	17.31	14.79	9.81
2014	15.95	17.58	13.57	8.46
2015	17.82	11.46	14.53	16.96
2016	19.74	12.58	15.01	15.53
2017	18.78	12.01	14.77	16.25
2018	19.25	12.26	14.87	15.89
Average	8.55	9.26	8.71	8.86

Source: The results of statistical analyzing for Table No. (1) .

It was also shown from the same table that the value of exports of that crop was not stable in million dollars during the same previous period, as the value of the instability coefficient was more than zero in all years and ranged between a minimum of about 3.62 in 2002 and a maximum of about 15.87 in 2011, with an average engineering, amounting to about 8.71%, as it was shown from the table that the export price of that crop was not stable (dollars/ton) during the same previous period, as the value of the instability coefficient increased from zero in all years and ranged between a minimum of about 3.48 in 2001 and a maximum of It reached about 17.59 in 2012, with an engineering average of about 8.86%. It is clear from the previous analysis that the quantity of orange exports during the average of the previous period was more volatile than the export price, which is the most stable, which means that the external demand for these products is greatly affected by factors other than the price levels, which calls for interest in studying these factors and other variables, And work to increase its stability, which leads to the stability and continuation of Egyptian exports of oranges in foreign markets.

Conclusion

In light of the review of the various findings of the study, a set of recommendations can be developed that may benefit the developers of the internal or external agricultural and marketing policy for the Egyptian orange to increase its production and exports to various global markets. The following are the most important of these recommendations:

- 1 - The necessity of paying attention to the Arab markets importing Egyptian oranges, especially the Saudi and Emirati markets, as it was found that the market share amounted to about 59%, 35% for each of them, respectively, during the study period.
- 2 - Studying the markets of competing and importing countries for Egyptian oranges by creating a database to monitor the absorptive capacity of each market according to the requirements of certain specifications, in addition to increasing the promotional efforts for Egyptian orange exports to work on opening new markets.
- 3- Working to reduce both production and transportation costs for Egyptian orange exports, while increasing support for exporters, especially in case of opening new markets.
- 4 - Egyptian oranges should be exported through the regulatory authorities, and the exported oranges should conform to international standards in terms of the permitted amount of pesticides and chemicals.

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