

## **Egyptian Exports of Some Medicinal and Aromatic Plants and Factors Affecting it in the Foreign Markets**

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**Abstract:** Medicinal and aromatic plants are considered Among the promising crops on which we can depend For increasing Egypt income from foreign currency. However, the value of its exports is estimated at about 6.6% of the total value of the Egyptian agricultural Exports as an average for the period (2003-2008) The cultivated area with the medicinal and aromatic Plants amounts to about 57.4 thousand feddans representing around 0.39% of the total crop-area (stretch) during the previous period. thus the research aimed at studying some export performance indicators, namely: the quantitative instability factor, and the geographic concentration factor for some medicinal and aromatic plants. this in addition to identifying or getting acquainted with the most important Factors affecting Egypt exports from such plants to foreign market the results also clarified or Indicated that the exported quantity from caraway plant represent about 63.58% of its total production. in the meantime it was noticed that the rate of the exported Quantity out of the total volume of local production Is decreasing especially for cumen and coriander which Is estimated at about 12.45% and 10.19% respectively. Whereas, this ratio doesn't exceed 0.04% for basil plant. the estimates of instability factor refers to the instability of the exported quantities of the most plants under study. thus, plus the geographic concentration For the Egyptian exports from such plants in given markets. the study also revealed that the export price and the local production from the medicinal and aromatic plants under study are considered among the most important factors affecting its exported quantity. Therefore, the study recommended the necessity of following or applying a balanced policy depending on the pricing policy on the one hand, and the quality plus the suitable specifications on the other, as they both have a positive impact on the increased exports from the medicined and aromatic plants under study. Thus, in addition to increasing the local production from the medicinal and aromatic plants, along with giving special attention to the requested international specifications for such plants with a view to raising and enhancing Egypt ability to fulfil export requirements, hence, achieving stability in the importing markets from it, together with opening new markets for such plants.

**Key words:** Medicinal and Aromatic Crops, Egyptian exports, geographical concentration and the instability index.

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### **INTRODUCTION**

Exportation enjoy an increasing concern among the priorities of the economic policy as it is considered as one of the main (key) axis that attract the attention of the economic policy planners, especially that exports Are considered as the permanent and continuous source for providing and maximizing the country's Resources of the hard currency, particularly during The escalating shortage of the trade balance prevailing At present In this connection developing the agricultural exports is considered as one of the most important and principal Factors for enhancing and developing the available sources of foreign currency required necessary. for implementing the economic development plans, which Value amounts to about 424 million dollars. it is worthy noting that medicinal and aromatic plants are counted Among the promising crops on which Egypt can depend for increasing its income of foreign currency, especially Within the frame of the world changes, of which the most important ones are, the general agreement for trade and custom tariff, and

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the joint Egyptian / European agreement, which allows the Egyptian Exports of medicinal and aromatic plants To penetrate into the European union markets and invade it without bearing any custom duties. It is worthy mentioning that the value of the Egyptian exports of the medicinal and aromatic plants represents About 6.6% of the total value of the Egyptian Agricultural exports as an average for the period,(2003 – 2008).the area cultivated with the medicinal And aromatic plants is estimated at 57.4 thousand Feddans, representing 0.39% of the total crops area during the said period. this refers to its diminishing Relative importance in the crop-pattern in spite Of its importance for exportation.

***Research Problem:***

Although medicinal and aromatic plants are of paramount importance as non-traditional agricultural Commodities on which the Egyptian agricultural exports are depending, yet, it doesn't enjoy or receive the proper care in the crop- pattern.This, in addition to the fluctuation and the instability of its exports in the foreign markets from year to year Also, its exports are concentrated in a limited number of countries, e.g., the imports of some European countries plus the united states represent nearly Two-thirds of the Egyptian exports of the medicinal And aromatic plants moreover the exported quantities of some plants has decreased if compound with the volume of its local production

***Research Objective:***

This research studies some indications of the export performance like qualitative non-settlement factor, And the geographic concentration factor for some medicinal and aromatic plants, this plus identifying the Most important factors affecting Egypt exports of such Plants to foreign markets.

***Research Method and Data Sources:***

The study depended mainly on the published and the unpublished data which was collected from various source as the ministry of agriculture and land reclamation and the central agency for public mobilization and statistics. its also relied on the descriptive statistical and quantitative systems in data Analysis which accomplish the objective of the research. This in addition to some economic indicators like the Non-stability factor and the Gini hershman factor for calculating geographic concentration.

***Research Results and out Comes:***

***First: the Relative Importance for the Area, Production and Exports of Some Medicinal and Aromatic Plants:***

Table (1) shows that the area under crops like coriander,Cumen, caraway and scent plant represent about 45.8% of the total area under all medicinal and aromatic plants, amounting to 57.4 thousand feddans as average for the period,(2003 – 2008). It is to be noted that coriander is considered our of the most important medicinal and aromatic plants with regard to the area cultivated with it for its relative importance which is about 23.4%. also, the production estimates indicate that the total production of the above-mentioned plants represents around 58.2% of the total production of the medicinal and aromatic plants amounting to 162.7 thousand ton as an average for the mentioned period, of which the production of the scent plant alone represent 47.2%The increased relative importance for the production Of scent- plant could be attributed to its high feddan Productivity, which is estimated at about 20.66 ton /feddan.it is worthy noting that upon studying the exported quantities of such plants, we found that It doesn't exceed one – fifth of the total Egyptian exports of the medicinal and aromatic plants amounting To al most 19.57 thousand ton as an average for the period,(2003-2008).it was also noticed from the previous table that the exported quantity from caraway plant only about 63.58% of its total crop production. in the meantime, it was noticed the exported quantity of cumen and coriandum is very limited compared to the volume of local production of both, as it is estimated at only 12.45% and 10.19% respectively, whereas the same ratio for scent-Plant doesn't exceed 0.04%. this fact refers to the necessity of following special policy aiming at developing and enhancing the Egyptian exports of these plants.

***Second: Key Markets Importing Egyptian Medicinal and Aromatic Plants:***

Upon studying the key (main) international markets for Egyptian medicinal and aromatic plants as an average for the period,(2003- 2008), it was noticed that the German markets alone consumes about 25.1% of total Egyptian exports of such plants followed by the American markets with relative importance estimated at Around 16.2% then come the markets of: Spain,Netherland (Holland),federal Rucia,England (u.k.), France

and Italy, with relative importance estimated at approximately 5.6%, 5.2%, 4.6%, 4.15%, 3.1% and 3% respectively. Furthermore, the estimators of table (2) indicate that European union (E.U.) markets are considered among the key importing markets for Egyptian medicinal and aromatic plants, with relative importance estimated at nearly 46%, which matter that deserves and requires encouraging the export to have access to these key markets in an attempt to benefit of Egypt's exemption from tax – tariff on all exported and undetermined quantities to such markets.

**Table 1:** The relative importance of the area, production and exports for some medicinal and aromatic plants as an average for the period, (2003-2008)

Item (Commodity)	Area in (1000 feddan )	%	Production (1000 ton )	%	Exports (1000 ton)	%	% of Total production
Coriandum	13.43	23.4	11.75	7.2	1.2	6.1	10.19
Cumen	5.07	8.8	2.74	1.7	0.34	1.7	12.45
Caraway	4.08	7.1	3.42	2.1	2.18	11.1	63.58
Scent- plant(basil)	3.72	6.5	76.86	47.2	0.03	0.2	0.04
Other plants	31.1	54.2	67.94	41.8	15.82	80.9	23.29
Total	57.4	100	162.71	100	19.57	100	12.03

(\*) includes the exports of all medicinal and aromatic plants  
 Source: collected and calculated from ; (1,5)

**Table 2:** The geographical distribution for Egypt exports Of the medicinal and aromatic plants as an average for The period, (2003-2008) (quantity in tons, value in million Egyptian pounds and price in L.E./ton).

Item (country)	Quantity	%	Value	%	Exporting price
U.S.A	3170	16.2	26.45	17.11	8342
Germany	4909	25.1	41.63	26.93	8479
Nether land (Holland)	1017	5.2	8.83	5.71	8680
Italy	586	3	4.85	3.14	8270
Britain (U.K.)	811	4.15	5.14	3.33	6340
Spain	1099	5.62	7.17	4.64	6526
France	599	3.1	3.92	2.54	6554
Federal Rucia	903	4.6	7.92	5.12	8768
Other	6473	33.1	48.67	31.48	7519
Total	19568	100	154.58	100	7899

Source: collected and calculated from: (1)

**Indicators of Exporting Performance for Some Medicinal and Aromatic Plants:**

This part of the research studies the indicators of, non-stability factor (rate) and the geographic concentration factor, as they are considered the most important factors for export performance for plants like: coriander cumen, caraway and scent as promising export plants.

**A-unstability Factor Indicator:**

The Unstability factor was calculated by the following

$$( (y - y^{\wedge}) / y^{\wedge} ) \times 100.$$

Where:

"y": is the actual value for the changeable factor under Study, and.

"y^" : is the estimated value for the studied changeable.

The estimates of unstable factor (rate), indicated in Table (3) refer to the great fluctuation in the Egyptian exports quantity of the plants under study from year to Year also, the estimates of instability factor (rate) Point out that the Egyptian exports quantities from Plants like coriander, cumen, caraway and scent (basil) were suffering from instability throughout the duration of The study, in spite of the relative stability In some years where it ranged between a minimum Level of 0.3 in 1997 and maximum level of about 54.54 In 2000, with an average of 22.37 for coriander. Also, It ranged between a minimum level of 0.61 in 2003 and a maximum level of almost 90.74 in 1997 with an average of 18.6 for acumen then it ranged between a minimum level of 3.93 in 2000, and a maximum level of nearly 56.71 in 2004, with an average of 27.61 for caraway. Finally, it ranged between a minimum limit of about 4.85 in 2000 and a maximum limit of 37.77 in 1998, with an average of 43.13 for scent-plant. The instability of the export quantities might be attributed due to the instability of local production quantities, and to the export prices for the said plants.

**Table 3:** Instability factors for the Egyptian exported Quantities from some medicinal and aromatic plants during the period, (1996-2008).

Year	coriander	cumen	Caraway	Scent - plant
1996	1.51	71.3	72.19	11.01
1997	0.3	90.74	16.71	28.67
1998	0.55	54.46	49.47	37.77
1999	10.62	29.34	51.28	15.92
2000	54.54	22.14	3.93	4.85
2001	8.69	11.44	6.38	17.35
2002	13.34	8.14	4.85	7.99
2003	38.17	0.61	8.29	15.23
2004	39.43	25.07	56.71	27.04
2005	31.59	52.53	26.72	36.29
2006	11.42	87.91	9.61	11.57
2007	43.01	34.24	22.42	12.42
2008	37.62	72.81	30.43	15.66
average	22.37	43.13	27.61	18.6

Source : collected and calculated from : (1)

**B-Geographical Concentration Factor:**

Gini-Hershman factor was derived from the following equation

$$C_{jx} = 100 \sqrt{\sum (X_{sj}/X_i)^2}$$

where :

C<sub>jx</sub> : the geographical concentration factor for the quantity of the Egyptian exports from the medicinal and Aromatic plants under study.

X<sub>sj</sub> : the quantity of the Egyptian exports from The medicinal and aromatic plants under (covered by the) study.

X<sub>i</sub> : total quantity of Egyptian exports from the medicinal and aromatic plants covered by item study, directed to a given market.

**1-Coriander Crops:**

The data of table (4-a) below indicate that, Germany, Nethrelands (Holland) and the kingdom of Saudi Arabia (KSA),are the most important importing countries for coriander crop, with geographical concentration factor in such markets estimated at about 17.85%, 15.52%,and 13.86% respectively during the study period e.e:(1996-2008).these are followed by the markets of ;Tunisia,England (U.K), and France with relative importance estimated at around 7.73%, 5.56% and 5.25% respectively.

**Table (4-a):** Indicates the geographic concentration factors for the Egyptian exports from coriander to the most important foreign markets during the period, (1997- 2008).

Item (country)	Lower limit (minimum)		High level (maximum)		Period average
	year	Factor	year	Factor	
Germany	2007	6.38	2004	34.93	17.85
Netherland(Holland)	1996	1.2	2005	40.47	15.52
Saudi Arabia	2004	1.97	1997	29.55	13.86
Tunisia	2008	0.46	2007	33.02	7.73
Britain(UK)	2007	0.68	1996	21.19	5.56
France	1997	0.96	2004	12.88	5.25
Italy	2003	1	1999	3.67	2.15
Other countries	2003	12.12	2000	47.58	32.08

Source : collected and calculated from : (1)

**2- Cumen Crop:**

The data included in table (4-b) indicate That morocco is considered the most important Imported country for cumen crop, with a geographic Factor ranging between a minimum limit Of about 0.16% in 2006 and around 88.11% as maximum limit for 2008, and with average of 45.87% during the study period.those are followed by the markets of U.S.A and Saudi Arabia with a relative importance estimated at nearly18.31% and 6.93% respectively.also, the obtained Results indicate and refers to the For Egyptian exports from cumen crop,

as it was found that morocco and Saudi Arabia together consume more than half the Egyptian exports quantity from cumen.

**Table (4 -b):** The geographic concentration factors For the Egyptian exports quantities from cumen to the most important foreign markets during the period, (1996-2008)

Item (country)	Minimum limit		Maximum limit		Period average
	year	Factor	year	Factor	
Morocco	2006	0.16	2008	88.11	45.87
U.S.A	2005	0.004	1996	95.68	18.31
Saudi Arabia	2008	0.14	1997	31.62	6.93
Other countries	1996	1.38	1998	90.51	28.89

Source: collected and calculated from: (1)

### 3- Caraway Crop:

Data of table (4-c) indicate that Algeria is considered the Most important country importing our caraway crop, as its geographic concentration factor ranged between a minimum limit of 0.22% in 1996 and a maximum limit of around 35.23% in 2002. with an average estimated at 18.3% throughout the study period. this was followed by the markets of. U.S.A, Tunisia, Emirates and the Netherlands (Holland) With relative importance estimated at about; 10.97%, 7.17%, 4.72% and 3.97% respectively.

**Table (4-c):** Indicate the geographic concentration for the Egyptian exports quantities from caraway to the most important foreign (international markets) during the period, (1996 – 2008):

Item (country)	Minimum limit		Maximum limit		Period average
	year	Factor	year	Factor	
Algeria	1996	0.22	2002	35.23	18.3
U.S.A	2001	2.06	1996	55.26	10.97
Tunisia	1996	0.95	2003	21.3	7.17
Emirates	1997	0.2	2004	24.9	4.72
Netherlands (Holland)	1998	0.21	2000	26.36	3.97
France	2006	0.85	1999	8.74	3.68
Morocco	2001	0.02	2002	8.95	2.95
Other countries	2002	24.66	1997	75	48.24

Source: collected and calculated from: (1).

### 4- Scent- Plant (Basil) Crop:

Data of table (4-d) indicate that France is considered the key importing country for our scent-plant crop, as its Geographic concentration factor ranged between a minimum limit of 10.43% in 2008 and a maximum limit Of about 62.46% in 2004 with an average estimated about 32.84 % during study period. This was followed by England (U.K.), U.S.A. and Switzerland markets with Relative importance estimated at about 14.16%, 14.15% and 10.32 % respectively. It is worthy noting that the geographic distribution data for the medicinal and aromatic plants under study indicated that in the years which relative concentration of Egyptian exports from such plants to given (special) Countries is lower than the general average, the said rate to other countries increase. This fact indicates that there is a replacement impact for the relative concentration for Egyptian exports from such plants among its imported countries during the study period.

**Table (4-d):** Indicate the geographic concentration for The Egyptian exports quantities from scent – plant to the most important Foreign markets during the period, (1996-2008).

Item (country)	Minimum limit		Maximum limit		Period average
	year	Factor	year	Factor	
France	2008	10.43	2004	62.46	32.84
England(U.K)	2008	1.23	1996	31.53	14.16
U.S.A	2007	3.65	1998	42.13	14.15
switzen land	2000	4.78	2007	19.25	10.32
Germany	2008	0.17	2000	10.16	4.01
Other countries	1998	2.18	2008	77	24.52

Source: collected and calculated from: (1)

**Factors Affecting Egyptian Exports from Some Medicinal and Aromatic Plants to its the Most Important Foreign Markets:**

The relationship between the exports quantities of the Medicinal and aromatic plants under study to its the most important markets during the period, (1996-2008) each one alone as a following factor (Yi) and the changeable that could have an impact or direct effect on it such as Egypt exporting price in dollars per ton (X1i), and the Total production of the crop, (X2i), the exchange price (bank price), (X3i), and the total exported quantities to the importing markets (X4i), by using different mathematical equation and carrying out or applying the stepwise regression analysis. it was also indicated and proved that the double logarithm image is the best one representing thin Relationship as shown in table (5).

**1- Coriander:**

The factors in table (5-a) refer to the existence of reverse-relationship between the quantity of Egypt Exports from coriander to German market, and coriander exporting price to it.as the value of flexibility factor points out that when exporting price to German market decreases by 10%. An increase in the Egyptian exported Quantities estimated at 2.28% occur. It was also indicated that there is a direct-relationship Between the Egyptian exported quantities from coriander to German market and total German imports from it, as the value of flexibility factors refers to the fact that, when the German total imports quantity of coriander increases with 10% an increase in the Egyptian exported quantity of coriander to it occurs, which was estimated at 2.11%. as concerns the Dutch market (Netherlands)The results of the pervious table refers to the existence Of a significant statistic reverse – relationship between Quantity of Egyptian exports from coriander and its export price in dollars. This relationship is agreeable With the economic theory.than flexibility of demand –Price was estimated at about – 0.282, which matter that Refers to fact that the foreign demand on coriander In the Dutch market is inflexible. Since the increase in its price by 10%leady to a decrease in the exports Quantities of it with about 2.82%. Moreover, the said results of the above mentioned table indicate the existence of a direct – relationship between the exports quantities from coriander to Dutch market, and the local production from its. This relationship is significant And agreeable with the economic logic, as it was found that the increase in the local production of the crop with 10% results in another increase in the exported quantities of it with about 14.66%.

**Table (5-a):** The factors affecting Egypt exports from coriander to foreign markets during the period , (1996 – 2008)

market	The Mathematic – Equation	R2	Significant
Germany	$\text{LnY}^i = 6.03 - 0.228 \text{ lnX1i} + 0.211 \text{ lnX4i}$ (2.65) * (2.85)*	0.72	**
Netherlands (Holland)	$\text{LnY}^i = 6.92 - 0.282 \text{ lnX1i} + 1.466 \text{ lnX2i}$ (3.042) ** (2.392)**	0.6	*
Saudi – Arabia	$\text{LnY}^i = 0.82 + 1.08 \text{ lnX1i} + 0.94 \text{ lnX4i}$ (1.84) * (3.042)**	0.48	**
total	$\text{LnY}^i = 13.03 - 1.133 \text{ lnX1i} + 1.63 \text{ lnX2i} + 0.97 \text{ lnX4i}$ (1.474) * (3.327)** (2.965)**	0.63	**

Where :

Yi : the quantity in tons the Egyptian exports from coriander to the counterpart market in the year (i).

X1i : Egyptian exportation price for coriander the counterpart market in L.E/ton in the year (i)

X2i : the national (local) production from coriander in ton in the year (i)

X4i : total imports quantity of the counterpart market from coriander in the year (i).

i : 1,2,.....13, (the period 1996 – 2008)

The values between brackets express the calculated value of "t".(\*\*) : significant at 0.01 level.(\*) :significant at 0.05 level

Source: collected and calculated from: (1,2)

with regard to Saudi- market, the results of previous table indicate the existence of a statistically significant direct-relationship between Egyptian exported quantities from coriander to Saudi-market and both; the local production in tons and total Saudi-imports into.this relationship is agreeable with the economic theory. It was also found that the increase in both; Local production, and total Saudi-imports from coriander with 10%leads to an increase in the exported quantity of it with about 10.8% and 9.4% respect lively. As for the total Egyptian exports from coriander, it was found that the most important factors affecting it are represented in both, coriander export-price in dollars and its local production in tons and the total foreign imports in tons. Flexibility Factor for these factors is estimated at about –1.33, 1.63, and 0.97respectively and this fact indicates that the increase in these factors with 10% result in a decrease of Egypt exports from coriander with. 13.3%, and increasing it with about 16.3%and 9.7 respectively. Also, the value of determination factor indicates that some 63%change in the total exports Of Egyptian coriander to its foreign markets in attributed to the changeable mentioned earlier.

**2- Cumen:**

The equations of table (5-b) indicate the existence of a reverse relationship between the quantity of Egypt exports from cumen to Moroccan market; and its exporting price to it; as the value of flexibility factor indicates that, when the exporting price to Moroccan market decreases with 10%, an increase in the quantity of Egypt exports from it, estimated at about 6.42% occurs. also, it was found that there is a direct relationship between the quantity of Egyptian exports from cumen to Moroccan market and the exchange price, as the flexibility factor indicates that upon the increase in the exchange price with 10%, another increase in the quantity of Egypt exports from cumen estimated at about 2.11% occurs. As for the American market, the results of previous table indicate the existence of a statistically significant Reverse – relationship between the quantity of Egypt exports from cumen and its exporting price in dollars. this relationship is agreeable with the economic theory thus, the flexibility of demand price was estimated at almost -0.595, which shows that the foreign demand on cumen in the American market is inflexible, as its increased price with 10% leads to a decrease in its exported quantities with nearly 5.95%. Moreover, the said table revealed the existence of a direct relationship between the exported quantity of cumen to the American market and the total imported quantity of it in the same market. it is to be noted, this relationship is significant and is agreeable with the economic logic as it was found that the increase in the total imported quantity from cumen with 10%, results in an increase in the Egyptian Exported quantity from cumen to the American market amounting to about 21%.

**Table (5-b):** The factors affecting the export of Egyptian cumen to its foreign markets during the period, (1996 – 2008).

Market	The mathematic Equation	R2	Significance
Morocco	$\ln Y^i = 1.24 - 0.642 \ln X1i + 0.129 \ln X3i$ (6.472) ** (2.352)**	0.86	**
U.S.A	$\ln Y^i = 15.37 - 0.595 \ln X1i + 2.1 \ln X4i$ (1.511) * (6.476)**	0.83	**
Saudi Arabia	$\ln Y^i = 13.71 - 0.350 \ln X1i + 1.69 \ln X2i$ (2.567) * (1.6)*	0.56	**
total	$\ln Y^i = 15.95 - 1.44 \ln X1i + 1.397 \ln X3i$ (2.352) ** (6.472)**	0.69	**

Value between brackets express the value of calculated (t). (\*\*): significant at 0.01 level, and (\*) : significant At 0.05 level .  
Source: collected and calculated from: (1,2)

As regards the Saudi market, the result of the previous table indicate the existence of a statistically significant reverse relationship between the quantity of Egypt exports from cumen to Saudi market and its local production from it in Tons, as the increase in the local production from cumen with 10% leads to an increase in the exported quantities from it amounting to around 16.9% as for the total Egyptian exports from cumen, it was noticed that the key factors affecting it are represented in both, the exporting price of cumen in dollars, and the Local production from it in tons. the flexibility factor for these rates is estimated at – 1,44 and 1,397 respectively, which matter that indicates that the increase in these factors by 10% leads to a decrease in the Egyptian exports from cumen amounting to 14.4%, plus increasing it with about 13.97%

**3- Caraway:**

The equations of table (5-c), refers to the existence of a reverse relationship between the quantity of Egypt export from caraway to Algerian market, and its exporting price to it, as the value of the flexibility factor indicates that, when the exporting price to Algerian market decreases with 10%, an increase in the Egyptian exported quantities to it estimated at about 5.94% occurs. also, it was found that there is a direct relationship between the quantity of the Egyptian caraway exported to the Moroccan market and both, the local production from it in tons, and the exchange price, as the value of flexibility factor reflects that upon their increase with 10%, an increase in the Egyptian exports from caraway estimated at about 22.4% and 7.8% respectively also occurs. with regard to the American market, it was noticed that there is a statistically significant reverse relationship between the quantity of the Egyptian exports from caraway and its exporting quantities in dollars. this relationship is agreeable with the economic theory. Meanwhile, the flexibility of the price – demand was estimated at -0.053%, which indicate that the foreign demand on cumen in the American Markets is inflexible, as the increase in its price by 10%, leads to a decrease in the exported quantities from it with about 0.53%, another direct relationship was indicated between the exported quantities from caraway to the American market, and both; its local production in tons, and the total imported quantities from it, in the same market. this relationship is significant, and agreeable with the economic logic as it was found that

its Increase by 10%, leads to an increase in the Egyptian exported quantities from it to the American market amounting to about 2.1% and 3.5% respectively. Concerning Emirates market, the results of previous table indicate the existence of a statistically significant reverse relationship between the quantity of Egypt exports from caraway, and its exporting price to united Arab Emirates in dollars. the flexibility of demand price was estimated at about -1.416. in other words, if its prices increased with 10%, a decrease of its exported quantities Amounting to about 14.16% occurs. its was also found that there is a direct relationship between the quantity of Egyptian exports from caraway to the emirates market and its local production in tons, as the increase in its local production by 10% leads to another increase in the exported quantities to emirates market amounting to about 0.31%.As for the total Egyptian exports from caraway its was noticed that the most important factors affecting It are represented in both, caraway export price in dollars and its local production in tons, as well as the exchange price the flexibility factor for The said elements is estimated at -0.067,0.247 and 0.54, respectively; this indicates that the increase in such factors by 10% leads to decrease in the Egyptian exports from caraway amounting to 0.67%and its increase with almost 2.47% and 5.4% respectively.

**Table (5-c):** The factors affecting Egypt exports from caraway To foreign (international) markets during the period, (1996-2008).

Market	The Mathematic equation	R2	significance
Algeria	$\text{LnY}^i = 6.51 - 0.594 \text{ lnX1i} + 2.24 \text{ lnX2i} + 0.78 \text{ lnX3i}$ (2.352) ** (6.472)** (3.74)**	0.81	**
U.S.A	$\text{LnY}^i = 1.25 - 0.053 \text{ lnX1i} + 0.21 \text{ lnX2i} + 0.35 \text{ lnX4i}$ (3.22) ** (2.96)** (3.12)**	0.81	**
Emirates	$\text{LnY}^i = -5.94 - 1.416 \text{ lnX1i} + 0.031 \text{ lnX2i}$ (2.02) * (2.37)*	0.43	**
Total	$\text{LnY}^i = 6.02 - 0.067 \text{ lnX1i} + 0.247 \text{ lnX2i} + 0.54 \text{ lnX3i}$ (3.9) ** (2.62)* (2.982)**	0.55	**

Source : collected and calculated from : (1,2)

**4- Basil (Scent-plant):**

The equations listed in table (5-d) refers to the existence of a reverse Relationship between the quantity of Egypt exports from basil to the French market and its export price to it, as the value of flexibility factor indicates that if the export price for the French markets decreased by 10%, an increase the quantity of Egypt exports of it amounting to about 0.13%occurs. It was also noticed that there is a direct relationship between the quantity of Egypt basil exported to the French market, and both :its local production in tons and the total French imports from basil in tons, as the value of the flexibility factor indicates that upon its increase with 10%, another increase in the quantity of about 5.31%and 1.3%respectively.With regard to the American market, It was indicated that there is a statistically significant Reverse relationship between the quantity of Egypt exports from basil and its export price in dollars.this Relationship is agreeable with the economic theory Thus,the flexibility of demand price was estimated at about -2.432, which indicates that the foreign demand on basil to the American markets is flexible since The increase in its price with 10%, leads to a decrease in its exported quantities with around 24.32%, also,a direct relationship was found between the exported quantities of Egyptian basil to the American market and The total American imports of basil. this relationship is Significant and is agreeable with the economic logic its increase with 10%, Leads to an increase in the quantities of Egypt exports From basil to the American market with about 7.47%.

**Table (5-d):** The factors affecting Egyptian exports from basil to foreign markets during the period, (1996-2008).

Market	The mathematic equation	R2	significance
France	$\text{LnY}^i = 8.83 - 0.013 \text{ lnX1i} + 0.532 \text{ lnX2i} + 0.13 \text{ lnX4i}$ (3.9) ** (2.62)* (2.432)*	0.54	*
U.S.A	$\text{LnY}^i = 35.63 - 2.432 \text{ lnX1i} + 0.747 \text{ lnX4i}$ (9.98) ** (2.846)**	0.94	**
England	$\text{LnY}^i = 18.6 - 0.622 \text{ lnX1i} + 0.989 \text{ lnX2i}$ (1.726) * (3.598)**	0.63	**
Switzerland	$\text{LnY}^i = 3.04 - 0.239 \text{ lnX1i} + 0.082 \text{ lnX2i}$ (2.551) * (2.678)*	0.43	*
total	$\text{LnY}^i = 12.17 - 0.427 \text{ lnX1i} + 0.369 \text{ lnX2i} + 0.23 \text{ lnX3i}$ (1.262) ** (3.412)** (2.148)**	0.55	*

Source: collected and calculated from: (1,2)

With regard to the British market, it was found that there Is a statistically significant reverse relationship between The quantities of Egyptian exports from Basil and its exporting price to England in dollars, as the

Increase in its exporting. Price with 10%, leads To a decrease in its exporting quantities of it estimated at about 6.22%, moreover it was found that there is a direct relationship between the quantities of Egypt Exports from basil to the British market, and its local production in tons, as the increase in the local Production with 10% resulted in another increase in its Exported quantities to the British market with About 9.89%. concerning the Swiss market, it was Proved that there is a reverse relationship between the Quantities of Egypt exports from basil and its exporting Price to Switzerland in dollars, as the increase in its export price by 10%, leads to decrease in the exported Quantities from it with about 2.39%. also, its was found that there is a direct – relationship between the quantity of Egypt exports basil to Swiss- market, and Its local production in tons, as the increase in its local production with 10%, resulted in another increase in the exported quantities from it to Swiss- market estimated At 0.82%.

As for the total Egyptian exports from basil, it was found that the key factors affecting it are represented in both; the export price of basil in dollars, and the local production in tons, as well the exchange price. The flexibility factor for these eleventh Is estimated at about -0.427, 0.369 and 0.23 respectively. This indicates that the increase in there factor with 10%, Results in a decrease in the Egyptian exports from basil with 4.27% hence its increase with about 3.69% and 2.3% respectively.

***The Most Important Obstacles Facing the Exporters of Egyptian Medicinal and Aromatic Plants, and Suggested Solutions:***

Some exporters of the Egyptian medicinal and aromatic plants clarified, through personal contacts, the existence of many obstacles facing the exportation process, The most important of which are:

1. the dependence of the export process on the individual efforts and decisions which can be considered sometimes as habhazard ones, due to the obscene of clear policies and up. To. date. (Recent) information to the exporters.
2. the rejection of many importing countries to some deals especially those which are not conforming with The technical specifications requested world wide or on the international level (arena).
3. the lengthy procedures, taxes and levies imposed on it inside the Egyptian ports – due to the obscence of coordination amongst various authorities concerned With the export process delays the delivery of the exported commodities causing great loss to the exporter
4. the existence of many competing countries in the some market e.g.(china,U.S.A,Germany, Mexico, and Poland)To the Egyptian exports from medicinal and aromatic plants, particularly in quantity and price, as a result to increased costs of the production requirements, plus the increased Value of air transportation, which,in turn increases the overall costs and hence the inability to stand competition.

***Accordingly,the Exporters of the Medicinal and Aromatic Plants Suggest a Group of Solutions the Most Important of Which Are:***

1. laying down a plan or an exporting policy suitable to The medicinal and aromatic plants based on the production for exportation.
2. increase the size and efficiency of the transportation fleet, whether air, marine or terrestrial transportation, Along with supporting and developing the loading Processes.
3. Exempting the export processes from all taxes, stamps, levies and administrative expenses imposed on It by different governmental authorities.

***Conclusion:***

The obtained results clarified that, in spite of the continuous export to the medicinal and aromatic plants All the year round, yet, no benefit Can be attained from the granted preference by the agreements concluded with many of the different economic bluks particularly the European union Countries (EU).The results of the study refer to the necessity of Following a balanced policy depending on the pricing.Policy on one hand, and the quality plus the suitable Specific a tious on the other, as they have a positive impact on increasing the exports from the medicinal And aromatic plants under study. the study also Recommends the necessity of increasing the local production from the medicinal and aromatic plants Together with giving special attention to the international specifications required for these plants In order to raise and enhance Egypt ability to fulfill The exportation requirements, hence achieving the stability in the markets exporting it in addition To opening new markets for these plants

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