

## An Analytical Economic Study of Production and Export of Onion in Egypt

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**Abstract:** Research aims to identify area, production and exports of Egyptian onions as an important export crop. And through the study of the most important importing markets and the factors influencing them, results indicate that the production of onions loop winter and summer and the Nile represents about 79.1%, 13.06%, 7.85%, respectively, of the total domestic production of onions, amounting to about 2226.15 tons on average for the period (2007-2012). The production is concentrated in those lugs Dakahlia, 6 October and Minya. Results also found that the quantity exported annually from fresh onions about 202.1 thousand tons valued at about 68.6 million pounds on average for the same period. While the total amount of exports of dehydrated onions, about 8.41 tons per year worth about 50.19 million pounds, and the value of Egyptian exports of onions around 118.79 million pounds, which represents about 5.62% of the total value of Egyptian agricultural exports amounting to 21092 million pounds during the same period. The results found that the Gulf Cooperation Council (GCC) is the most important economic blocs importing Egyptian freshonions quantity amounted to 145.3 thousand tons, the relative importance is estimated at 71.7%. The Saudimarket is one of the important markets importing Egyptian fresh onions, its quantity amounted to 131.7 thousand tons, with a relative importance of about 65 %, followed in the ranking by the Arab free trade zone which occupies the second place among the economic blocs as it absorbe about 27.8 thousand tons valued at about 10 million pounds, which represents by about 13.7%, 14.5% of the total quantity and value of Egyptian exports of fresh onions during the study period. Importers of the Egyptian onions includes all of Syria, Lebanon, Jordan and Yemen in the Arab free trade zone, Lebanoncomesin the first place, Jordan was ranked second by 9.5%, 3.5% of the total amount of the Egyptian exports and about 69.1%, 25.7% of the amount of the Egyptian exports to the Arab free trade zone. While the European Union (EU's).is the most important economic blocs and importers of dried Egyptian onion quantity amounted to about 18 thousand ton at a rate of about 83.2%. The markets which are considered the most important are German and Dutch markets for theimported Egyptian dried onions quantity amounted to about 3.2, 2.1 thousand tons, with a percentage of 32.7%, 22.6%, respectively, during the study period. The results also showed that, despite the continuation of the Egyptian onions exports during several months throughout the year, but not to take advantage of the preferences granted to agreements with many of the various economic blocs. It was also found that the most important factors affecting the Egyptian exports of onions are, the export price of Egyptian onions and the global average export price. The study recommends the need for early planting onions in the winter to meet the needs of the European market during the period of the lack of production in the countries of the European Union, especially Spain and the Netherlands, while working to open new markets for Egyptian onions. As well as work on the stability of imports of ASEAN countries and the Commonwealth of COMESA and onions by Egyptian interest in the production is of good quality appropriate for the taste of the consumer markets and those conforming with the achievement of price competition to produce a competitor countries.

[Haitham Bayoumi Ali Hassan; EitemadShaban.O.Mohamd, Mahmoud Riad El-Gebaly and Yosef Morsy M.Hessein. **An Analytical Economic Study of Production and Export of Onion in Egypt.** *Nat Sci* 2014;12(1):62-73]. (ISSN: 1545-0740). <http://www.sciencepub.net/nature>. 10

**Keywords:** Analytical Economic; Production; Export; Onion; Egypt

### Introduction

Egyptian agricultural sector is no longer following the signing of Egypt on many of the most important international conventions GATT agreement and participation of the European sector that produces the traditional raw material for industry and source of employment and income. It has become dependent on the comparative advantages and competitiveness of the ability to coope with the existing economic blocs for the development of Egyptian agricultural exports,

thereby increasing the outcome of the state of the foreign currency needed to finance economic development projects. The study focuses on Egypt's exports of onions, which occupies the fourthplace in exports of agricultural commodities after each of cotton, rice and potatoes, representing the value of about 118.8 million pounds, which represents about 5.6% of the total value of Egyptian agricultural exports, amounting to about 21092 million pounds on average for the period (2007-2012).

**Research Problem:**

The research problem is that, despite the accession of Egypt to some economic blocs with which it signed several international agreements, along with the enjoyment of the status of productive distinct in the production of onions, but the Egyptian exports of onion crop tended to decline in recent times with that they involved fluctuation from year to another. Which show that the reality of Exports of onion crop, faces many difficulties and obstacles, including the result of poor competitiveness in the global market.

**Objective of the research:**

The research aims to identify the enablers to increase domestic production and onions exports both types of fresh and dried through the study of the status quo for the production of onions Egypt, as well as the study of the most important markets importing into economic blocs, the various factors affecting those markets, in addition to the study of the distribution seasonal monthly to determine the best times for the production and export of Egyptian onions.

**Sources of data and research methods:**

The research depend on mainly on secondary data published and unpublished issued by the Central Agency for Public Mobilization and Statistics, the

Ministry of agriculture and land reclamation, and the Food and Agriculture Organization. The objective of this research was achieved by use methods of statistical analysis descriptive and analytical to identify the most important factors affecting some variables or economic phenomena related to the subject of the study.

**Results:****Productivity per feddan of onion crop and its relationship with the Egyptian exports:**

Onions grown in Egypt in the winter loop, which directs the production for export, has grown onions solo or loaded on winter crops. Table (1) shows that the total cultivated area of onions is about 28.28 thousand feddans, represents an area of solo onions about 63.2% and the average for the period (2007-2012). The estimated total domestic production of onions in loop winter, which shows its production from February to June - about 1760.75 tons. Production is concentrated in the provinces of Dakahlia, Sohag and Beni-Suef, as their production represents about 272.22, 218.74, 155.65 thousand tons, by 15.50%, 12.5%, 8.8%, respectively, of the total production of solo onion in winter. The estimated productivity per feddan each of loaded and solo onions was around 15.12, 18.98, 12.51 tons, respectively.

Table (1): Domestic production of onions in Egypt during the period (2007-2012).

Total			Loaded			Solo			Statement
Production	Productivity	Area	Production	Productivity	area	Production	Productivity	area	
309	9.38	32.95	74	9.18	8.1	235	9.44	24.85	2007
340	8.97	37.9	81	8.3	9.8	259	9.21	28.10	2008
196	9.66	20.3	21	7.51	2.8	175	10.01	17.5	2009
175.5	11.82	25.92	14.5	10.08	14.4	156	13.56	11.52	2010
189.7	12.43	25.76	13.5	10.12	13.42	176.2	14.25	12.34	2011
193.6	11.88	26.86	13.9	10.1	13.93	179.72	13.92	12.93	2012
233.1	10.67	28.28	36.31	9.19	10.41	196.82	11.73	17.87	Mean

Area: thousand feddan, Productivity: ton per feddan, Production: thousand ton

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

Summer solo onion production comes out of mid-June to late August, and a production about 65.6% of the total production of onions and solo summer of about 290.4 thousand tons as an average for the period (2007-2012). Cultivating solo onions concentrated in the provinces of October 6, Qaliubia and ElBeheira as a production about 184.9, 65.16, 26.26 thousand tons, and estimated by 63.3%, 9.4%, 2.5%, respectively, of the average production during the study period as estimated productivity per feddan each solo and loaded onions about 13.15, 11.98, 9.51 tons, respectively. The production of onions in Nile loop comes out in the period from mid-December to early January, and the production was about 174.9 thousand tons as an average for the period of study, where cultivation is concentrated in

provinces of Minya, Assiut and Beni-Suef, as a production of about 91.7, 71.2, and 4.52 tons estimated by 52.5%, 40.8%, 2.9%, respectively, of the production Nile loop during the study period. This represents a production of the three lugs winter and summer and Nile loop were about 79.09%, 13.06%, 7.85%, respectively, of the total domestic production of onions, amounting to about 2226.15 tons as an average for the period (2007-2012).

**\* Analysis of production and crop yield onions: -**

**1 –Development of the area of onion crop in Egypt:** Table (2) shows that the area of onions in Egypt amounted to about 48 000 feddans in 1999, and increased until it reached 120.2 million feddans in 2012, by an increase of about 39.9% in 1999. As can be seen from equation (1) in table (3) that there is

a general ascending trend statistically significant at the level (0.01), about the area of onions, it was 4200 feddans, representing about 6.6% of the average area of onions in Egypt, amounting to about 68.66 thousand feddans during the study period, as the coefficient of determination R<sup>2</sup> average was about 0.668.

## 2 - Evaluation of the total production of onions: -

Table (2) shows that the total production of onions was about 979.1 thousand tons in 1999, the growing in 2012 is reached 1661.7 thousand tons. An increase of about 58.9% can be seen from equation (3) in Table (3) that there is a growing general trend and statistically significant at the level of significance (0.01), in the total production of onions by 30 thousand tons, representing about 27.56% of the average production of onions in Egypt amounting to about 1.1768 million tons during the study period. Moreover, the coefficient of determination R<sup>2</sup> average was about 0.324.

## 3 - Evaluation of the total consumption of onions:

Table (2) shows that the total consumption of onions amounted to about 797 thousand tons in 1999 and increased until it reached about 1032 thousand tons in 2012, an increase of about 77.2%, as shown in the equation (3) in table (3) that the total consumption of onions is increasing at by an annual rate statistically significant, at the level of significance (0.01) was about 42.33 thousand tons represents about 12.64% of the average total consumption of onion crop which was about 924.28 thousand tons during the study period, the total coefficient of determination R<sup>2</sup> average was about 0.570.

## 4 - Evaluation of agricultural exports: -

Table (2) shows that agricultural exports amounted to 1322 million pounds in 1999, and increased until it reached about 2.1242 billion pounds in 2012, with an increase of about 62.2%, as shown equation (4) in the table (3) that there is a trend increasingly significant, when level of significance (0.01), agricultural exports to Egypt increased by 50.8 million pounds, representing about 23.48% of the average agricultural exports amounting to about 1.7206 billion pounds during the study period, the total coefficient of determination R<sup>2</sup> average was about 0.457.

## 5 - Evaluation the exports of onions: -

Table (2) shows that exports of onions amounted to about 39 thousand tons in 1999, and increased until it reached about 135.4 thousand tons in 2012, an increase of about 28.8%, as shown equation (5) in the table (3) that there is a trend in increasingly moral, statistically significant at the level of (0.01) in exports of onions in Egypt by 1.4

thousand ton, representing about 26.84% of the average exports of onions of about 69.87 thousand tons during the study period, the total coefficient of determination R<sup>2</sup> average was about 0.087.

## 6 - The evaluation of the average total costs of the onion crop: -

Table (2) shows that the average total cost of the onion crop was about 1124 pounds / feddan in 1999, and increased until it reached about 3463.5 pounds / feddan in 2012, with an increase of about 324%, as shown in equation (6) in the table (3) that the total costs of the onion crop is growing at an annual rate significantly when the level of significance (0.01) was about 121.5 pounds / feddan of onions, representing about 5.84% of the average total costs for the onion crop of about 1838.96 pounds / feddan during the study period from 1999 to 2012, the adjusted total coefficient of determination R<sup>2</sup> was about 0.902.

## 7 - Evaluation of the net dividend yield of onions: -

Table (2) shows that the net yield for the crop of onions was about 1021 pounds / feddan in 1999, and increased until it reached about 7392 pounds / feddan in 2012, with an increase of about 138.1%, as shown in equation (7) in the table (3) that the net of return of the onion crop is increasing at an annual rate statistically significant at the level of significance (0.01), and was about 32.15 pounds / feddan, representing about 1.44% of the average net return of the onion crop to about 2222.8 pounds / feddan during the study period, which is in turn about 32.52% of the total return of feddan of onions, as was the coefficient of determination R<sup>2</sup> about 0.012. As for the foregoing, it is clear that the net return of onions amounted to about 47.5%, 68.8% of the total return of feddan of onions in the years 1999, 2012, respectively.

## Determinants of area cultivated with onion crop:

This section deals with the study of the relationship between all of the area and productivity per feddan of onion crop in a given year as the dependent variable and the factors influencing them represented in the average price farm per unit of output onions pound, and the unit price of exports of onions, and production costs per feddan onion, the net return per feddan for onion crop and crop competition (garlic, alfalfa, clover sustainable forestation, winter wheat and tomatoes), in addition to the time variable and productivity variable can reflect the impact of technical, so the period of delay of one year. This has been shown from the results of the analysis of the relationship of the response of the estimated changes in the area of the onion that represented the best models for this relationship in terms of statistical and economic equation is the following:

Table (2) consumption production and the total area of agricultural exports, exports of onions net returns and costs of the onion crop for the period (1999-2012).

Net return Pounds / feddan	Costs Pounds / feddan	Onion exports Thousand ton	Agricultural exports Million pounds	Area Thousand ton	Production Thousand ton	Consumption Million/ ton	Year
1021	1124	39	1322	48	979.1	797	1999
358	1308	68	1196	48.6	1149.8	551	2000
2341	1256	70	1520	41.8	791.5	660	2001
808	1528	59	1544	60.3	145.9	560	2002
721	1610	37	1443	74.4	1106.3	802	2003
1259	1703	44	1214	61.3	1194.3	1038	2004
281	2307	64	1751	72.2	1305.2	983	2005
907	2313	32	1806	104.5	1498	1264	2006
259	2206	50.9	1640	85.7	1270.3	1081	2007
471	2189	41.96	2111	81.4	949.8	1112	2008
518	2206	71.12	2169	64.2	1100	995	2009
6390	3290	115.17	2139.2	115.2	1563	1053	2010
8394	3637	150.7	2109.2	123.5	1760.5	1012	2011
7392	3463.5	135.4	2124.2	120.2	1661.7	1032	2012
31120	25745.5	978.25	24088.6	1101.3	14475.4	12940	Total
2222.85	1838.96	69.87	1720.61	68.66	1176.81	924.28	Mean
7.14	7.14	7.2	7.14	7.14	8.13	7.14	relative importance

Source: - Central Administration of Agricultural Economics, Economic Affairs Sector, records of the General Administration of Statistics, various issues from 1999 to 2012.

Table (3): Landmarks equations of general time trend of the evaluation of both the space and the total production, and totalcosts, net yield per feddan, onion exports and exports of the agricultural sector in Egypt during the the period (1999-2012).

Significance	F Model	T Calculated	R <sup>2</sup>	relative rate of change %A/B	Mean	Yi = A + BXi		No.	Dependent variable Yi
						A	B		
**	27.180	5.21	0.668	6.68	68.66	28.523	4.265	1	Area Thousand ton
*	7.238	2.690	0.324	27.56	1176.81	839.16	30.44	2	Productivity ton per feddan
**	18.27	4.27	0.570	12.64	924.28	532.12	42.33	3	Consumption million/ton
**	11.972	3.460	0.457	23.48	1720.61	1194.6	50.87	4	Agricultural exports million /pound
*	1.934	1.390	0.087	26.84	69.87	37.588	1.40	5	Onion exports / thousand ton
**	121.393	11.017	0.9025	5.84	1838.96	709.92	121.50	6	Costs
*	0.838	0.915 -	- 0.0125	32.52	2222.85	1045.9	32.156	7	Net earnings pounds / feddan

Source: - collected and calculated from Table (2).

Yi = the estimated value of the area of each onion, and the total production of onions, total gain, net yield of feddan of onions, exports of onions and total agricultural exports in the year I

Xi = variable time, (I) 1, 2,..... 14

A, B= Indicates to reduce hard, and the regression coefficient of the equation, respectively.

(\*\*) Indicates a significant regression model or when the level of significance (0.01).

(\*) Refers to the moral at the level of significance (0.05).

R<sup>2</sup> =average coefficient of determination

(F) = F value calculated

### Determinants of area cultivated with onioncrop:

This section deals with the study of the relationship between all of the area and productivity per feddan of onion crop in a given year as the dependent variable and the factors influencing them represented in the average price farm per unit of output onions pound, and the unit price of exports of onions, and production costs per feddan onion, the net return per feddan for onion crop and crop competition (garlic, alfalfa, clover sustainable forestation, winter wheat and tomatoes), in addition to the time variable and productivity variable can reflect the impact of technical, so the period of delay of one year. This has been shown from the results of the analysis of the relationship of the response of the estimated changes

in the area of the onion that represented the best models for this relationship in terms of statistical and economic equation is the following:

$$\text{Log } Y^h = 2.54 + 4.556 \text{ Log } X1h1 - 0.269 \text{ Log } X2h1 - 0.582 \text{ Log } X3h1$$

Where: -

Y<sup>h</sup> = estimated area of onion crop in thousands of feddan in the year

X1h1 = Farm price per unit of output of the onions pounds in the previous year

X2h1 = Net yield per feddan by pound of the garlic crop in the previous year

X3h1 = Productivity per feddan of onion crop in ton in the previous year

Value between brackets reflect the value of the calculated t (\*) significance at the 0.01 level

Data show that the farm price and productivity per feddan of onions and net yield per feddan for garlic crop in the previous year of the most influential factor on the area of onions that changes them is responsible for about 71% of the changes in the component area. Increasing both the price and farm productivity per feddan of onions by 10% leads to an increase in the area cultivated with it in next year at about 4.56%, 5.82%, respectively. While the decline in net yield per feddan for garlic crop by 10% leads to increase the area of onions around 2.69%, indicating a clear influence of the farm price and productivity per feddan of onions and of garlic to net yield in cultivated area of onions. As shown above, the response of the cultivated area of each onions prices and farm productivity per feddan and net yield

per feddan, which refers to the impact of politics on the Egyptian agricultural production.

By competing the profitability, the onion crop, is indicated as a profitable

On the one hand, the onion crop is cultivated in most provinces of the Republic, and being a winter crop on the other hand, the competition of alternative winter crops are in clover and faba bean, garlic, peas, tomatoes, zucchini, barley, lentils, chickpeas, flax and sugar beet. Table (4) shows that the net annual yield of onions feddan in winter has occupied the fourth place, accounting for about 32.22% of the counterpart of the winter tomato crop average for the period (2007-2012). While higher than the return on all crops as alfalfa and sustainable sugar beet, green peas, winter squash, winter wheat, flax, lentils, chickpeas and faba bean, crops that can be replaced, in the onion crop composition.

Table (4) profitability per feddan for onion crop and winter crop and its competition cycle average for the period (2007-2012).

Order	Total Annual revenue / pound	Rate of return / Costs	Net return (Pounds / feddan)	Costs of production (pounds / feddan)	Area Thousand ton	Yield
4	12031	3.3	8394	3637	123.4	Winter onions
9	7953	1.9	3884	4069	304.1	Wheat
5	7075	3.1	4718	2357	1588	Clover sustained
3	10941	8.4	9667	1294	319.4	Clover forestation
13	5567	1.36	1474	4093	131.4	Faba bean
1	30547	6.7	26048	4499	151.1	Winter tomatoes
2	21247	3.75	15582	5665	28.9	winter Garlic
7	9172	2.31	5205	3967	52.6	Green pea
14	5067	1.32	1217	3850	84.7	Barley
11	5687	1.56	2048	3639	2.5	Lentil
12	4079	1.37	1106	2973	7.5	Chickpea
10	6185	1.86	2863	3322	80.6	Flax
6	8186	2.36	4729	3457	361.8	Sugar beet
8	9622	2.13	5102	4520	31.5	Zucchini

Source: Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, Agricultural Statistics Bulletin, various issues (2007-2012).

### Geographical distribution of Egyptian exports of onions:

Egyptian exported onions are in fresh, chilled, dried whole and sliced forms, and the quantity exported annually from fresh onions about 202.1 thousand tons valued at about 68.6 million pounds as an average for the period (2007-2012), while the total amount of exports of onion powder, about 8.41 tons per year worth about 50.19 million pounds, and thus the value of Egyptian exports of onions were around 118.79 million pounds, which represents about 5.62% of the total value of Egyptian agricultural exports amounting to 21092 million pounds during the same period.

### 1 - Fresh chilled onions:

Table (5) shows the relative importance of export markets of the Egyptian onions average for the period (2007-2012), and it turns out that the Gulf Cooperation Council occupied the first rank among the most important blocs desorbed for Egyptian exports of fresh onions, the quantity amounted to 145.3 thousand tons, worth about 40.8 million pounds accounted for about 71.7%, 59.4% of the quantity and value of exports of fresh onions as an average for the period of study. Impairment due to lower export prices to the Gulf Cooperation Council for its counterpart to the total exports as estimated at 281 pounds per ton, compared to 339 pounds per ton.

Table (5) The geographical distribution of exports of onions and Egyptian agricultural exports overall average for the period (2007-2012).

Price	Dehydrated onion				Fresh Onions					Bloc and the name of the state
	%	Value	%	Quantity	Price	%	Value	%	Quantity	
7265	0.21	112.6	0.17	15.5	284.4	54.47	37444	65.02	131680	Saudi Arabia
9471	0.03	16.1	0.02	1.7	249.7	3.59	2466	4.88	9874	Kuwait
679	0.01	7.2	0.11	10.6	306.0	0.52	354	0.57	1157	Oman
0	0.00	0	0.00	0	239.0	0.39	271	0.56	1134	Bahrain
4872	0.25	137.4	0.30	28.2	280.9	59.37	40807	71.73	145274	Gulf Cooperation Council
0	0.00	0	0.00	0	349.4	3.63	2493	3.52	7135	Syria
4500	0.00	0.9	0.00	0.2	23.9	0.67	459	9.49	19217	Lebanon
7800	0.01	7.8	0.01	1	4859.4	10.21	7017	0.71	1444	Jordan
11227	0.05	24.7	0.02	2.2	3700.0	0.01	3.7	0.00	1	Yemen
9824	0.06	33.4	0.04	3.4	358.8	14.51	9973	13.73	27797	Arab Trade Zone
0	0.00	0	0.00	0	569.4	0.19	133.8	0.12	235	Angola
0	0.00	0	0.00	0	1376.8	0.06	38	0.01	27.6	Sudan
1705	0.03	17.9	0.11	10.5	372.0	0.01	9.3	0.01	25	South Africa
1705	0.03	17.9	0.11	10.5	650.5	0.31	214	0.16	329	COMESA
0	0.00	0	0.00	0	439.8	0.12	84	0.09	191	Libya
0	0.00	0	0.00	0	4291.7	0.15	103	0.01	24	Tunisia
6685	0.11	59.5	0.10	8.9	369.6	0.00	3.4	0.00	9.2	Morocco
6685	0.11	59.5	0.10	8.9	847.5	0.28	190	0.11	224.2	Moroccan Union countries
14161	0.08	43.9	0.03	3.1	515.2	0.02	17	0.02	33	America
12150	0.09	48.6	0.04	4	0.0	0.00	0	0.00	0	Canada
13028	0.17	92.5	0.08	7.1	515.2	0.02	17	0.02	33	NAFTA
2601	0.98	533.3	2.22	205	408.0	0.01	5.1	0.01	12.5	Japan
8288	1.35	739.3	0.96	89.2	416.8	0.06	39.6	0.05	95	Philippine
9049	0.14	74.2	0.09	8.2	677.2	0.27	184.2	0.13	272	Malaysia
0	0.00	0	0.00	0	400.0	0.01	6.8	0.01	17	Indonesia
0	0.00	0	0.00	0	257.3	0.05	32.8	0.06	127.5	China
4460	2.48	1355.5	3.28	303.9	512.4	0.39	268.5	0.26	524	ASEAN
5848	0.16	88.3	0.16	15.1	586.5	1.53	1054	0.89	1797	Romania
2263	0.02	12.9	0.06	5.7	509.2	3.09	2124	2.06	4171	Russia
0	0.00	0	0.00	0	512.1	2.39	1644	1.58	3210	Belarus
5911	0.63	347	0.63	58.7	359.8	0.06	40.3	0.06	112	Croatia
7194	3.19	1741	2.62	242	671.3	0.08	58.4	0.04	87	Slovenia
8255	0.08	42.1	0.06	5.1	1094.0	0.71	489	0.22	447	Ukraine
6864	4.53	2478	3.90	361	548.9	7.98	5482	4.93	9988	Eastern Bloc (Commonwealth)
6027	0.53	289.3	0.52	48	502.1	6.40	4397	4.32	8758	Greece
5907	15.96	8724	15.96	1477	964.4	3.55	2440	1.25	2530	United Kingdom
5803	22.21	12137	22.60	2091.6	832.5	1.00	686	0.41	824	Netherlands
6088	2.59	1416	2.51	232.6	689.4	4.25	2923	2.09	4240	Italy
6238	0.57	311.3	0.54	49.9	562.7	0.56	386	0.34	686	France
6020	33.33	18212	32.69	3025	691.1	0.62	425	0.30	615	Germany
6466	8.14	4448.3	7.44	688	1285.7	0.43	297	0.11	231	Belgium
5989	84.38	46113	83.21	7699.7	648.2	16.97	11667	8.89	17998	EU states
5316	8.15	4452	9.05	837.4	346.7	0.20	135.5	0.19	390.8	Other countries,
5906	100.00	54647	100.00	9253	339.4	100.00	68737	100.00	202525	Total agricultural exports
5316		4452	9.05	837.4	346.7	0.20	135.5	0.19	390.8	Total
5965		50195	90.95	8415.6	339.4	99.80	68602	99.81	202134	other blocs

Quantity: /ton Value: Thousanddollar Price: Dolar / ton

Source: - Collected and calculated from the Central Agency for Public Mobilization and Statistics, the National Center for Information, unpublished data.

Saudi Arabia was ranked first in the list of countries absorbed exports fresh onions, Egypt absorbed about 131.7 thousand ton valued at 37.4 million pounds, which represents about 65%, 54.5% of the total quantity and value of Egyptian exports of

fresh onions and about 90.6%, 91.8% of the quantity and value exports of the Gulf Cooperation Council. Kuwait occupies the second place by 4.9%, 3.6% of the total quantity and value of Egyptian exports of fresh onions, respectively.

Table (5) shows that the Arab free trade zone occupies the second place between economic blocs as it absorbed about 27.8 thousand tons valued at about 10 million pounds, which represents about 13.7%, 14.5% of the total quantity and value of the Egyptian exports of fresh onions during the study period. Includes importing countries Egyptian onions each of Syria, Lebanon, Jordan, Yemen and the Arab free trade zone. Lebanon comes in the first place, Jordan was ranked second by 9.5%, 3.5% of the total amount of Egyptian exports and about 69.1%, 25.7% of the amount of Egyptian exports to the Arab free trade zone.

This occupies that the European Union was ranked the third among the most important blocs accommodating Egyptian fresh onions as absorbed about 18 thousand tons valued at 11.7 million pounds, which represent about 8.9% 0.17 % of the total quantity and value of Egyptian exports of fresh onions during the study period, and returns the value increase to higher prices for export to countries of the EU counterparts for most of the conglomerates importing Egyptian onions. The Greece, Italy and the United Kingdom, are the most important importers of onions within the EU as to accommodate about 4.3 %, 2.1 % 1.2% respectively of the total Egyptian exports of fresh onions and about 48.7 % of 23.6 %, 14.1 % of the imports of the EU from Egyptian fresh onions, respectively, during the study period. As for the rest of the economic blocs, they have been characterized by volatile exports to them, and the low quantities exported as export transactions are incidental or sudden, although there have been some new markets where America accounted conglomerate NAFTA, Angola, Sudan and South Africa bloc COMESA, Libya, Tunisia and Morocco as the most important countries of the Council of the Union of Morocco, Malaysia and China as the most important countries of the ASEAN, Belarus and federal and Romania as the most important countries of the Eastern bloc.

**2 – dehydrated whole onions and slices:** Table (5) shows the study of the relative importance of exports of dehydrated onions into economic blocs. Subject of the study where it found that the EU ranks the first among the blocs desorbed for Egyptian exports of dehydrated onions as grasp about 7.7 tons, worth about 46.1 million pounds, representing about 83.2%, 84.4%, respectively, of the total quantity and value of Egyptian exports of dehydrated onions during the study period. Germany and the Netherlands absorbed the lion's share of EU imports of onions Egyptian rate was estimated at 32.7%, 22.6% of the total exports of dehydrated onions Egypt, respectively, and then come each of the United Kingdom and Belgium in third and fourth place with a relative importance estimated at 16%, 7.4%, respectively, of total exports of

dehydrated Egyptian onions. The previous table also indicates that the area of the Eastern bloc occupies the second place among the most important blocs accommodating Egyptian dried onions radiator during the study period, where absorbed about 361 tons valued at about 2.48 million pounds and the relative importance estimated at 3.9%, 4.53% of the total quantity and value of Egyptian exports of dried onions. Slovenia and Croatia are considered the most important of the Eastern Bloc countries importing Egyptian onions powder as accommodate about 2.62%, 0.63% of Egyptian exports of dehydrated onions during the study period. At the same time, which varies by the countries of the region and imports of Egyptian dried onions and its decline. The ASEAN countries occupies the third place among the most important blocs of imported dried onions as Egyptian accommodate about 3.28% of the total Egyptian exports of dehydrated onions. Japan and the Philippines are the most important of the ASEAN countries that imported dried onions to the Egyptian exports about 67.5%, 29.4% of the amount of Egyptian dried onion exporting to ASEAN countries during the study period. As for the rest of the conglomerates they are volatile and the low quantities which exported them.

#### **Monthly seasonal distribution of Egypt's exports of fresh, chilled onions:**

Monthly distribution of study of Egyptian exports of onions is important to identify factors that would increase the competitiveness of the Egyptian onions in foreign markets, which is represented in export prices and good quality and appropriate for the taste of the consumer and also timely. Table(6) shows the study of the monthly distribution of Egyptian exports of fresh onions during the period (2007-2012), where it appears that the months of December and June occupies the top of months of export for fresh onions relative importance estimated at 13.23 %, 11.6 %, respectively, and then comes months in August, in January, May, April ranked in the following relative importance of 11.2 %, 9.7 %, 8.9%, 7.6. As it turns out higher export price for onions fresh during the months of December and June, amounting to about 22.61 and 19.98 million dollars for the amount exported, respectively, as an average for the study period, which may be due to the increased demand for onions Egypt at this time for the vacant European markets of production. As for the months with lower exports fresh onions represented in months of August, January, May, April export price was estimated at 19.3, 16.7, 15.8, 12.8, Respectively. As can be seen from the table above the low data exported quantities of fresh onions during the month of February, March and September in spite of growing demand from EU countries at this time, which requires the need for early

planting in the winter loop to the possibility of post-production processing of onions for export, especially to the EU during the months of February, March and September, to benefit from customs exemptions granted to Egypt through the European Partnership Agreement.

#### Monthly seasonal distribution of Egypt's exports of dehydrated onions and whole segments: -

Table (6) shows that the month of May, March, July, June and January occupies the top of months of onion export radiator Egyptian relative importance estimated at 13.02%, 12.22%, 10.54%, 9.71% 9.31%, respectively. Then the months of February and April and September come in the following ranked relative importance estimated at 8.9%, 8.3%, 7.4%, respectively. While declining exported quantities of dehydrated onions in the months November and October and December relative importance estimated

at 3.6%, 5.3%, 6.5%, respectively. As for the export prices of onions, dried height is observed in the months July, April, February, May, estimated at as January, 8.64, 3.6 3.25, 3.21 \$ 2.8 million ton. As shown above, that the amount of Egyptian exports of dehydrated onions and sliced into full EU countries have covered the authorized amount exported during the period of time referred to in the agreement, while not covering the amount of Egyptian exports of dehydrated onions to the EU amount authorized to be exported. So it can increase the exported quantities of dried onion production loop until the winter does not contradict its production with the production countries, the European market producers of onions, especially Spain and the Netherlands, with an attempt to produce items desired by the European consumer global specifications, in addition to the ability to price competition to produce a competitor countries.

Table (6) Monthly seasonal distribution of Egyptian exports of fresh onions and dried during the period (2007-2012).

Dried onion whole and sliced			Onions, fresh or chilled			Month
Price / million dollar	%	Quantity / thousand ton	Price / million dollar	%	Quantity / thousand ton	
2.84	9.3	1532.5	16.75	9.74	35.72	January
3.25	8.95	1474.4	9.44	5.24	19.24	February
2.71	12.22	1846.4	11.71	6.75	24.76	March
3.68	8.25	1359.1	12.81	7.64	28.04	April
3.21	13.02	2144.1	15.11	8.93	32.67	May
8.64	9.71	1596.4	19.98	11.56	42.38	June
2.18	10.54	1735.4	12.66	7.27	26.67	July
2.68	6.01	989.4	19.36	11.22	41.08	August
2.27	7.43	1223.6	8.91	5.25	19.26	September
1.03	5.38	886.25	9.53	5.72	20.61	October
2.72	3.60	593.53	13.37	7.55	27.71	November
38.29	6.58	1083.09	22.61	13.23	48.46	December
73.5	100	16464.98	171.67	100	366.6	Total

Source: Collected and calculated from: Central Agency for Public Mobilization and Statistics, the National Center for Information, unpublished data.

Factors affecting imports most important importing countries Egyptian onions during the period (2007-2012): Imports of any affected state a set of the most important factors in population and the average price of imports and domestic production of that state in addition to the factors associated with the element of time. The study shows the most important factors affecting the imports of the most important importer of Egyptian onions

using mathematical models and statistical different. Table (7) shows that the most important factors affecting the amount of total imports for Saudi Arabia is the population recalling modulus of elasticity that increasing the number of Saudi population by about 10% leads to increased imports of

onions by about 34.5%, also show the direction of imports to Saudi Arabia from onions to the decline in the future as reflected signal time element. This did not differ factors affecting imports of Kuwait and Lebanon of onions by the State of Saudi Arabia.

As about Greece, It has been shown that the domestic production of onions is considered the most important factor affecting the imports of onions of Greece, as the increased domestic production of onions in Greece by 10% leads to a lack of imports to Greece from onions by about 3.9%. The coefficient of determination indicates that the change in the domestic production of onions in Greece is responsible for about 67% of the changes in Greece imports of onions.

Table (7) factors affecting the total exports of onions to the most important importers of Egyptian onions during the period (2007-2012).

Significance	F	R <sup>2</sup>	equations	No.	the state
*	7.04	0.70	$\text{LogY}^h = -8.42 - 1.171X1h + 3.45 \text{Log X2h}$ (2.55) (2.45)	1	Saudi Arabia
*	25.8	0.75	$\text{LogY}^h = 1.23 - 0.335X1h + 6.25 \text{Log X2h}$ (5.41) (2.52)	2	Lebanon
*	12.48	0.8	$\text{LogY}^h = 17.15 - 2.57X4h + 5.20 \text{Log X2h}$ (4.21) (3.86)	3	Kuwait
**	10.65	0.67	$\text{LogY}^h = 4.641 - 0.399X2h$ (3.25) (3.325)	4	Greece
*	7.52	0.55	$\text{LogY}^h = 4.64 + 0.387X2h + 0.541 \text{Log X3h}$ (3.25) (3.35)	5	Syria
**	12.25	0.83	$\text{LogY}^h = 5.64 + 0.485X2h + 0.624 \text{Log X3h}$ (3.15) (3.365)	6	Italy
**	11.35	0.54	$\text{LogY}^h = 16.5 + 0.580X2h - 0.654 \text{Log X3h}$ (3.215) (2.568)	7	Russia
*	10.24	0.58	$\text{LogY}^h = 4.28 + 1.350X2h - 0.421 \text{Log X3h}$ (3.41) (2.65)	8	Belarus
**	12.55	0.70	$\text{LogY}^h = 13.42 + 0.551X2h - 0.268 \text{Log X3h}$ (3.25) (2.550)	9	United Kingdom
*	6.54	0.64	$\text{LogY}^h = 11.32 + 0.451X2h - 0.424 \text{Log X3h}$ (3.21) (3.425)	10	Romania
*	5.22	0.25	$\text{LogY}^h = 5.74 + 0.3951X2h - 0.328 \text{Log X3h}$ (2.150) (2.345)	11	Jordan

Source: Collected and calculated from:

F. A. O. Production Year Book, several volumes.

F. A. O. Trade Year Book, several volumes. Internet, [www.fao.org](http://www.fao.org)

Where: -

**Y<sup>h</sup>**= estimated value of exports of onions by State, thousand tons in the corresponding viewing

**X1<sup>h</sup>** = Factors associated with the element of time

**X2<sup>h</sup>** =Millions of the population of the state in the corresponding viewing

**X3<sup>h</sup>** =the average export price of the corresponding state, dollars per ton seen in

**X4<sup>h</sup>** = Local production of the state, thousand tons in the corresponding viewing

H = Years... 1.2 0.5 (2007-2012), the values in brackets reflect the value of (t) the calculated

(\*) Significant at the 0.01 level of significance, (\*\*) Significant at the 0.05 level of significance.

As for Syria, it has been shown that the most important factors affecting the imports of onions are represented in the population and the average import price and consistent with economic logic, as the population increase by 10% leads to an increase of imports of Syria by about 3.8%, while the increase in the import price by 10% leads to a lack of Syrian imports of onions by about 5.4%. Changes in the global population and the price of imported onions are responsible for about 55% of the changes in the total Syrian imports of onions.

For Italy, it has been shown that the most important factors affecting the imports of onions are represented in the population and the average import price, and consistent with economic logic, as the population increases by 10% leads to an increase of

Italian imports of onions by 4.8%, while the increase in the import price by 10% leads to a lack of Italian imports of onions by about 6.2%. Changes in the global population and the price of imported onions are responsible for about 83% of the changes in the total Italian imports of onions.

As for Russian Federation, it has been shown that the most important factors affecting the imports of onions are represented in the population and the average import price, and consistent with economic logic, as the population increase by 10% leads to an increase of imports of the Russian Federation of onions by about 5.8%, while the increase in the import price rise by 10% leads to a lack of imports of the Russian Federation of onions by about 4.2%. Changes in the global population and the price of

imported onions are responsible for about 54% of the changes in the total Russian Federation imports of onions.

About Belarus, it has been shown that the most important factors affecting the imports of onions are represented in the population and the average import price, and consistent with economic logic, as the population increase by 10% leads to an increase of Belarus imports of onions about 5.5%, while the increase in the import price rise 10%, leads to a lack of imports of Belarus of onions by about 6.5%. Changes in the global population and the price of import onions are responsible for about 58% of the changes in total Belarus imports of onions.

For the United Kingdom, it has been shown that the most important factors affecting the imports of onions are represented in the population and the average import price, and consistent with economic logic, as the population increase by 10% leads to an increase of imports to the United Kingdom of onions by about 5.5%, while the increase in the import price rise by 10% leads to a lack of imports of the United Kingdom of onions by about 2.6%. Changes in the global population and the import price of onions are responsible for about 70% of the changes in the total imports of the United Kingdom.

About Romania, it has been shown that the most important factors affecting the imports of onions are represented in the population and the average import price, and consistent with economic logic, as the population increases by 10% leads to an increase of imports of Romania of onions by 4.5%, while the increase in the import price by 10%, leads to a lack of imports of Romania onions about 4.2%. Changes in the global population and the price of imported onions of Romania are responsible for about 64% of

the changes in the total imports of onions of Romania.

For Jordan, it has been shown that important factors influencing the imports of onion are represented in the population and the average import price, and consistent with economic logic, as the population increase by 10% leads to an increase of imports of Jordan of onions about 3.9%, while the increase in the import price by 10%, leads to a lack of Jordanian imports of onions by about 3.2%. Changes in the global population and the price of imported onions are responsible for about 25% of the changes in the total Jordan imports of onions.

#### **Geographical distribution of Egyptian exports of onions to the most important states:**

Table (8) shows that the Egyptian onions is exported in several forms as fresh, chilled and dried whole and sliced, The quantity exported to Saudi Arabia from fresh onions is about 131.6 thousand tons valued at about 37.4 million pounds as an average for the period (2007-2012), while the quantity exported to the Russian Federation of fresh onions was about 41.7 thousand tons valued at about 2.12 million pounds., The quantity exported to the State of Lebanon from fresh onions was about 19.2 thousand tons valued at about 0.49 million pounds, while the quantity exported to Kuwait from fresh onions about 9.87 tons, worth about 2.5 million pounds. while total quantity exported to the State of Lebanon from fresh onions was about 19.2 thousand tons valued at about 0.49 million pounds, also the quantity exported to the State of Greece from fresh onions reached about 8.75 tons, worth about 4.3 million pounds, while the quantity exported to the State of Syria from fresh onions was about 7.3 thousand tons valued at about 2.49 million pounds.

Table (8) the geographic distribution of Egyptian exports of onions to the most important countries for the average of the period (2007-2012)

value of onions exports (dollar)	amount of onions exports (ton)	State	value of onions exports (dollar)	amount of onions exports (ton)	State
2440	2530	United Kingdom	3744	131680	Saudi Arabia
4397	8758	Greece	2466	9874	Kuwait
2923	4240	Italy	495	19217	Lebanon
386	686	France	2124	41716	Russia
425	615	Germany	1644	3210	Belarus
7017	1444	Jordan	1054	1797	Romania
2493	7135	Syria	184.2	272	Malaysia

Source: - Collected and calculated from the Central Agency for Public Mobilization and Statistics, the National Center for Information, unpublished data.

The most important obstacles facing the Egyptian Exporters of onions and proposed solutions:

There are many obstacles facing the export process including:

- 1 - Large number of procedures and fees within Egyptian ports due to the lack of coordination among agencies concerned of export process leads to delay the arrival of export transactions, which displays the source of a great loss.
- 2 - Some exporters do casual work deals with the export of varieties of non-conforming export which affects the reputation of the Egyptian product.
- 3 - Adoption of the export process and the efforts of individual decisions, which might be characterized as random in some cases as a result of the lack of clear policies and updated information for exporters.
- 4 - There are many competing countries, Spain, Israel, Tunisia. Egypt's exports of onions, especially in quality and price, and as a result of high cost of production inputs, in addition to the absence Seen, the Egyptian companies of transport works without cooling cars, in addition to the rise in the value of transport by aircraft, which leads to higher costs and an inability to compete.

#### **Proposed solutions for the most important exporters of onions: -**

- 1 - The Export operations to be exempt from all fees, stamps and administrative expenses imposed by various government agencies.
- 2 - Claim the EU by negotiating with it, which is due every three years to increase the quantities exported, which enjoy full exemption from custom duties, as well as the quota allowed to be exported to have a reduction in Customs. With working on lengthening periods to allow for an increase of exports of onions, especially with the entry of new production areas, and working on early agriculture and cultivation of early maturing varieties in the line of the wishes of the consumer and the EU to meet the international standards.
- 3 - European Union calls through negotiation with it, which is every three years to increase the quantities exported, which enjoy full exemption from custom duties, as well as the quota allowed to be exported will have reduction in Customs. With working on lengthening periods to allow for an increase of exports of onions, especially with the expansion of new production areas, and working on early agriculture and cultivation of early maturing varieties in the same line of the wishes of the consumer and the EU to meet the international standards.

- 4 - Increase the size and efficiency of the fleet of air, land and sea transport and expanding it by use of refrigerated container shipping method, while working to support the operations of shipping radiator.

#### **Conclusion:**

Results of research into the production of onions loop winter, summer and Nile represent about 79.1 %, 13.06 %, 7.85 %, respectively, of the total domestic production of onions, amounting to about 2226.15 tons was an average for the period (2007-2012) and concentrated production of these lugs in the conservative T. Dakahlia, October 6 and Minya. Also, the results found is that the quantity exported annually from fresh onions about 202.1 thousand tons valued at about 68.6 million pounds on average for the same period, while the total amount of exports of onion powder, about 8.41 tons per year worthing about 50.19 million pounds, and the value of Egyptian exports of onions 118.79 million pounds, which represents about 5.62 % of the total value of Egyptian agricultural exports amounting to 21092 million pounds during the same period.

The results found the Gulf Cooperation Council which is one of the most important economic blocs importing Egyptian fresh onions, the quantity was amounted to about 145.3 thousand tons with a relative importance estimated at 71.7 % and the Saudi market was the most important markets importing a quantity of Egyptian fresh onions amounted to 131.7 thousand tons, the relative importance was about 65 % ;followed in the ranking by Arab free trade zone occupies the second place among the economic blocs as absorbed about 27.8 thousand tons valued at about 10 million pounds, which represent about 13.7 %, 14.5 % of the total quantity and value of Egyptian exports of fresh onions during the study period. Including the importing countries of the Egyptian onions, each of Syria, Lebanon, Jordan and Yemen Arab free trade zone. Lebanon comes in the first place, Jordan was ranked second by 9.5 %, 3.5% of the total amount of Egyptian exports and about 69.1 %, 25.7 % of the amount of Egyptian exports to the Arab free trade zone.

The results showed that despite the continuation of the Egyptian exports of onions during months throughout the year, but did not take advantage of the preferences granted to agreements with many of the various economic blocs, especially the European Union countries. The results show that the direction of the all imports of onions to the most important importer of Egyptian onions decline due to the increased production ;which indicates the difficulty of increasing Egyptian exports onions to those markets. Therefore, the study recommends the need for early

cultivating of onions in the winter to meet the needs of the European market, especially during the period of dehydrated onion lack of production of the European Union countries, especially Spain and the Netherlands, while working to open new markets for Egyptian onions. As well as work on the stability of imports of ASEAN countries and the Commonwealth countries of COMESA and onions by Egyptian interest in the production of good quality appropriate for the taste of the consumer markets and those conforming with the achievement of price competition to produce a competitor countries. In addition, working to remove all obstacles facing the export process, and particularly the export of Egyptian onions.

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