



An Analytical study of Egyptian pomegranate exports in the most important world markets

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Abstract: Pomegranate crop is one of the most important export crops in Egypt. With the increase in the area of pomegranate it is necessary to open new markets. The study aims to get the competitiveness of the Egyptian pomegranate in the most important foreign markets. The study results shows increasing of pomegranate total area from about 8 thousand acers in 2008 to about 96 thousand acers in 2019. Results indicate that the Egyptian pomegranate importer markets are Russian, Iraq, the UAE, Saudi Arabia, Kuwait, Netherlands, Jordan and Italy by exporting quantities where about 52, 45, 29.6, 28.8, 16, 4.4, 2.7, 1.2 thousand tons, respectively. Results showed that the market share of Egyptian pomegranate exports in Russia, Saudi Arabia, the UAE, Netherlands and Italy is about 10.1%, 17.6%, 13.9%, 1.6%, 1.6%, respectively during the period (2010-2019). Results showed that the Arab markets and Russia market represented about 83.4% of total Egyptian pomegranate exports during the same period. Results also showed that the price ratio of Egypt's pomegranate exports is the best in its important markets although that fact it hasn't an advantage in its market share. That shows the necessary to open new markets, and the early enter to these markets.

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Key Words: Egyptian pomegranate - OLS regression method – Export competitiveness.

Introduction:

Egypt is currently interested in developing Egyptian agricultural exports. Therefore, the Egyptian Agriculture Strategy 2030 puts the top of its interest in developing exports of horticultural crops, especially crops that have high export value in the global market. Egypt has a comparative advantage in the production of many horticultural crops throughout the year. The pomegranate crop is one of the most important export crops in Egypt, where the percentage of Egyptian exports of pomegranates is about 45% of the volume of production in Egypt as an average for the period (2015-2019). Pomegranate is grown in hot, dry areas, so its cultivation is very good in Upper Egypt, especially the governorates of Assiut and Sohag, where the fruits need high temperatures to complete the ripening process. The most important local varieties (Manfaloti - Taif - Al Baladi) which are produced in Egypt, also the American variety (Wonderful), where it achieved high productivity and good specifications under Egypt environment.

The problem of the study:

The Egyptian pomegranate is considered one of the promising crops in the local and world market.

Assiut is the second largest pomegranate export center in the world. Egyptian pomegranate is exported to more than 22 European and Arab countries due to its high quality. With the increase in the area of pomegranate and the increase in production, the percentage of exports from the total production decreased, and the domestic price decreased, which calls for studying the competitiveness of the Egyptian pomegranate crop in the most important foreign markets and ways to increase exports from it.

The GOAL of the study:

The study aims to recognize the pomegranate production and exporting, the most important world markets, the competitiveness of Egyptian pomegranate crop in the most important foreign markets.

Research methodology and data sources:

The study relied on the use of descriptive and quantitative analysis in analyzing time series data, using the OLS regression method, and estimating the general temporal trend equations to identify the progress of the various economic variables under study. During the period (2008-2019). As well as

some measures of competitiveness indicators. The study is based on data issued by the United Nations, data of the Ministry of Foreign Trade, the foreign trade database, the Central Organization for External Data and Statistics, the World Trade Data Center database and the data of Ministry of Agriculture and Land Reclamation.

Evolution of Productivity of the pomegranate crop in Egypt:

The study shows increasing of pomegranate total area from about 8 thousand acers in 2008 to about 96 thousand acers in 2019, table no. (1). Also table (2) shows statistically significant increase in the total area of pomegranate crop, which amounted to 9.1 acers annually. The study shows that the fruitful area of pomegranate crop increased from about 5.5

thousand acers in 2008 to about 92 thousand acers in 2019, the table (2) results shows that there is a statistically significant increase in fruitful area estimated about 7.3 acers annually. The study shows increasing of pomegranate production from about 47.5 thousand tons in 2008 to about 75.5 thousand tons in 2019; also in Table (2) the study shows that there is a statistically significant increase in pomegranate production estimated about 58.5 thousand tons annually. The study also shows decreasing of the pomegranate productivity during the period (2008-2019), which about 8.71 ton/acer in 2008 to about 8.19 ton/ acer in 2019. The study shows that there is a statistically significant decrease in pomegranate productivity estimated about 0.0963 ton/acre.

Table (1): Area, productivity and production of Egyptian pomegranate crop during period (2008-2019) (Area: acer, productivity: ton/acer, production: ton)

Years	Total Area	Fruitful Area	Productivity	Production
2008	8008	5456	8.71	47499
2009	7893	5690	9.02	51299
2010	10171	6027	8.487	51150
2011	13521	6748	9.569	64574
2012	26851	9746	9.136	89035
2013	34450	11752	9.04	106260
2014	43605	14379	9.18	132031
2015	58319	27035	8.13	219663
2016	85415	32995	8.15	269070
2017	85676	48501	7.86	381426
2018	80109	76924	8.19	629896
2019*	96023	92205	8.19	755025
Average	45837	28121	8.29	233077

*: Data for 2019 is under review.

Source: Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, Agricultural Statistics Bulletin, different volumes.

Table (2): Time series analysis of Area, productivity and production of Egyptian pomegranate crop during period (2008-2019) (Area: acer, productivity: ton/acer, production: ton)

Statement	The equation	R2	t- test	Rate of change (%)
Total Area	$\hat{Y} = -13474 + 9125 X$	0.94	12.37 ^{**}	19.9
Fruitful Area	$\hat{Y} = -19115 + 7267 X$	0.78	5.95 ^{**}	25.8
Production	$\hat{Y} = 147428 + 58539 X$	0.78	5.93 ^{**}	25.12
Productivity	$\hat{Y} = 9.26 - 0.096 X$	0.41	- 2.63 [*]	- 1.16

Where: \hat{Y} : denotes the estimated value of the dependent variable

X: denotes the element of time as an independent variable, **: significant at level of 1%

*: significant at level of 5%, Source: Data in table No. (1).

The important Egypt governorates that are producing pomegranate:

Table No. (3) shows that the Nubaria area and Assiut governorate are the most important area producing pomegranate in Egypt, where result indicated that the total area of each represents about 57.3, 10.9 thousand acres respectively which represent about 71.5%, 13.6% of the total pomegranate area in Egypt in 2018 which amounts to about 80 thousand acers.

Table (3): Total pomegranate Area in Egypt governorate in 2018 (Area: acer- production: ton)

Others	11938	14.9	53739	8.5
Egypt	80109	100	629996	100

Governorates	Total Area	Area (%)	production	Production (%)
Assiut	10862	13.6	168446	26.7
Nubaria	57309	71.5	407811	64.8

Source: Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, Agricultural Statistics, 2018.

Egyptian exports of pomegranate:

Pomegranate is one of the most promising export crops in Egypt. The Egyptian pomegranate advantage is its high quality, large size and presence in world markets at an earlier period than the competing markets. The results on table (4) shows coincide with expansion of pomegranate cultivation, the increasing of Egyptian exports from it. Results indicate an increase in the quantity of production from about 220 thousand tons in 2015 to 755 thousand tons in 2019, the rate of increase was about 244%. Also an increase in the quantity of exports from about 91 thousand tons in 2015 to 512 thousand tons in 2019, the rate of increase was about 462%. Results indicated that the percentage of exports from production ranged between a minimum amounting to about 22% in 2018 and a maximum of about 68% in 2019, with an average of about 45% during the study period (2015-2019).

The most important world markets for Egyptian pomegranate:

Results shown in Table (5) indicated that the most important importing market for Egyptian pomegranate is Russian, with exports amounting to about 52 thousand tons, representing about 24.9% of the total Egyptian exports of pomegranate, which amounted to 209 thousand tons as an average for the study period (2015-2019). It was followed by the markets of Iraq, the UAE, Saudi Arabia, Kuwait, the Netherlands, Jordan and finally Italy, where the amount of exports of each of them were about 45, 29.6, 28.8, 16, 4.4, 2.7 and 1.2 thousand tons, respectively, relative importance were about 21.6%, 14.2%, 13.8%, 7.7%, 2.1%, 1.3% and 0.6% of the average exports quantity for the study period. Results indicated that the average export price amounted to about 721.9 dollar/ton for the study period. On the other hand, the upper limit of the export price per ton was about 1061 dollar/ton for the Dutch market and 798 dollar/ton for the Italian market, representing about 149.9%, 110.5% respectively of the average export price during the study period (2015-2019). While the minimum were about 680 dollar/ton for the Kuwait market and 686 dollar/ton for the UAE Market, representing about 94.2%, 95% of the average export price during the study period.

Table (4): The quantity of production and exports of pomegranate and the rate of exports to production during the period (2015-2019) (production: ton)

Years	production	exports	Exports/production (%)
2015	219663	91036	41
2016	269070	138709	52
2017	381426	162115	43
2018	629896	140483	22
2019	755025	512096	68
Average	451016	208888	45
The rate of increase (%)`	243.7	462.5	41

Source: (1): Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, Agricultural Statistics Bulletin, different volumes.

(2): Central Agency for Public Mobilization and Statistics, Foreign Trade Bulletin, different volumes.

Table (5): The most important world markets for Egyptian pomegranate during the period (2015-2019)(Quantity: ton- value: thousand dollars – price: dollar/ton)

Years	quantity	Quantity (%)	value	Value (%)	price	Price/average (%)
Russian	52007	24.9	10333	11.9	764	105.8
Iraq	45036	21.6	18701	21.6	759	105.2
UAE	29642	14.2	24062	27.8	686	95.0
Saudi Arabia	28826	13.8	14799	17.1	697	96.6
Kuwait	15984	7.7	4672	5.4	680	94.2
Netherlands	4359	2.1	663	0.8	1061	146.9
Jordan	2701	1.3	1912	2.2	719	99.6
Italy	1153	0.6	1164	1.3	798	110.5
Others	29179	14.0	10347	11.9	754	104.5
average	208887	100.0	86652	100.0	722	100.0

Source: Central Agency for Public Mobilization and Statistics, Foreign Trade Bulletin, different volumes.

Seasonality of Egyptian exports of pomegranate:

The export season for Egyptian pomegranate starts from July to February. Results in table (6) indicated that September, October and November are the most important relative of about 44.3%, 26.9% and 11.2%, respectively as the average of the study period (2015-2019). On the other side, Result indicated that the EU imports of pomegranate are continues all over the year, the EU imports in the same season (from Jul to Feb) was represent about 71.2% from the total EU imports during the study period.

Figure 1 shows Egypt's exports of pomegranates from mid-July to the end of December, while the European Union's imports of pomegranates are less than the quantities exported from Egypt, that analyzing the importance of opening new markets.

Table (6): The seasonality of Egyptian exports of pomegranate comparing with EU exports during year 2019 (Quantity: ton- value: thousand dollars – price: ton/\$)

Years	Quantity of Egypt exports	Quantity (%)	Quantity of EU imports	Quantity (%)
Jan	10234	4.9	15894	10.9
Feb	7766	3.7	12971	8.9
Mar	79	0	11612	8.0
Apri	55	0	12928	8.9
Mai	27	0	11758	8.1
Jun	27	0	5450	3.8
Jul	1579	0.8	4222	2.9
August	10268	4.9	4108	2.8
Sept	92449	44.3	7164	4.9
Oct	56181	26.9	13586	9.4
Nov	23326	11.2	13485	9.3
Dec	6896	3.3	31991	22.0
Total	208887	100	145170	100.0

Source : www.trade map.org

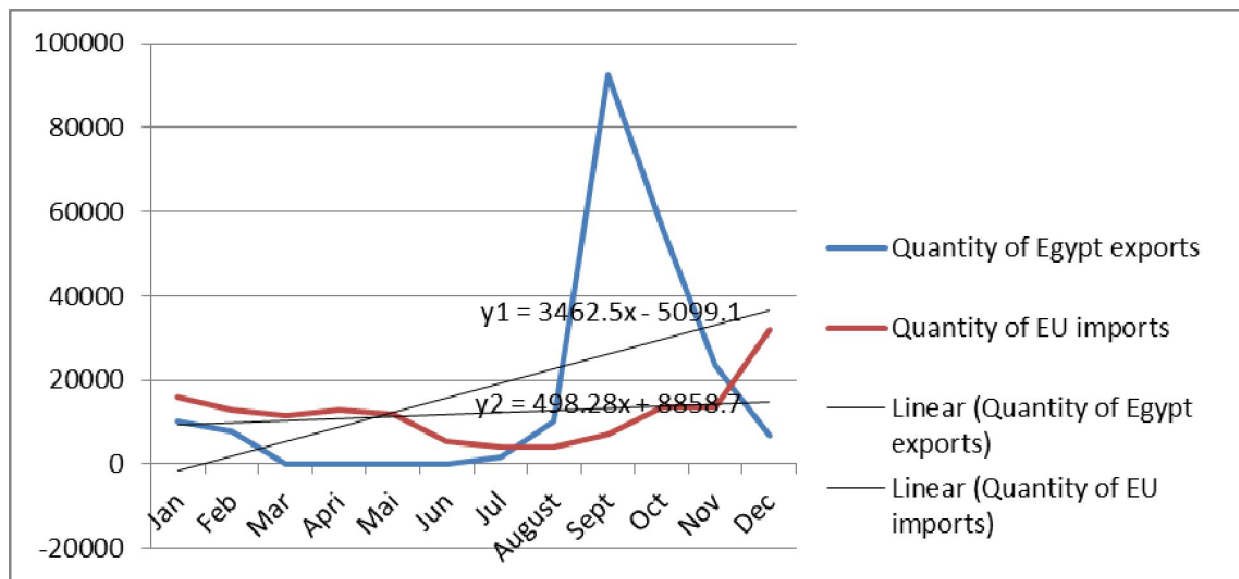


Figure: (1): Seasonality of Egyptian pomegranate exports V European Union in 2019

The competitiveness of Egyptian exports of pomegranate in its most important foreign markets

The competitiveness of Egypt pomegranate exports in its most important foreign markets, which are the Russian Federation, the UAE, Saudi Arabia, the Netherlands and Italy. Results showed in Table (7) indicated that the amount of Egyptian pomegranate exports to the Russian market amounted to about 10966 tons as an average for the period (2010-2019) with a market share estimated at 10.1%. The main competitors being Turkey and Azerbaijan with a market share of 33.6% and 24.3% respectively. Results also indicated that Egypt price ratio estimated about 0.91, which competes with Azerbaijan's price ratio of about 0.85. Results showed that the amount of Egyptian pomegranate exports to the Saudi Arabia market amounted to about 14601 tons as an average for the same period with a market share estimated at 17.6%. The main competitor being Ecuador with a market share of 37.9%. The results also indicated that Egypt price ratio estimated about 0.52, which no competitors. Results showed that the amount of Egyptian pomegranate exports to the UAE market amounted to about 6981 tons as an average for the same period with a market share estimated at 13.9%. The main competitor being India with a market share of 47.9%. Results also indicated that Egypt price ratio estimated about 0.49, which no competitors. Results showed that the amount of Egyptian pomegranate exports to Netherland market amounted to about 926 tons as an average for the same period with a market share

estimated at 1.6%. The main competitor being Spain, Belgium, Colombia, Germany, United Kingdom and India with a market share of 17.3%, 14.8%, 14.2%, 3.8%, 2.7%, 2.0% respectively. Results also indicated that Egypt price ratio estimated about 0.62, which competes with Belgium's price ratio of about 0.85. Results showed that the amount of Egyptian pomegranate exports to Italy market amounted to about 524 tons as an average for the same period with a market share estimated at 1.6%. The main competitor being Spain, France, Netherlands, Turkey and Germany with a market share of 62.5%, 9.3%, 4.9%, 4.8%, 2.8% respectively. Results also indicated that Egypt price ratio estimated about 0.46, which no competitors.

Results showed that the Arab markets and Russia are among the most important markets for Egyptian pomegranate exports, which represents about 83.4% of the total amount of Egyptian pomegranate exports as the average of the period. Results also showed that the price ratio of Egypt's pomegranate exports is the best in its important markets although that fact it has not an advantage in market shares, that shows the necessary to open new markets, and the early enter to this markets.

Also research results refer to market penetration rate for Russia, Saudi, UAE, Netherlands and Italy which are estimated about 1.01, 1.17, 1.66, 35.6, 1.20 respectively as the average of the same period, that mean there are a good chance to increase Egypt pomegranate exports to these markets.

Table (7) : The competitive of Egyptian exports of pomegranate in its most important foreign markets as an average for the period (2010-2019)

The markets	Comparatives markets	Quantity ton	Market share %	Value thousand dollars	Price ton/dollar	Price ratio %	Market penetration rate
Russian Federation	Turkey	36662	33.6	42754	1166	0.96	1.01
	Azerbaijan	26473	24.3	27391	1035	0.85	
	Egypt	10966	10.1	12112	1105	0.91	
	Peru	4144	3.8	8613	2079	1.71	
	World	108961	100.0	132241	1214		
Saudi Arabia	Ecuador	31393	37.9	42754	1362	0.85	1.17
	Philippines	8046	9.7	27391	3404	2.13	
	Egypt	14601	17.6	12112	829	0.52	
	India	7167	8.6	8613	1202	0.75	
	World	82879	100.0	132241	1596		
United Arab Emirates	India	24119	47.9	35010	1452	0.96	1.66
	Egypt	6981	13.9	5203	745	0.49	
	Iran	4316	8.6	3219	746	0.49	
	Yemen	1933	3.8	1438	744	0.49	
	World	50402	100.0	76104	1510		
Netherlands	Peru	5261	8.8	12196	2318	0.78	35.6
	Colombia	8500	14.2	42774	5032	1.70	
	Spain	10354	17.3	28839	2785	0.94	
	Belgium	8862	14.8	11695	1320	0.44	
	United Kingdom	1624	2.7	5283	3254	1.10	
	Germany	2256	3.8	6582	2918	0.98	
	India	1220	2.0	4044	3314	1.12	
	Egypt	926	1.6	1714	1852	0.62	
World	59678	100.0	177123	2968			
Italy	Spain	20076	62.5	28304	1410	0.82	1.20
	Netherlands	1571	4.9	5236	3333	1.94	
	France	2995	9.3	6921	2310	1.34	
	Turkey	1556	4.8	1742	1119	0.65	
	Egypt	524	1.6	415	793	0.46	
	Germany	907	2.8	2004	2211	1.29	
	Ghana	229	0.7	1765	7708	4.49	
World	32118	100.0	55198	1719			

Source: www.trade map.org

Summary

The pomegranate crop is one of the most important export crops in Egypt; its export is about 208 thousand ton as an average for the period (2015-2019). Results showed that the fruitful area of pomegranate crop increased from about 5.5 thousand acers in 2008 to about 92 thousand acers in 2019, also the pomegranate production increased from about 47.5 thousand tons in 2008 to about 75.5 thousand tons in 2019 with significant increase is about 58.5 thousand tons annually. Results indicate that Egyptian exports markets are Russia, Iraq, the UAE, Saudi Arabia,

Kuwait, Netherlands, Jordan and finally Italy by about 24.9%, 21.6%, 14.2%, 13.8%, 7.7%, 2.1%, 1.3% and 0.6% respectively from the total Egypt pomegranate exports as the average of period (2015-2019). Results showed also the export seasonality of Egyptian pomegranate starts from July to February, On the other side the EU imports in the same season was represent about 71.2% from the total EU imports in the same period. Results showed the market share of Egypt pomegranate exports in its most important markets are about 10.1%, 17.6%, 13.9%, 1.6%, 1.6% respectively for Russia, Saudi, UAE,

Netherlands and Italy. Results had indicated the Egypt price ratio estimated about 0.91, 0.52, 0.49, 0.62, 0.46 respectively for the same markets. That showed the price ratio of Egypt's pomegranate exports is the best although it has not an advantage in its market share. Results also refer to market penetration rate for Russia, Saudi, UAE, Netherlands and Italy which have estimated about 1.01, 1.17, 1.66, 35.6, 1.20 respectively as the average of the same period, that show a good chance to increase Egypt pomegranate exports to these markets.

Recommendations:

- 1- The necessity of open new markets.
- 2- Early entering to EU markets.
- 3- Implementation the Standard specifications

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