



FOREIGN TRADE OF CUT FLOWERS IN EGYPT

Heba Abdelfatah, Ahlam A. Hassan, Laila M. El-sherif and Karima A. Mohamud

Agricultural Economics Department, National Research Center,
33 El Bohouth Street, Dokki, Giza, Egypt

Abstract

The State policy aims to expand the export of agricultural commodities in general, and non-traditional in particular, to open new markets for Egyptian exports of these commodities. Therefore, it is necessary to conduct an economic study concerned with the export aspect of these crops, to benefit from the optimal export policy Which should be followed. Therefore, the objective of the study is study of the foreign markets importing those crops, and identifying the most important factors affecting the Egyptian exports from those flowers under study in its most important foreign markets in addition to estimate the price flexibility of these flowers to determine the most important policies to be followed in order to increase the export proceeds and the exported quantities in addition to study the best appropriate date for exporting those flowers. Therefore, the most important results are the average quantity of exports for the cut flowers in the study period amounted to about 5256.4 tons with an value about 16579.3 thousand dollars at an average price per ton about 3301.3 dollars and the general time trend equations explained this increase is not statistically significant and the exported quantity reached about 507.1 tons annually .The value of exports increased annually by about 735.9 thousand dollars while the price of exporting tons of cut flowers decreased at an annual rate of about 157 dollars / ton.

The Arab markets represented in Saudi Arabia, Libya, UAE, Kuwait, Jordan, Lebanon and Qatar are the main market for exports of cut flowers, with 95.7% of the total Egyptian exports, the relative importance of the exported quantities of cut flowers to the European markets decreased by 0.54%, With a value of 0.92% during the period (2016 - 2018). due to non-conformity of the specifications and quality standards required by those markets.

The geographical distribution study of the imports of the main importers of cut flowers, it was found that the Egyptian exports within the Saudi market represent 15.3% of the total imports of the Saudi market. Kenya is the main source in the Saudi market. The price of the Egyptian export price for Kenya is about 0.95% as an average during the period (2015-2017).

Within UAE market, Egyptian exports represent only 1.9% of the total market imports, and the study of the price ratio of the Egyptian export price for the other countries competing in the market has shown a decrease in the ratio compared to other countries, which represents an opportunity for the possibility of increasing Egyptian exports, and the need to study the specifications that the market required, as well as the appropriate times for export, and the study of both German and Netherlands market, the proportion of Egyptian exports only 0.1%, 0.02% for both markets.

This is due to the increase in the export price per ton of cut flowers for the competition countries in both markets, where the price ratio was about 1.05%, 1.5%, 1.12%, 1.32% for Kenya, Turkey, Ethiopia and France within the German market, and about 1.9% 2.4%, 1.5% for Kenya, Ethiopia, Belgium and Uganda, respectively within the Dutch market.

The study of the most important factors affecting the exports quantity of cut flowers from the most important markets, it was found that the increase in the price of export in one unit lead to decrease the exported quantity by about 0.12, 1.5, 5.2 tons for the Saudi Arabia, Libya and Germany markets, As well as, The increase in the exchange rate of the dollar / Egyptian pound leads to an increase in the exported quantity by about 57.7, 378.4 tons for the Saudi and Libyan markets, respectively. The price elasticity of the German market has been estimated at 0.81, which means that the German market is the best market for a balanced price policy, taking into account the quality of the specifications.

For cut flowers, December recorded the highest quantity exported, about 1203.7 tons, also recording the lowest export price about 1468 dollars / ton, with an estimated value about 3235.2 thousand dollars to register second place in terms of the highest total export value.

Keyword: Foreign trade .cut flowers, Egyptian exports of cut flowers, The geographical distribution of cut flowers.

Introduction

The country's policy aims to expand the export of agricultural commodities in general and non-traditional in particular and work to open new markets for Egyptian exports of these commodities, therefore, it has become necessary to conduct an economic study concerned with the export side of these crops in order to benefit from it in drawing the optimal policies for exports that should be followed when exporting such those crops (Amr Ahmed, 2004).

The cut flowers are considered one of the most important non-traditional crops that can be achieved in increasing the value of its exports due to Egypt's distinguished geographical location among the continents of the world, which provides it with a high competitive advantage in terms of price, quality specifications and availability of production in periods of scarcity, where the production of cut flowers is available from the beginning of

October to mid-April, such as (cloves, roses and the Egyptian lotus flower), which encourages the expansion of its cultivation and allows Egypt to occupy a distinguished position on the global map of the producing and exporting countries, which requires attention to expansion in its cultivation, and improving its production specifications, also, methods of cultivation and circulation it in post-harvest (Dina Anani, 2007).

Where that Egyptian cut flowers exported in 2018 are estimated at 2 thousand tons at a value of \$ 3.5 million, an increase of 2% over year 2017, and Egypt produces more than 4 thousand tons of flowers annually, or the equivalent of 650 million flowers of ornamental plants and flowers.

The study Problem

The problem of the study is that despite the availability of all environmental conditions and production elements necessary for the production of non-traditional agricultural

crops such as cut flowers, in addition of these crops can achieve competition in global markets, and provide the comparative advantage for Egypt in the production of cut flowers, But the cultivated area does not exceed 11 thousand feddans, of which 650 feddans Only planted for export, which is distributed to 180 feddans of Gladiolus, 200 feddans of rose, 75 feddans of cloves, 80 feddans of jasmine, 65 cloves feddans of Dalia, 50 feddans of lotus and the amount of exports amounted to about 2 thousand tons in 2018 with a value of about 3.5 million dollars, where the increase in non-traditional agricultural exports such as cut flowers is one of the most important means to solve the problem of the Egyptian trade balance deficit, which amounted to 940.97 billion pounds in 2018.

The objective of the study

A study of the foreign markets importing those crops, and identifying the most important factors affecting the Egyptian exports from those flowers under study in their most important foreign markets in addition to estimate the price flexibility of these flowers to determine the most important policies to be followed in order to increase the export proceeds, and the exported quantities in addition to study the best appropriate date for exporting those flowers.

Materials and Methods

Preliminary data through a questionnaire form in the most important governorates producing these flowers to identify the economic efficiency of some cut flowers, and therefore exports will be studied for these flowers. Also, the secondary data published in the Central Agency for Public Mobilization and Statistics. Ministry of Agriculture and Land Reclamation, United Nations.

The study relied on a descriptive and statistical analysis of some variables and the use of some economic indicators to measure the competitive position of Egyptian exports from under study of some cut flowers. The following was used:

1. Evolution of quantity, value and price of under study exports flowers
2. Analysis of simple and multiple regression in determining the most important factors affecting flower exports being studied in its most important markets.

3. Using the price function to estimate the price elasticity of the flowers under study in its most important foreign markets.
4. The geographical distribution of these flowers in its most important foreign markets.
5. The price ratio of the export price of Egypt for cut flowers in relation to the export price of the most important competing countries within the most important export markets.
6. Study the monthly distribution of exports of those flowers, in terms of quantity, value and average export price.

Results and Discussion

The evolution of Egyptian exports of cut flowers

Table (1) data indicate that the exported quantities of cut flowers during the period (2008-2018) reached an average of 5256.4 tons with a minimum of about 2048.6 tons in 2018, and a maximum of 14817.8 tons in 2016. The minimum export value amounted to \$ 3470.4 thousand in 2018, and a maximum of about \$ 35884.5 thousand in 2014. The minimum export price per ton ranged to \$1644 in 2016 and a maximum of \$ 4337 in 2011.

By studying the general time trend equation for the evolution of the quantity of Egyptian exports of cut flowers during the period (2008 - 2018), and the results shown in table no. (2) that there is an annual statistically significant increase in the quantity exported of the cut flowers amounted to about 507.1 tons annually representing about 9.6% of the average period of about 5256.4 tons. The value of Egyptian exports of cut flowers increased by about 735.9 thousand dollars annually, which represents about 4.4% of the average value of exports amounting to 16,579.3 dollars. The significance of this increase was not statistically significant, and this may be due to the significant decrease in the value of the export price of cut flowers during (2017-2018).

The general time trend equation also shows a decrease in the export price per ton of picking flowers at an annual rate of \$ 157 / ton representing about 4.7% of the average export price of \$ 3301.3 / ton. The significance of this decrease is not statistically proven.

Table 1 : Evolution of the quantity, value and Egyptian cut flowers export price during the period (2008-2018)

Years	Quantity per ton	Value per thousand dollars	Price per ton / dollars
2008	1291.4	3577.6	2770
2009	1934.9	7122.1	3680
2010	2904.6	11560.5	3980
2011	2729.2	11835.7	4337
2012	6599	24133	3657
2013	7120.2	29961.3	4208
2014	8847.9	35774.5	4056
2015	5451.1	19190.3	3520
2016	14817.8	24357.9	1644
2017	4075.8	11280	2768
2018	2048.6	3470.4	1694
The average	5256.4	16579.3	3301.3

Source: National Information Center - Central Agency for Public Mobilization and Statistics.

Table 2 : Time trend equations for quantity, value and export price per ton of cut flowers during the period (2008-2018)

Statement	equation The	R ²	change Rate of	The significant
The amount of Cut flowers exports per tons	=2213.7 + 507.1 × 1 ^Ŷ _i	0.17	9.6	Not significant
The value of the cut flower exports per thousand dollars	=2213.7 + 507.1 × 1 ^Ŷ _i	0.05	4.4	Not significant
ton / \$ Cut flowers export price per ton	= 4243.3 – 157 × 1 ^Ŷ ₃	0.29	4.7	Not significant

Collected and calculated from the data of Table No. (1)

Where the estimated value of the variable = \hat{Y}_i

The geographical distribution of Egypt's exports of cut flowers, and its relative importance

Cut flowers market and contributions globally constitute an important number, as the total exports of cut flowers in the world exceeded 21.1 billion dollars, However, in the past year, it fell to \$ 20.6 billion. A number of countries are grappling with their export, as the Netherlands is on the top of production and export, with about 52% of global production, and reaping more than \$ 3.2 billion behind this, by exporting about 8 billion flowers, followed by Colombia and accounting for 15% of the global market. And earn about a billion dollars from the export of flowers and then Ecuador, and its share of the global market is about 9%, which grows more than 200 thousand hectares and is equivalent to about 50 thousand acres, as well as Kenya, which earns more than 507 million dollars, as a result of exporting to 125 thousand tons of flowers with a contribution Global up to about 7%, and about 500 thousand of workers in general, including about 90 thousand of workers working only in the cultivation of flowers, while Belgium contributes about 3% of global production, and then Ethiopia by 2%, and contribute to Malaysia, Italy, Germany, 1% each, produced, including small-scale farmers, about 400 million flowers, so its trade worth about billions of dollars.

It is clear from a study of the geographical distribution of Egypt's exports of cut flowers that the Arab market represents is the first market for Egypt's exports of cut flowers, as it absorbs the markets of Arab countries represented in Libya, Saudi Arabia, the Emirates, Kuwait, Jordan, Lebanon and Qatar on about 95.7% of the total

amount of Egyptian exports of cut flowers during the average period (2016-2018), Libya is considered the first country in the world to import Egyptian cut flowers, importing about 65.6% of total amount of Egypt's cut flowers, with export value representing about 63.7% of the total value of Egypt's cut flowers, followed by Saudi Arabia and Kuwait, where their imports from Egyptian cut flowers about 19.1%, 6.6%, respectively, of the total amount of Egyptian exports of cut flowers, with export value representing about 18.9%, 5.6%, respectively, of each of the total value of Egyptian exports of cut flowers.

While the relative importance of Egypt's exports of cut flowers decreased in European markets as shown in table (3), as the proportion of Netherlands imports from the quantity of Egyptian exports of cut flowers reached about 0.54%, at an estimated value of 0.92%, The relative importance of Egypt's exports of cut flowers in the German market also decreased, reaching about 0.99% of Egypt's total exports of cut flowers during the study period ,and by a percentage of about 0.09% of the value of Egyptian exports of cut flowers during the period (2016-2018), This is due to the lack of conformity of Egyptian exports of cut flowers from the specifications and quality standards required by these markets, which leads to the reluctance of these countries to import Egyptian cut flowers, as the total Egyptian exports of cut flowers fell from 14817.8 tons in 2016 to about 2048.6 tons in year 2018 decreased by 86.2% from the general average, and exports decreased from about \$ 24.4 million in 2016 to about \$ 3.47 million in 2018, with a decrease rate of about 85.8% over the general average.

Table 3 : The geographical distribution of Egypt's exports of cut flowers for its most important markets Quantity (tons) - value (thousand dollars)

The countries	2016		2017		2018		Average period quantity	Average period value	of the % quantity exported	of the % value exported
	Quantity	Values	Quantity	Values	Quantity	Values				
Saudi	1607.8	3232	1075.1	2062.2	1313.4	2104.7	3996.3	7398.9	19.08	18.92
Libya	11352	17853	2320	7072	68	1.7	13740	24927	65.61	63.74
UAE	88.8	315.4	45.6	115.4	32.5	112.5	166.9	543.3	0.80	1.39
Kuwait	827.4	1090	176.7	664.1	387.9	443.8	1392	2197.5	6.65	5.62
Jordan	231.8	264.6	179.3	387.6	53.1	161.7	464.2	813.9	2.22	2.08
Lebanon	202.3	240.4	39.9	251.8	16.3	139	258.5	631.2	1.23	1.61
Diameter	78.02	195	33	92.1	7.8	6.1	118.82	293.2	0.57	0.75
Holland	75.8	231.4	6.4	51.1	30.7	76.4	112.9	358.9	0.54	0.92
Germany	157.6	456.9	34.3	207.8	17.1	93.4	209	758.1	0.998	0.0998
Total Egyptian exports	14817.8	24358	4075.8	11280	2048.6	3470.4	20942.2	39108	100	100

Source: National Information Center, Central Agency for Public Mobilization and Statistics.

Geographical distribution of imports of the most important countries importing Egyptian cut flowers:

The Kingdom of Saudi Arabia market:

The Kingdom of Saudi Arabia is one of the main markets for Egyptian exports of cut flowers, as table no. (4) indicates that the market share of Egyptian exports within the Saudi market represents 15.3% of the total imports of the Saudi market, amounting to about 1320 tons as an average during the period (2015-2017), With an estimated value of about 3274.4 thousand dollars on average for the same period, representing about 7.5% of the total value of Saudi imports of cut flowers for the same period, amounting to 43090.7 thousand dollars.

While Kenya came in the second place by about 2726 tons, representing about 31.6% of total imports, at an

estimated value of 11509 thousand dollars, representing about 26.7% of the total value of Saudi imports of cut flowers

The same table also indicates that the percentage between the Egyptian export price inside the Saudi market and the price of the competing countries, as it was found that the export price of Egypt amounted to about 2481 dollars / ton, representing about 0.59% of the export price of Kenya, which the first competitor within the Saudi market, and the Egyptian export price is less than the competing countries. Which it reached about 0.4%, 0.3%, 0.37% for Ethiopia, Netherlands, and Thailand respectively as an average for the same period.

Table 4 : Geographical distribution and the relative importance of the Kingdom of Saudi Arabia's imports from Egyptian cut flowers average during the period (2015-2017)

Average during the period (2015-2017)	Quantity	%	Value	%	Price	Price ratio
Ethiopia	2318.3	24.8	13223.3	30.7	6184	0.4
Kenya	2726	31.6	11509	26.7	4222	0.59
Netherlands	689.7	8	5779	13.4	8379	0.3
Egypt	1320	15.3	3274.4	7.6	2481	1
Thailand	279	3.2	1869.3	4.4	6700	0.37
Sri Lanka	320.7	3.7	814	1.9	2538	0.98
Colombia	101.7	1.2	559	1.3	5497	0.45
Ecuador	182	2.1	648	1.5	3560	0.7
India	236.3	2.7	1172.8	2.7	4963	0.5
Other	633.3	7.4	4242	9.8	6698	0.37
The total	8627	100	43090.7	100	4995	0.5

Source:1- United nations commodity trade statistics database.

2- National Information Center - Central Agency for Public Mobilization and Statistics.

UAE Market

The United Arab Emirates is one of the most important Arab markets importing Egyptian picking flowers. table no. (5) indicates that the market share of Egyptian exports within the UAE amounted to about 1.6% of the total market imports, which amounted to 7189 tons as an average for the period (2015-2017), and with a rate of about 1, 1% of the total value of those imports, which amounted to about 37,445 thousand dollars as an average for the same period. Although Dutch imports represent about 17.2% of the total quantities imported, their value represents about 29% of the total value of imports, then Kenya comes with a takeover rate of about 33, 6% in terms of quantity and about 24.8% in terms of value, and the table indicates a The price ratio between the Egyptian export price within the UAE market and the price

of the competing countries, as it was found that the export price of Egypt amounted to about 3568 dollars / ton, representing about 0.93% of the export price of Kenya, the main source in the UAE market, and it decreased by about 0.4% of the Netherlands export price, on average for the same period, about 0.99%, 0.94%, 0.56%, 0.63%, 0.66% for the markets of Ethiopia, India, Colombia, Thailand, and South Africa, respectively, and on average, Egypt's export price About 0.69% of the average price of the UAE's import of cut flowers, meaning that the Egyptian export price is less than the export price of most of the exporting countries, which represents an opportunity to increase exports Egyptian, which requires the study of specifications and appropriate times.

Table 5 : Geographical distribution and the relative importance of the UAE's imports of Egyptian cut flowers during the period (2015-2017)

The Countries	Quantity	%	Value	%	Price	Price ratio
Netherlands	1234	17.2	10887	29	8823	0.4
Kenya	2412	33.6	9281	24.8	3848	0.93
Ethiopia	937	13	3498	9.3	3733	0.96
India	829	11.5	3144	8.4	3792	0.94
Colombia	286	4	1830	4.9	6399	0.56
Thailand	279	3.9	1585	4.2	5681	0.63
South Africa	189	2.6	1026	2.8	5429	0.66
Italia	35	0.5	626	1.7	1789	1.99
Egypt	118	1.6	421	1.1	3568	1
Other	870	12.1	5148	13.8	5916	0.6
The Total	7189	100	37445	100	5209	0.69

Source:1- United nations commodity trade statistics database. 2- National Information Center - Central Agency for Public Mobilization and Statistics.

Germany Market

The German market is one of the most important markets for the cut flowers, as its imports represent about 8% of the total global imports as an average for the period (2015-2017), but the market share of Egyptian exports within the German market does not exceed 0.1% of the total imports, which amount to about 181717 tons and about 0.4% of its total value as an average for the period (2015-2017), while Netherlands ranked first in the German market with a rate of about 87.8% of total imports and about 90% of the total value, as an average during the period (2015-2017).

This is due to the fact that the Dutch market is the largest global Stock market for the cut flower, in addition to the proximity of the distance between the two countries,

followed by both Kenya and Italy, with relative importance amounting to about 5.4%, 1.2%, respectively, of the total quantities imported and represented about 4.4%. 1.5% of the total import value for the same period.

The same table also indicates the price ratio of the Egyptian export price within the German market relative to the prices of competing countries it turned out that the average export price of Egypt during the study period amounted to about 15,462 dollars / ton representing about 0.85% of the export price of Netherlands, as well as less than the price of export of Italy and Ecuador, Poland by about 0.67%, 0.62%, 0.72%, respectively, while the export price of Kenya, Ethiopia, France and Turkey exceeds about 1.5%, 1.1%, 1.3%, and 1%, respectively. As shown in Table 6

Table 6 : Geographical distribution and the relative importance of the Germany imports of Egyptian cut flowers during the period (2015-2017)

Countries Exporting	Quantity	%	Value	%	Price	Price ratio
Netherlands	159593	87.8	1030346	90	16456	0.85
Kenya	9887	5.4	51357	4.4	5194	1.05
Italia	2142	1.2	17426	1.5	8135	0.67
Ecuador	1469	0.8	12927	1.1	8800	0.62
Turkey	1938	1.1	7002	0.6	3613	1.5
Poland	1237	0.7	9399	0.8	7598	0.72
Ethiopia	793	0.4	3881	0.3	4894	1.1
Denmark	1281	0.7	5893	0.5	4600	1.3
France	847	0.5	3590	0.3	4238	1.3
Egypt	91	0.1	497	0.4	5462	1
Other	2449	1.3	15979	0.1	6525	0.84
Total imports of the German market	181717	100	1158297	100	6374	0.86

Source:1- United nations commodity trade statistics database.

2- National Information Center - Central Agency for Public Mobilization and Statistics.

Netherlands market

The Netherlands has the only stock exchange for flowers and the main market for the cut flower trade in the world, but the market share of Egyptian exports within the Dutch market does not exceed 0.02% of the total imports of the Dutch market amounting to 339 thousand tons on average for the period (2015-2017).

Kenya occupies the first place in terms of quantity and value exported to the Dutch market, at a rate of about 35.3%, 31.5 respectively, with an average price per ton of about 2625 dollars, followed by each of Ethiopia, Belgium, with rates of about 23.8%, respectively, for the quantities exported and represented about 16, 5%, 12.2% for each of them in

relation to the value, and the average price per ton for each of them amounted to 2043, 2105 dollars. The price ratio of the Egyptian export price in relation to the export prices of the competing countries indicates that the export price of Egypt amounted to about 5000 dollars / ton representing about 1.9%, 2.4%, 2.4%, 2.32% of the export price of Kenya, Ethiopia and Belgium. And less than the export price of Ecuador, Colombia and Germany by about 0.73%, 0.74% and 0.44%, respectively. It exceeds the general average of the Egyptian export price by about 1.7%, and it is clear from the table the inverse relationship between the imported quantity and the import price, as the low import price from both Kenya and Ethiopia allows an increase in the imported quantity from it. As shown in Table 7.

Table 7 : Geographical distribution and the relative importance of the Holland imports of Egyptian cut flowers during the period (2015-2017)

The Countries	Quantity	%	Value	%	Price	Price ratio
Kenya	119.8	35.3	314523	31.4	2625	1.9
Ethiopia	80.7	23.8	164869	16.5	2043	2.4
Belgium	57.7	17	121454	12.2	2105	2.3
Ecuador	10.9	3.2	74369	7.5	6823	0.74
Colombia	7.8	2.3	52892	5.3	6781	0.74
Germany	3.5	1.1	39411	4	11260	0.44
Uganda	10.2	3	33373	3.3	3272	1.5
Italia	3.5	1.1	24528	2.5	7008	0.71
Egypt	0.056	0.02	0.28	0.00003	5000	1
Others	44.8	13.2	171367	17.2	3825	1.3
The total	339	100	996786	100	2940	1.7

Source:1- United nations commodity trade statistics database.

2- National Information Center - Central Agency for Public Mobilization and Statistics.

The most important factors affecting Egyptian exports of cut flowers:

By Studying the relationship between the quantity of exports of cut flowers to the most important external markets, respectively, according to the relative importance of the quantities exported (Libya, Saudi Arabia, and Germany). The

quantities exported to these markets represent about 84.4% of the total quantities exported at an average during the period (2008 - 2018). The quantity exported represents the dependent factor and the most important factors affecting it as the independent factors. As shown in table no. (8)

Table 8 : Equations of the relationship between the quantity of exports of cut flowers and the most important factors affecting according to the most important imported markets during the period (2008-2018)

statement / Market	equation The	R2	The significant
Saudi			
Export price	$\hat{Y}1_i = 1165,3 - 0,12 \times 1_i$	0.1	Not significant
Exchange rate	$\hat{Y}1_i = 348.3 + 57.7 \times 4_i$	0.37	Not significant
Libya			
Export price	$\hat{Y}2_i = 8356.9 - 1.54 \times 2_i$	0.14	Not significant
Exchange rate	$\hat{Y}2_i = 709.1 + 37814 \times 4_i$	0.57	Not significant
Germany			
Export price	$\hat{Y}3_i = 285 - 0.02 \times 13_i$	0.3	Not significant
Exchange rate	$\hat{Y}3_i = 153.8 - 2.36 \times 4_i$	0.004	Not significant

Whereas: The estimated value of the exported quantity to Saudi Arabia in tons = $\hat{Y}1_i$

Estimated value of exported quantity to Germany in tons = $\hat{Y}3_i$

The export price per ton in dollars to Saudi Arabia = $X1_i$

Export price per ton in dollars to Libya = $X2_i$

Export price per ton in dollars to Germany = $X3_i$

The exchange rate of the dollar in Egyptian pounds = $X4_i$

Where $i = 0, 1, 11$,

Elasticity of Price demand for cut flowers

A study of the price demand functions in the most important imported markets, as shown in table no. (9), that the price elasticity of the cut-flowers exports for both the Libyan and German markets was estimated at about 0.569 and 0.81, which means that the German market is the best market that can follow a balanced price policy taking into account the quality of the specifications will lead to an increase in exports of cut flowers for this market.

Table 9 : Estimating the elasticity of the price demand for exports of cut flowers in the most important foreign markets during the period (2008-2018)

Market	The Equation	The significant
Libya	$\log \hat{Y}1_i = 3.35 - 0.079 \log x_{ij}$	Not significant
Germany	$\log \hat{Y}2_i = 0.5 - 0.81 \log x_{ij}$	Not significant

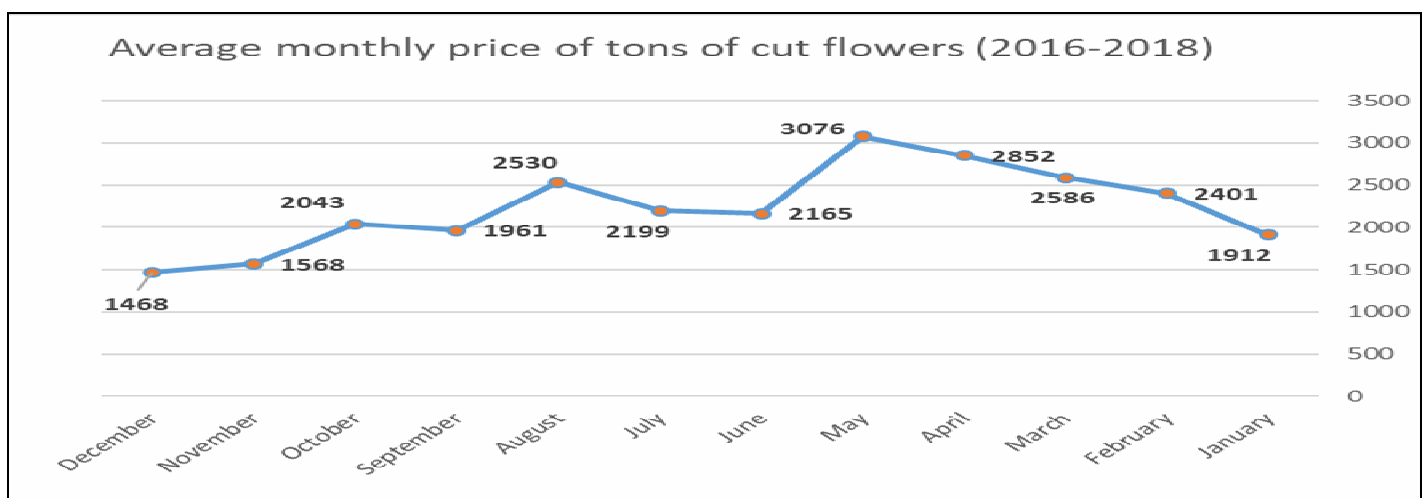
Source: Calculated from the data of the National Information Center, the Central Agency for Public Mobilization and Statistics

Whereas: The estimated value of exports from cut flowers to the market j in the year $i = \hat{Y}1_i$

The export price of cut flowers for the market j in year $i = X_i, 1, 2, 3, 11$.

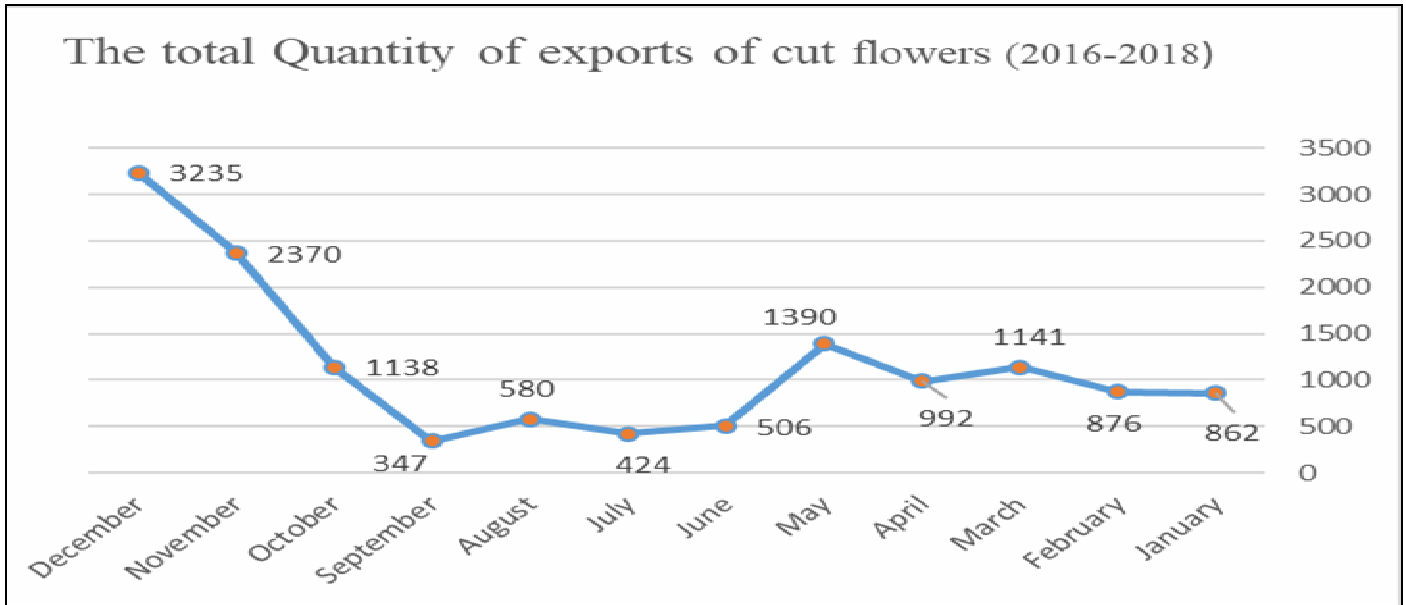
Monthly evolution of average price per ton of cut flowers for the period (2016-2018)

As Figures No. (1) (2) (3) show that the month of May recorded the highest price per ton, amounting to about 2852 dollars, while December recorded the highest month in terms of the exported quantity of about 2203.7 tons, also, the same month recorded the lowest export price, where, It reached about 1468 dollars per ton, which is equivalent to an estimated outcome of about 3235.2 thousand dollars for the same month, recording the second position in terms of the highest total value of exports of cut flowers, followed by November, with a capacity yield of about 2370 thousand dollars as an average for the period (2016-2018)



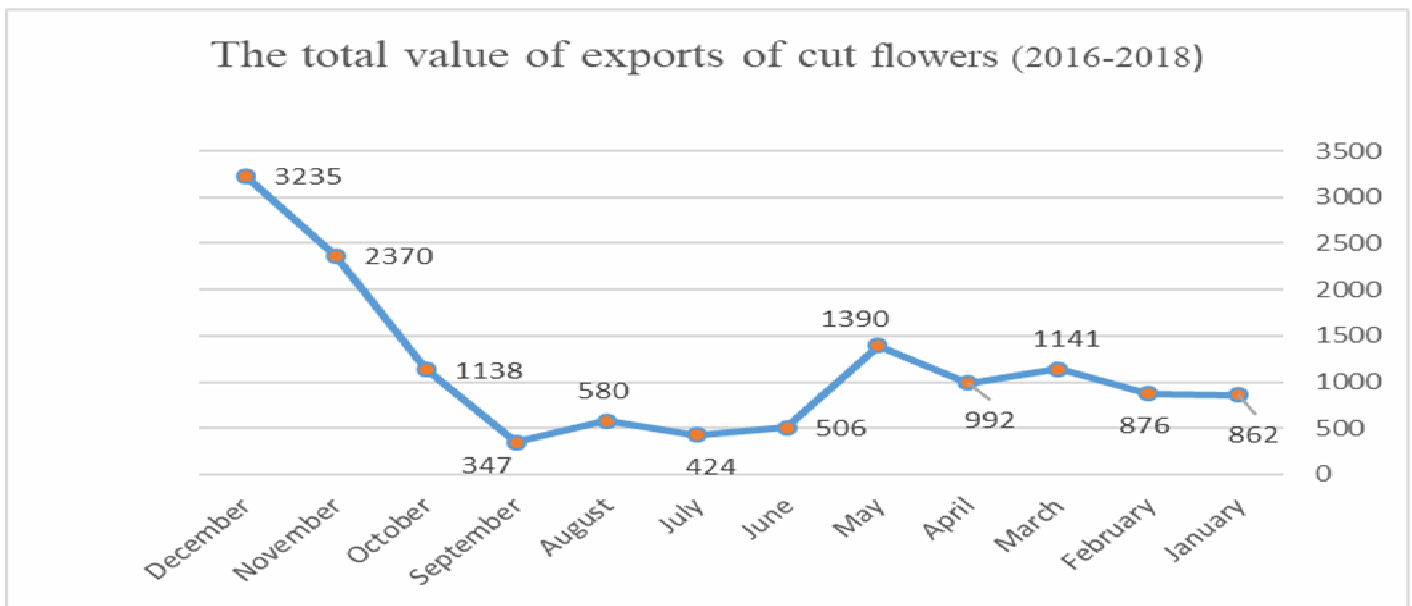
Source: National Information Center, Central Agency for Public Mobilization and Statistics

Fig. 1



Source: National Information Center, Central Agency for Public Mobilization and Statistics

Fig. 2



Source: National Information Center, Central Agency for Public Mobilization and Statistics

Fig. 3

Conclusion

By studying the price ratio of cut flowers in the Saudi market, it has been shown that this percentage has decreased compared to the prices of competing countries, which represents the possibility of increasing exports. It also showed a high percentage in both the Dutch and the German markets compared to the prices of the competing countries, as the price flexibility of the German market was estimated at about 0.81, which means that the German market is the most promising market for which exports can be increased by following an appropriate price policy taking into account the quality specifications. The month of December is the highest exported quantity of cut flowers, and it ranks second in terms of export value. November recorded the highest export return, as an average for the period (2008-2016).

Recommendations

1. The necessity of improving the methods of work in the Egyptian agricultural policies to find a balance between the cultivated areas and the quantities produced from the Egyptian picking flowers, taking into account the flowers and plants that Egypt can have a comparative advantage in its production, with the possibility of finding opportunities to export abroad, whether that to Arab Countries or European countries.
2. Knowing the best export periods for Egyptian exports of flowers, this requires focusing on the winter period in the production and export of flowers, by expanding the size of the area planted for this period, in addition to raising the productivity of the feddan unit through the use of modern methods in the production process.
3. Maintaining competitiveness within the European Union market through the commitment of exporters to provide

products of stable quality, on a regular basis, and at prices lower than competitors' prices, even during periods of seasonal stagnation in which the prices of these products fall within the European Union.

References

- Amr Mohsen, M.A. (2004). An economic study of the prospects for the promotion of Egyptian agricultural exports, from cut flowers, Master's study - Department of Agricultural Economics - Faculty of Agriculture - Cairo University, 1-224.
- Dina, F.M.A. (2007). An economic evaluation of the marketing system of ornamental plants and cut flowers in Egypt and the possibilities of developing it, Master's study - Department of Agricultural Economics - Faculty of Agriculture - Ain Shams University.
- Central Agency for Public Mobilization and Statistics - Information Center, Foreign Trade Database.
- The Egyptian Society of Agricultural Economics, Higher Institute for Marketing, Trade and Information Systems, symposium "Requirements for the development of Egyptian non-traditional agricultural exports" April 2016.
- Ministry of Agriculture and Land Reclamation - Central Administration for Agricultural Economics and Statistics, Agricultural Statistics Bulletin, Various Issues (2008-2017).
- United nations commodity trade statistics database.