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Analytical study of the competitiveness of Egyptian medicinal and aromatic plants in the world markets

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Abstract: The state is promoting non-traditional crops like medicinal and aromatic plants to advance development and increase foreign exchange earnings. However, the rate of expansion in production is not aligned with world demand and export quantity, with about 0.15% decrease in total production. The research aims to study the production and export situation of these plants on the level of the world and locally, as well as the geographical distribution of Egyptian exports. Egypt's contribution to world production is about 2.3%, with domestic and world production growth rates of about 1.8% and 11.2%, respectively. The geographical distribution of Egyptian exports increases export opportunities and maintains stability. The world demand for medicinal and aromatic plant fruits is increasing by about 19 thousand tons annually, with a stable growth rate of about 5%. Egyptian exports have permeability to world markets and price competitive advantages in their key markets. World demand for medicinal and aromatic plant leaves and flowers is increasing by about 14.5 thousand tons annually, with a 2.3% growth rate. Egyptian exports have permeability to world markets and price competitive advantages, particularly in the German market.
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1. Introduction

Export is considered a basic pillar on which the economic launch depends on providing permanent sources of foreign exchange. The Sustainable Agricultural Development Strategy 2030 indicated that one of the most important obstacles facing Egyptian agricultural exports is the limited amount of what is exported compared to the large production capacities and that the degree of dependence on traditional crops constitutes the largest proportion of exports while ignoring non-traditional crops that enjoy comparative and competitive advantages within the world markets. (Tolba, 2014), and Medicinal and aromatic plants are non-traditional crops with multiple uses, either directly or indirectly. Despite the economic importance of medicinal and aromatic plants, the cultivated area represents about 0.7% of the crop area in 2021 (capmas.gov).

The promotion of medicinal and aromatic plants is one of the tools for the development of the agricultural sector, as they are industrial crops on which drying, distillation, or medicinal and aromatic manufacturing processes are carried out. Then this sector contributes to providing job opportunities and then bringing about economic and social development. Data indicate that the cultivation area of medicinal and aromatic plants is concentrated in Middle and Upper Egypt - representing about 85% of the area of medicinal and aromatic plants - which suffer from stray development investments, and therefore the advancement of this sector contributes to the hoped-for development booms. The Ministry of Agriculture has set among its goals the promotion of medicinal and aromatic plants, as it seeks to double the cultivated areas from 80,000 feddans to 240,000 feddans by 2030 (SADs, 2019). Despite the efforts made by the state to promote non-traditional crops to advance development and increase foreign exchange earnings, the rate of expansion in production is not commensurate with the quantity of world demand, which is evident in the rates of world increase in cultivated areas, as the average cultivated area increases annually at an estimated growth rate. by about 6.3%, while the growth rate of medicinal plants in Egypt is estimated at about 1.5% annually (www.fao.org).

The problem is that although medicinal and aromatic plants are considered promising crops, it was noticed that the quantity of exports of medicinal and aromatic plants is limited, as the number of exports of the total production is estimated at about 0.15%. The percentage of Egyptian exports of medicinal and aromatic plants represents about 5.72% of the total Egyptian agricultural exports, with an average value of about $184.3 million in 2021. This is not commensurate with the productive and export capacities of Egypt (www.fao.org).

The research aims to study the production and export status of medicinal and aromatic plants and study the geographical distribution of Egyptian exports of the most important plants, to determine the export potentials and opportunities available to Egypt and raise the Egyptian export value.

2. Methods

The research depends mainly on published and unpublished secondary data, which are issued by the competent authorities, such as the Central Agency for Public Mobilization and Statistics, and some data published on the Food and Agriculture Organization website, and the International Trade Center website. Some references and studies related to the subject of the research were also used. The research relied on the use of both descriptive and quantitative analysis methods to achieve its objectives, as some analysis methods were used, such as estimating general time trend equations, some indicators of competitiveness within world markets, and estimating world demand functions to determine import horizons and export opportunities for Egypt.

3. Results

3.1. The Current Situation of Local Production of Medicinal and Aromatic Plants

Data of (Table 1) in the appendix indicate the development of the area, productivity, and production of medicinal and aromatic plants in Egypt and the world during the period (2008-2021). The results in (Table 1) indicate that the expansion of the cultivated area with medicinal and aromatic plants globally is increasing at a rate of about 8.5% annually, with an average of estimated area at about 20123.7 thousand hectares, compared to an annual increase of Egypt estimated at 1.5%, with an average area of about 477 hectares. This indicates the strong competition that Egypt faces from most countries of the world to gain access to global markets, in addition to the poor response index to the development plans aspired by the Agricultural Strategy 2030.

It is noted that the average productivity of Egypt is low compared with the average productivity of the world, although the average productivity for the period (2000-2004) is estimated at 131% compared with the world's productivity (www.fao.org). This calls for a study of the reasons for the decline of productivity in Egypt. Some reports indicated that Egypt has adopted organic farming systems and biological control of plants in recent years to open export markets and adhere to the texts of international agreements, which is attributed to the decline in productivity compared with traditional productivity. The productivity growth rate is estimated at about 0.3% and 2.7% for Egypt and the world, respectively. Egypt's contribution to the world production of medicinal and aromatic plants is estimated at about 2.3%, which is a small percentage compared with Egypt's productive capabilities and the productive advantages available to Egypt. Egypt ranks eighth in the production of medicinal plants globally in 2021, preceded by India, Turkey, Mexico, Russia, and Syria. Iran, China (Johnston, 1984).

Table 1: Equations for the general trend of the development of area and production of medicinal and aromatic plants locally and globally during the period (2008-2021).

Data		(b) Coefficient	T	AVERAGE	R^2	Growth rate %
Area harvested (ha)	Egypt	477.5	6.63	30837	0.78	1.5%
	World	123657	8.11	1447494	0.85	8.5%
Yield (t/ha)	Egypt	0.0026	3.97	0.88	0.57	0.3%
	World	0.026	9.6	0.95	0.88	2.7%
Production (t)	Egypt	496	6.14	27164	0.76	1.8%
	World	159,828	8.5	1426582	0.86	11.2%

Source: ww.FAO.org, as Appendix 1.

3.2 The Current Situation of Local and International Exports of Medicinal and Aromatic Plants

Data of (Table 2) indicate the development of the Egyptian and international quantity exports of medicinal and aromatic plants during the period (2008-2021). It was found that the growth rate of the number of Egyptian exports is increasing annually by about 4.6%, with an estimated quantity of about 725 tons, which indicates a high world demand for medicinal and aromatic plants, which also indicates the price competitive advantages that qualify Egypt to expand in international markets. The results also indicate that the growth rate of world demand for both the quantity and value of exports of medicinal and aromatic plants is estimated at 7.4% and 7.5%, respectively.

3.3 The Relative Importance of the Types of Egyptian Medicinal and Aromatic Plants

Medicinal and aromatic plants are vary according to the active substances they contain or the parts used, as the data presented in Fig. 1 and 2 indicate the relative importance of some medicinal and aromatic plants produced in Egypt during the period (2008-2021),

where it appears that hibiscus, wormwood, caraway, and marjoram are Coriander, mint leaves, anise, cumin, and fennel account for about 89% and 88% of the area and quantity of medicinal and aromatic plant production in Egypt, respectively. And by examining the quantity y of Egyptian exports of these plants, it was found that they constitute about 0.15% of the amount of production, with an estimated value of about $184.4 million during the period (2008-2021).

Table 2: The development of exports of medicinal and aromatic plants locally and globally during the period (2008-2021).

Data		(b) Coefficient	T	AVERAGE	R^2	Growth rate %
Egypt	Q (T)	725	2.9	15853	0.41	4.6%
	V ($1000)	766	2.01	26643	0.25	2.9%
World	Q (T)	33053	13.25	442902	0.93	7.4%
	V ($1000)	61,787	11.7	820696	0.92	7.5%

Source: ww.FAO.org, given in Appendix (2).

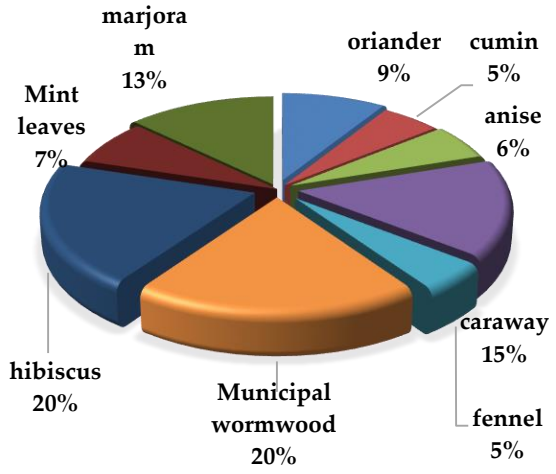

Fig. 1. The relative importance of the areas cultivated with medicinal and aromatic plants produced in Egypt during the period (2008-2021)

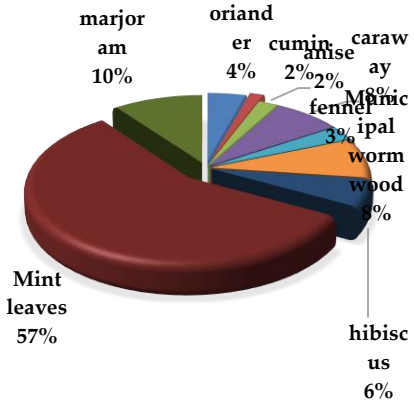

Fig. 2. The relative importance of the amount of production of medicinal and aromatic plants produced in Egypt during the period (2008-2021)

3.4 Geographical Distribution of Egyptian Exports of the Most Important Medicinal and Aromatic Plants

Data of (Table 3) indicates the geographical distribution of Egyptian exports of the most important medicinal and aromatic plants during the period (2008-2021). By reviewing the data shown in the table, it becomes clear that the quantity of Egyptian exports of hibiscus and fennel is increasing at a growth rate of about 17% annually. It also turned out that America accounts for about 25% and 21% of the number of exports from them, respectively. This is noted by the diversity of the geographical distribution of Egyptian exports, which increases export opportunities and maintains the stability of exports. It is also noted that the rate of growth in the number of exports of marjoram and anise is stable, estimated at 1% and 0.4%, respectively. It is noted that Poland and Germany account for about 45% of the amount of marjoram exports, which means that exports are concentrated in these markets and may be one of the reasons for the stability of the quantity growth rates.

It is noted that the quantity of Egyptian exports is declining for the rest of the medicinal and aromatic plants, as the quantities exported annually decline at a rate of 24%, 22%, 21%, 5.7%, and 5% for each of coriander, caraway, cumin, mint leaves, and wormwood, respectively. The decline in coriander, cumin, and caraway may be due to the decline in Egypt's exports to Libya during the last 5 years, which account for about 31%, 14%, and 11% of them, respectively.

3.5 Expected Demand from Medicinal and Aromatic Plants

To study the reasons for the decline of Egyptian exports of some medicinal and aromatic plants, it was necessary to study the quantity of demand within these markets to find out the reasons for the decline of Egyptian exports and whether the reasons were due to the Egyptian commercial representation represented in

(price and marketing services) or due to the decrease in demand within the markets themselves.

Due to the unavailability of data for each medicinal and aromatic plant of most markets, especially after 2014, the groups were studied according to the international code for global circulation, where a group coded the fruits of medicinal and aromatic plants, which include cumin, coriander, fennel, anise, and caraway under code (0909), while a group of leaves and flowers includes hibiscus, mint leaves, marjoram, and wormwood under code (121190).

3.6 Demand for a Group of Fruits of Medicinal and Aromatic Plants

Data of (Table 4) indicates that the average amount of global imports of fruits of medicinal and aromatic plants during the period (2008-2021) amounted to about 375.9 thousand tons, and it was shown that global demand is increasing by a statistically significant amount estimated at 19 thousand tons annually. Growth in market demand by about 5%, which means that market demand is stable for the fruits of medicinal and aromatic plants.

And by examining the growth rate of demand within the most important import markets, which account for about 70% of world imports, it was found that most markets are in increasing demand, and the demand of the Chinese, Turkish, Bangladeshi, Moroccan, and Indian markets is increasing by about 29%, 18%, 11%, 7%, 6% respectively. While demand is stable in Saudi Arabia and demand is declining in the Netherlands.

Table 3: Geographical distribution of Egyptian exports of the most important medicinal and aromatic plants during the period (2008-2021)

The plant	Export growth rate %	Pointer	The most important import markets						
Hibiscus	17%	Country	USA	Germany	Poland	Russia	Brazil	Israel	other
		%	25%	19%	10%	7%	6%	6%	27%
Wormwood	-5%	Country	Mexico	Germany	Holland	Latvia	America	Russia	other
		%	64%	11%	5%	4%	2%	2%	12%
Mint Leaves	-5.7%	Country	Germany	England	Spain	Russia	America	Jordan	other
		%	53%	8%	5%	3%	3%	3%	25%
Marjoram	1%	Country	Poland	Germany	America	Belgium	Holland	Russia	other
		%	23%	22%	16%	3%	2%	2%	32
Coriander	-24%	Country	Libya	Germany	Algeria	Saudi Arabia	England	The UAE	other
		%	31%	14%	8%	8%	7%	5%	27%
Caraway	-22%	Country	Algeria	Pakistan	Libya	India	Saudi Arabia	Tunisia	other
		%	16%	12%	11%	6%	5%	5%	45%
Anise	0.4%	Country	Algeria	Bangladesh	Libya	Germany	Türkiye	Indonesia	other
		%	18%	9%	7%	7%	5%	5%	49%
Cumin	-21%	Country	Morocco	Libya	Saudi Arabia	Algeria	Mexico	Tunisia	other
		%	61%	14%	8%	6%	5%	4%	2%
Fennel	17%	Country	America	Syria	Malaysia	Indonesia	Tunisia	Italy	other
		%	21%	8%	7%	7%	5%	5%	47%

Sources: ITC calculations based on COM TRADE statistics

Table 4: Geographical distribution of Egyptian exports of the most important medicinal and aromatic plants during the period (2008-2021)

Market condition	Country	AVERAGE	b Coefficient	T test	R^2	F_c	Growth Rate %
Stable	World	375939	19057.3	4.6	0.62	21.2	5%
	China	19086	5585.9	3.7	0.52	13.8	29%
	Turkey	7975	1425.1	6.0	0.73	35.5	18%
	Bangladesh	15222	2221.0	2.6	0.34	6.7	11%
	Morocco	5703	375.4	4.3	0.59	18.6	7%
To request growing	India	24772	1570.3	1.9	0.22	3.7	6%
	England	13131	466.2	8.1	0.84	65.8	4%
	USA	29,760	1173.6	11.5	0.91	133.1	4%
	Germany	17045	547.3	7.2	0.8	52.4	3%
	Brazil	9700.2	284.6	4.4	0.59	19.0	3%
	Malaysia	21517	628.7	5.9	0.73	35.3	3%
	Indonesia	22903	758.0	3.4	0.47	11.7	3%
	Japan	6892	138.4	3.6	0.49	12.6	2%
Fixed	Saudi Arabia	15144	111.2	0.4	0.01	0.1	1%
Decreasing	Netherlands	8106.4	-81.4	-0.8	0.04	0.6	-1%

Sources: ITC calculations based on COM TRADE statistics.

By extrapolating the data contained in Table 5, it was found that Egyptian exports enjoy a lack of geographical concentration and permeability to global markets, as America and India import about 8% and 7% of the number of Egyptian exports, respectively, with an estimated value of about $ 76.1 and 47.4 million, respectively. The American, German, Turkish, English, Saudi, and Bangladeshi markets are considered the most profitable markets, as the average market import price is higher than its global counterpart. Given that the American and Indian markets enjoy the highest market share, as well as stable growth rates and high average prices, the research will study the competitiveness of Egyptian products of medicinal and aromatic plants within these two markets during the period (2008-2021).

Table 5: Geographical distribution of Egyptian exports of fruits of medicinal and aromatic plants during the period (2008-2021)

Country	Q(T)	%	V ($1000)	%	Price $	Price ratio
USA	29,760	8%	76,082.33	10%	2557	1,273
India	24772	7%	47401.07	6%	1913	0.952
Germany	17045	5%	42214.6	6%	2477	1,233
China	19086	5%	37216.4	5%	1950	0.971
Bangladesh	15222	4%	35,817.71	5%	2353	1,171
Pakistan	23311	6%	11685.47	2%	501	0.250
Malaysia	21517	6%	34,830.33	5%	1619	0.806
Indonesia	22903	6%	15755.2	2%	688	0.342
United Kingdom	13131	3%	33446.13	4%	2547	1,268
Saudi Arabia	15144	4%	20,980.33	3%	1385	1,016
Brazil	9700.2	3%	19314.13	3%	1991	0.690
Netherlands	8106.4	2%	18620.67	2%	2297	0.991
Japan	6891.5	2%	18278.33	2%	2652	1,143
Turkey	7975.3	2%	15417.33	2%	1933	1,320
Morocco	5702.9	2%	13270.13	2%	2327	0.962
World	375939	100%	755242	100%	2009	1,000

Sources: ITC calculations based on COM TRADE statistics.

It appears from the data of Table 6 that Egypt's market share in the American market amounted to about 13%, and it is completed by both the Indian and Canadian markets. Although Egypt enjoys competitive

advantages compared to the Indian market, it acquires about 46% of the market's imports. It is also noted that there is no price advantage with the Canadian market due to the close distance. Egypt also enjoys comparative price advantages with its competitors in the US market represented in Turkey, China, and Syria. By examining the market shares of Indian imports of the fruits of medicinal and aromatic plants, it turns out that Egypt's share in the market does not exceed 1%, even although Egypt enjoys price advantages compared to Vietnam and Bangladesh. This calls for a study of the reasons for this decline, which may be due to the different items, not the price.

Table 6: Egypt's competitiveness for the group of fruits of medicinal and aromatic plants within the American and Indian markets during the period (2008-2021).

The American						Indian					
Country	Q (T)	market share	V ($1000)	Price $	Price ratio	Country	Q (T)	market share	V ($1000)	Price $	Price ratio
Egypt	3806	13%	8670	2278	100 %	Egypt	357	1%	609	1708	100 %
India	13605	46%	37038	2722	120 %	Viet Nam	4614	19%	16862	3654	214 %
Canada	4076	14%	6125	1503	66%	Afghanistan	2692	11%	10876	4040	236 %
Turkey	3030	10%	9235	3048	134 %	Russian	7824	32%	4049	517	30%
Syrian	1196	4%	3755	3141	138 %	Italy	3883	16%	5820	1499	88%
Finland	1133	4%	2423	2139	94%	China	701	3%	2586	3690	216 %
China	724	2%	2792	3855	169 %	Ukraine	1144	5%	652	570	33%
other	2190	7%	6044	2760	121 %	Syrian	1038	4%	2203	2122	124 %
World	29,760	100%	76082	2557	112 %	other	2518	10%	2286	908	53%
						World	24772	100%	49221	1987	116 %

Sources: ITC calculations based on COM TRADE statistics.

3.7 The Demand for Leaves and Flowers of Medicinal and Aromatic Plants

Data of (Table 7) indicates that the amount of world imports of the group of leaves and flowers of medicinal and aromatic plants are stable during the aforementioned period, as the growth rate of market demand is estimated at about 2.3%. The average quantity of demand was about 621.7 thousand tons, and this shows that world demand is increasing by a statistically significant amount estimated at about 14.5 thousand tons annually.

And by examining the growth rate of demand within the most important import markets, which account for about 75% of the number of global imports, it was found that India, China, England, America, Canada, and Germany are markets with increasing demand, as market demand increases annually by about 10.1%, 6.9%, 6.1%, 3.2%, 2.3 %, 2.8%, respectively. While the demand is stable in the markets of Spain, France, Italy, and Japan. This statistical and economic significance of previous market demand has been shown. While demand is declining in Singapore, Korea, Mexico, and Hong Kong.

Table 7 : The general trend of the development of global demand for leaves and flowers during the period (2008-2021).

Market condition	Country	AVERAGE	b Coefficient	T test	R^2	F_{sig}	Growth Rate
stable market	World	621671	14459	5.2	0.68	27.5	2.3%
Growing demand	India	39,693	4020	4.8	0.64	23.1	10.1%
	China	59236	4089	2.5	0.33	6.4	6.9%
	England	12708	772	4.2	0.58	17.8	6.1%
	America	73,000	2335	6.3	0.75	40.0	3.2%
	Canada	12096	279	3.6	0.50	13.3	2.3%
Stable market	Germany	64,372	1821	10.4	0.89	107.7	2.8%
	Spain	22413	333	4.9	0.65	24.3	1.5%
	France	18739	256	5.3	0.68	28.0	1.4%
	Italy	12018	150	2.6	0.34	6.7	1.2%
	Japan	28335	137	2.1	0.25	4.2	0.5%
diminishing demand	Singapore	12735	-56	-0.4	0.01	0.1	-0.4%
	Korea	26634	-163	-1.9	0.21	3.5	-0.6%
	Mexico	13246	-769	-1.5	0.16	2.4	-5.8%
	Hong Kong	36512	-3018	-7.9	0.83	62.5	-8.3%

Sources: ITC calculations based on COM TRADE statistics.

By reviewing the data contained in Table 8, it is clear that Egyptian exports are permeable to most countries of the world and the absence of geographical concentration, as Germany and America import about 22% of the amount of Egyptian exports, with an estimated value of about 361 million dollars. The American, English, Japanese, French, Singaporean, Canadian, and Italian markets are considered the most profitable markets as the average import price is higher than its global counterpart. Given that the American and German markets enjoy a high market share, a high average price, and increasing growth rates, the research will study the competitiveness of Egyptian products within these two markets.

Table 8: Geographical distribution of Egyptian exports of leaves and flowers during the period (2008-2021).

Country	Q(T)	%	V ($1000)	%	Price $	Price ratio
Germany	64,372	11.0%	273869	10.6%	4254	0.96
USA	64246	11.0%	357061	13.8%	5558	1.25
China	59236	10.2%	91767	3.6%	1549	0.35
Hong Kong	37473	6.4%	95904	3.7%	2559	0.58
India	37157	6.4%	61,785	2.4%	1663	0.38
United Kingdom	12708	2.2%	72306	2.8%	5690	1.28
Japan	28335	4.9%	199,821	7.7%	7052	1.59
Korea	26634	4.6%	91323	3.5%	3429	0.77
Spain	22755	3.9%	76360	3.0%	3356	0.76
France	18739	3.2%	97215	3.8%	5188	1.17
Mexico	13855	2.4%	32475	1.3%	2344	0.53
Singapore	12430	2.1%	98286	3.8%	7907	1.78
Canada	12176	2.1%	75414	2.9%	6194	1.40
Italy	12050	2.1%	71929	2.8%	5969	1.35
World	582817	100%	2582389	100%	4431	1.00

Sources: ITC calculations based on COM TRADE statistics.

Data of (Table 9) refer to imports for both the US and German markets during the period (2008-2021). By examining Egypt's market share within the American market, it becomes clear that Egypt comes in fourth place with an amount of imports representing about 9%, and is competed by the Indian, Mexican, and Chinese markets. Despite Egypt's competitive advantages compared to the Indian and Chinese markets, they account for about 49% of the market's imports. The lack of a price advantage with the Mexican market is due to the close distance and lower shipping costs. Egypt also enjoys comparative price advantages with its competitors in the American market.

As for the German market, Egypt's share in the market is about 12%, and Egypt enjoys price advantages compared to its competitors in the German market. Accordingly, work must be done to increase Egypt's share in the German market and benefit from the price advantages available to Egypt.

Table 9: Egypt's competitiveness for the group of leaves and flowers within the American and German markets during the period (2008-2021).

The American						German					
Country	Q(T)	market share	V ($1000)	Price $	Price ratio	Country	Q(T)	market share	V ($1000)	Price $	Price ratio
India	19951	29%	89183	4470	133%	India	5646	9%	27788	4921	180%
Mexico	13595	20%	38468	2830	84%	Egypt	7464	12%	20430	2737	100%
Egypt	5087	7%	17100	3361	100%	Poland	8858	14%	34292	3871	141%
Germany	2532	4%	20958	8277	246%	China	2767	4%	11945	4318	158%
China	6537	9%	54571	8348	248%	America	3950	6%	24855	6293	230%
Albania	2828	4%	11708	4140	123%	Bulgaria	3720	6%	10487	2819	103%
Turkey	2543	4%	13107	5154	153%	Turkey	2323	4%	7997	3442	126%
other	15762	23%	111966	7104	211%	other	29,643	46%	273869	9239	338%
World	68835	100%	357061	5187	154%	World	64,372	100%	273869	4254	155%

Sources: ITC calculations based on COM TRADE statistics.

4. Conclusions

Egypt possesses productive advantages in the cultivation of medicinal and aromatic plants. Despite this, the scale of expansion in production and export does not correspond to these capabilities, even though there is a growing global demand for medicinal and aromatic plants. Therefore, it is imperative that the state pays attention to this sector and activates all its institutions to support the production of medicinal and aromatic plants. This would enhance the sector and facilitate the transfer of international expertise and research to align with world quality standards and preferences for local products.

5. Recommendations

- Capitalize on price advantages in import markets, with a focus on countries like Germany and the United States, to increase Egypt's market share.
- Enhance the role of commercial representation offices in reviewing consumer preferences in current markets and exploring new markets
- Increase investment in manufacturing to leverage export opportunities in the field of medicinal and aromatic extracts.
- Implement organic farming and biological control systems to augment export volumes and open new export channels.
- Focus on post-harvest processes to achieve a higher competitive position, especially as Egypt possesses price advantages that can facilitate product quality improvement.

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Appendix

Table 1 production of Medicinal and Aromatic Plants during the period(2008 – 2021)

year	Area harvested(ha)			Yield(t/ha)			Production(t)		
	Egypt	World	%	Egypt	World	%	Egypt	World	**%**
2008	26000	916607	2.8%	0.846	0.780	108%	22000	714974	3.1%
2009	27081	900100	3.0%	0.857	0.809	106%	23195	728466	3.2%
2010	28233	944116	3.0%	0.864	0.876	99%	24407	827496	2.9%
2011	29325	1085459	2.7%	0.872	0.879	99%	25560	953714	2.7%
2012	31200	1042613	3.0%	0.897	0.886	101%	28000	923985	3.0%
2013	31426	1001892	3.1%	0.886	0.906	98%	27830	907719	3.1%
2014	31304	1108229	2.8%	0.881	0.906	97%	27591	1004340	2.7%
2015	31852	1135963	2.8%	0.885	0.967	92%	28187	1098043	2.6%
2016	32405	1378861	2.4%	0.887	0.877	101%	28746	1209523	2.4%
2017	32867	2108972	1.6%	0.891	1.018	87%	29275	2147134	1.4%
2018	32375	1973925	1.6%	0.888	1.013	88%	28736	1999266	1.4%
2019	32549	2041249	1.6%	0.888	1.074	83%	28919	2192671	1.3%
2020	32597	2326629	1.4%	0.889	1.103	81%	28977	2566726	1.1%
2021	32507	2300303	1.4%	0.888	1.173	76%	28877	2698096	1.1%
AVERAGE	30837	1447494	2.4%	0.88	0.95	94.0%	27164	1426582	**2.3%**

Sources: https://www.fao.org/faostat/en/#data/QCL.

Table (2) Exports of Medicinal and Aromatic Plants during the period (2008-2021)

year	Egypt			World		
	Export Q (T)	Export V (1000$)	%	Export Q (T)	Export V (1000 $)	%
2008	10459	13715	3.4%	308700	565774	2.4%
2009	13510	30922	5.0%	271494	485787	6.4%
2010	16181	23545	6.1%	264610	510640	4.6%
2011	16718	30826	5.7%	295131	598896	5.1%
2012	11448	24811	3.6%	317335	571680	4.3%
2013	8218	17172	2.1%	394543	742271	2.3%
2014	16305	25828	3.6%	451365	854235	3.0%
2015	16258	27485	3.9%	415072	758278	3.6%
2016	19762	34520	4.0%	492640	841661	4.1%
2017	10729	19286	2.1%	518249	909428	2.1%
2018	14845	27487	2.7%	544985	991661	2.8%
2019	22240	31797	3.9%	569713	1083855	2.9%
2020	23050	31340	3.4%	678422	1235029	2.5%
2021	22215	34267	3.3%	678364	1340549	2.6%
AVERAGE	15853	26643	3.8%	442902	820696	3.5%

Sources: https://www.fao.org/faostat/en/#data/QCL.

6/22/2024