EXPORT PROBLEMS OF TURKISH CITRUS FRUIT

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Respectfully,

Eser Sirer

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Problem

Revenue from exports of citrus fruit is 1.1% of total exports of Turkey. During the last years there was an increase in production and home consumption of citrus fruit, but not a parallel increase in exports. Turkey's exports are too low both in tonnage and ratio to total productio The purpose of my study was to find about the existing export conditions in Turkey, and in other producing countries, and search for possibilities of developing citrus exports.

The exports are greatly affected by the production of the citrus fruit; therefore I will put my main emphasis in my study, on the production and export of citrus fruit, and not include the home market in detail. Turkish people do not insist on size or brand and with improvement in distribution of fruits they will easily obtain them; the situation in export markets is different. Consumers abroad insist on certain brands, package, etc. There are also other problems related to exports such as transportation, marketing, standardisation. These will be discussed.

Method

Ihad personal interviews with exporters, agricultralists, members o various institutions related to citrus exports. I have prepared and sen self-administered questionnaires to foreign importers in Germany, Austri and France.

My sources for secondary data were:

İGEME, Ankara

Ministry of Commerce, Foreign Trade department

Ministry of Commerce, Marketing department

Ministry of Agriculture, Marketing department

University of Agriculture, Ankara

State Planning Bureau

Chamber of Commerce

Chamber of Industry

State Statistical Institute

United Nations, Commodity Trade Statistics

FAO trade yearbooks, 1963, 1964, 1965
FAO monthly bulletins of agricultural economics and statistics
Publications of Turkish Standards Institute
Five Year Plans, I, II
International Refrigeration Institute Bulletin
Turkish Railways, Interfrigo Bureau
European Economic Community Customs Tariffs
Circulating Documents
Newspapers, pamphlets
Commercial Attachés' reports

INTRODUCTION

Citrus plays an important role as an export crop in the world. In about twenty countries, it is an export item of some significance, and i some it accounts for as much as one fourth to one sixth of total export earnings. The United States was the largest producer (its share was 40% but later reduced to 25%); still in grapefruit it dominates the world output. In the Mediterranean region, Spain, Italy, Greece, Israel and Turkey have increased their citrus production and exports. The final group consists of Japan, India, South America, South Africa and Oceania. They produce mostly for home consumption, but are also major suppliers o summer oranges to the international market. (Mainly South Africa and Brazil) Production of citrus fruit has expended rapidly especially oran and tangerines, followed by lemons and grapefruits.(1) Although there is rather even distribution of production, exports are concentrated in the Mediterranean area. (3/4 of total world shipments)

Degree of concentration of orange, lemon, grapfruit exports:(2)

	Oranges	Lemons	Grapefruit
	.... no. of countries		
90% of total exports by	9	6	8
remaining 10% by	21	12	19

Ten countries provide 93% of total fresh exports. These are Spain, Ital Israel, the United States, Morocco, Republic of South Africa, Algeria, Brazil, Lebanon and Greece.

Exports of fresh citrus fruit have increased relatively less than production in comparison with pre-war level mainly because of two reaso a) a major production expansion took place in the United States where t citrus industry grew in response to home demand. b) importing countrie in Europe applied strict regulations of the fruit trade permitting the importation of only limited amounts of fruit. However, with the gradual

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(1) See Table 1 in Appendix I

(2) FAO report 1965, Table 12

removal of these restrictions and the growth in consumer income, a ready demand for citrus developed, which in turn gave stimulus to product and exports in the producing countries.(3)

I) ANALYSIS OF CITRUS EXPORTS

A. Citrus Exports of Turkey

1. Orange Exports

There have been great fluctuations in Turkey's orange exports due to changes in production, prices and situation in the other countries. Production increased from 34,500 tons in 1950 to 103,200 tons in 1952. I 1953 this amount was reduced to 99,600 tons. In 1954 it was 155,360 tons in 1957 256,460 tons and changed little till 1965. There was a 44% incre in production between 1955/57 (205,000 tons) and 1963/65 (295,000 tons).(4 In 1965, production increased to 300,000 tons and in 1966, to 310,000 ton

In 1957, East Germany, Switzerland, Roumania and Yugoslavia stopped their imports of Turkish oranges and mandarins, but exports to West Germany, Czechoslovakia and England compensated for them. In 1959 Turkey had one of the maximum points of its export trend with the entrence of France, Netherlands, Iran and Syria to the export market. In 1960, Czechoslovakia and West Germany decreased their imports to a large extent and their share of our mandarin-orange exports fell to 13% from 50% in 1959. In 1963, exports of the United States and Spain decreased because of frost. Prices rose in Europe. Also in the same year Turkey accepted OECD standards for grading citrus fruits. Both facts created an increase in our exports, and made 1963 another exceptional period.

West Germany has been the main export market, but volume did not rea even 6,000 tons. Total orange imports of West Germany are around 700,000 tons. For instance, in 1965/66, exports to West Germany were as follows: Turkey 5,146 tons, Spain 374,198 tons, Morocco 85,399 tons, Italy 65,255 tons, Israel 60,000 tons, Greece 10,670 tons and total 600,668 tons.(5)

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(3) See Appendix I, Table 3 for index numbers of the development of citru exports by main types and regions.

(4) İGEME records

(5) İGEME records

TABLE 1: Turkey's Orange-Mandarin Exports by Countries[6]

(kg)

Countries	1956	1957	1958	1959	1960
West Germany	-	369,325	2,774.164	3,062.153	908,552
East Germany	350,000	-	-	-	-
Bulgaria	40,700	198,000	-	137,915	-
Czechoslovakia	2,561,880	1,817,438	3,152,243	2,300,000	300,000
Switzerland	11,055	155,950	-	-	-
Roumania	434,402	73,990	-	-	-
Yugoslavia	150,000	90,000	-	-	-
Syria	249,222	-	-	528,000	116,279
England	-	235,360	689,972	1,954,842	3,110,440
Norway	-	126,630	-	92,500	200,193
Austria	-	-	525,000	-	111,300
France	-	-	-	2,992	-
Netherlands	-	-	-	2,989,904	3,360,090
Iran	-	-	-	17,007	134,230
Italy	-	-	-	-	25,000
Poland	-	-	-	-	960,272

Turkey's orange exports are mainly of two varieties, Navel and Shamo For Navel the competitors are Spain, Greece, Morocco and Algeria. Spain leads the market and Greece has expanded her export market during the las years. Turkey's competitive chances are small in Navels, but for Shamoutis her only competitor is Israel. The quality of Turkish Shamouti is not below Israel's Jaffas, but the latter has a good organisation, exp program, perfect packing and propoganda and thus creates a higher demand than Turkey.

During the first 11 months of 1967, Turkey's export of Washington Navel was 930,588 kg., of Shamouti 10,163,558 kg., and of other oranges was 316,129 kg.

(6) Yaş Meyve ve Sebze İhracatının Geliştirilmesi ile İlgili Konular, 1966, İstanbul Ticaret Odası

2. Mandarin Exports

Unlike the other citrus fruits mandarin exports were rather steadily increasing except 1961-62. Exports of mandarin started in small quantities in 1949.(7) Mainly Satsuma and Bodrum Native varieties were exported. Satsuma is an early variety and because of this has been priced higher than others. In 1963 Turkey's tangerine(8) exports compared with others' was negligible. See Tables 5-a, -b, -c in Appendix I. In the same year West Germany's import of orange and mandarin was 649,450 tons, and Turkey's share was only 5,444 tons. In 1964, experimental export of Satsumas by İzmir Gümüşsu Cooperative resulted satisfactorily and there have been high increases in exports since then. During 1964 Narkop (Bodrum Citrus Fruits Sales Cooperative) exported 500 tons of tangerines to West Germany via İzmir and Trieste. In 1965, 360 tons of Satsuma were exported to Germany on consignment, and Narkop exported 70 tons of Bodrum tangerines and grapefruit through Edeka, a German firm. From 1965/66 to 1966/67 mandarin exports increased 55.9%. See Table 5-d in Appendix I. In 1966, Eastern Block Countries - Hungary, Bulgaria - entered our mandarin export market. During the first 11 months of 1967 exports of Satsuma mandarin were 4,512.489 kg., and of other mandarins were 822.804 kg.

3. Lemon Exports

There are no great fluctuations in lemon exports. The production increased rather steadily. See Table 2. Exports were 18% higher during 1963-65 than 1955-57. Ratio of export to production was 37% at the most, whereas this ratio is 64% in Italy, 72.9% in Spain and 30% in Morocco and 42% in Israel. Turkish lemons are preferred in Europe because of their high quality. Price fluctuations have a definite role in exports. For instance in 1963 because of high prices in export markets, lemon exports rose to 11.851 tons, but fell to 6,390 tons and 5,497 tons during 1964 and 1965 because of low prices. During 1966 they increased to 17,536 tons. During the first 11 months of 1967 exports were 16,974.053 tons. See Table 3 and in Appendix I Table 6.

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(7) Between 1950 and 1960 exports of oranges and mandarins were shown under the same statistical export quota, and net mandarin exports are not clearly known.

(8) 'Tangerines' and 'mandarins' are used interchangeably. They have the

TABLE 2: Production, Export and Home Consumption of Orange and Mandarin, Turkey, 1948-1966 (x)

Years	Production (tons)	Export (tons)	Home Consumption (tons)
1948	41,537	-	41,537.0
1949	48,101	692.0	47,409.0
1950	32,483	1,589.1	30,893.9
1951	66,387	-	66,387.0
1952	82,616	1,196.8	81,419.2
1953	81,125	2,164.0	78,961.0
1954	125,483	1,121.4	124,361.6
1955	164,898	2,762.7	162,135.3
1956	136,460	3,797.0	132,263.0
1957	213,326	3,066.7	210,259.3
1958	207,156	7,141.4	200,014.6
1959	187,189	11,082.3	176,106.7
1960	208,097	9,226.3	198,870.7
1961	211,843	7,259.1	204,583.9
1962	215,502	3,828.9	211,673.1
1963	299,562	12,221.8	287,340.2
1964	280,700	7,321.0	273,379.0
1965	335,000	25,240.0	309,760.0
1966	360,000	22,946.0	337,054.0

(x) İGEME records and "1964-65 İstatistik Yıllığı"

TABLE 3: Production, Export, Home Consumption of(x) Lemon, Turkey, 1948-1966

Years	Production (tons)	Exports (tons)	Home Consumption (tons)
1948	14,369	-	14,369.0
1949	9,748	51.9	9,696.1
1950	7,713	39.8	7,673.2
1951	16,852	1.5	16,850.5
1952	20,112	7,441.5	12,670.5
1953	18,807	7,066.2	11,740.8
1954	30,212	3,404.6	26,807.4
1955	26,684	5,868.2	20,815.8
1956	34,357	4,707.5	29,649.5
1957	69,499	1,352.0	68,147.0
1958	70,203	5,849.7	64,353.3
1959	67,445	1,979.6	65,464.4
1960	71,514	10,495.1	61,018.9
1961	70,447	8,871.5	61,575.5
1962	74,415	9,999.2	64,415.8
1963	78,884	11,851.5	67,032.5
1964	37,180	6,390.0	30,790.0
1965	78,500	5,497.0	73,003.0
1966	84,000	17,536.0	66,464.0

(x) İGEME records and "1964-65 İstatistik Yıllığı"

4. Grapefruit Exports

Turkey started grapefruit exports in 1952. Her main markets have been West Germany and EFTA countries. Turkey's export to West Germany whose consumption capacity is on the average 42,000 tons, is around 600 tons/year. In 1961-62, 2500 tons were produced and 765 tons were exported. Turkey is raising March-Seedless which is a well-known and standard variety in Europ and World markets, but production is low. During the first 11 months of 1967, grapefruit exports were 1,083.140 tons

TABLE 4: Production, Export, Home Consumption of Sour Orange and Grapefruit, Turkey, 1952-1966 (x)

Years	Production (tons)	Exports (tons)	Home Consumption (tons)
1952	883	220	663
1953	1,083	422	661
1954	2,508	186	2,322
1955	2,762	122	2,640
1956	2,728	470	2,258
1957	3,088	186	2,902
1958	5,142	375	4,767
1959	4,129	347	4,782
1960	6,446	1,188	5,258
1961	6,650	956	5,694
1962	5,861	745	5,116
1963	5,491	735	6,091
1964	6,826	995	5,831
1965	11,320	1,417	9,903
1966	12,000	1,192	10,808

(x) İGEME records and "1964-65 İstatistik Yıllığı"

In Tables 8, 9, and 10 in Appendix I, it is seen that export-to-production ratios of Mediterranean citrus producing countries have changed between 1960 and 1964. Israel from 76.9% to 53.3%, Lebanon 52.3% to 41.9%, Greece 19.9% to 19.1%, Italy 36.2% to 28.2%, Spain 69.2% to 84.2%, Morocco 68.5% to 80.8%, and Turkey 6.9% to 4.5%. Turkey's 1966 export-to-production rate was 9.3%. Except Morocco, per capita consumptio have all increased: Israel from 49 kg. to 50 kg., Lebanon 41 kg. to 48.2 kg., Greece 26 kg., to 30 kg., Italy 14 kg. to 20 kg., Spain 14 kg. to 16 kg., Morocco 13 kg. to 12 kg., Turkey 10 kg. to 10.8 kg. (See next page for per capita consumption of citrus fruit in Turkey.) From these figures it is evident that our production, export-to-production rate, and per capita consumption are low when compared with those of the competitors.

A comparison of exports of Turkey, Spain, Italy and Israel between 1963-1966 is shown in Table 11, Appendix I. It can be seen that Israel's exports have increased 9.08% from 1963/64 to 1964/65, and 8.63% from 1964/65 to 1965/66. Same period percentages for Spain are 16.2% for the first and -2.62% for the second period; Italy 2.86% for the first period and -36.1% during the second. Turkey's exports increased continuously during these periods: 40.7% between 1963/64 to 1964/65 and 118.65% between 1964/65 to 1965/66, but 29.6% between 1963/64 to 1965/66. Turkey's exports were 7.55% of Israel, 3.31% of Spain and 11.54% of Italy. These figures indicate the strong position of her competitors.

TABLE 5: Per Capita Consumption of Citrus Fruits(x) in Turkey, 1952-1966

Years	Population (million)	Orange, Mandarin (kg.)	Lemon (kg.)	Others (kg.)	Total (kg.)
1952	22,219	3.665	0.570	0.030	4.265
1953	22,818	3.460	0.515	0.030	4.005
1954	23,433	5.305	1.145	0.100	6.550
1955	24,065	6.740	0.865	0.110	7.715
1956	24,771	5.355	1.195	0.091	6.641
1957	25,498	8.245	2.670	0.114	11.029
1958	26,247	7.620	2.340	0.182	10.252
1959	27,017	6.520	2.425	0.177	9.122
1960	27,755	7.165	2.200	0.189	9.554
1961	28,602	7.150	2.195	0.199	9.544
1962	29,418	7.165	2.190	0.174	9.529
1963	30,256	9.495	2.215	0.201	11.900
1964	31,118	8.785	0.989	0.187	9.961
1965	31,391	9.867	2.326	0.315	12.508
1966	32,901	10.240	2.020	0.328	12.588

(x) Calculated based on Tables 2,3, and 4.

B. Turkey's Export Markets

Main citrus importing countries are Federal Republic of Germany, United Kingdom, France, Netherlands, Belgium, Luxemburg, Sweden, Austria, Switzerland and Eastern Europe and U.S.S.R. During winter the Mediterranean area and during summer South Africa, Brazil and the United States supply citrus fruit. Citrus consumption is concentrated more heavily during winter. The bulk of exports from Algeria (95% of its exports), Morocco (80%) and Spain (70%) are directed towards the market of the E.E.C., from Algeria mainly to France, from Spain to West Germany. By early 1960 total imports of fresh fruits doubled in comparison to pre-war (World War II). In 1938, the United Kingdom was the leading importer, but now its share has decreased.

1) General Demand Analysis

A comparison of utilization between the producing and importing countries reveals that overall rate of growth from pre-war until now has been the same. Overall utilization is double. Importing countries have regained their share in world citrus consumption which temporarily had declined. After the war, demand for fresh fruits increased in Europe. Along with increased production, there has not been a parllel increase in exports, one reason being an increase in the amount of fruit which does not meet export standards and thus has to be used locally. There are considerable differences in per capita consumption levels. In exporting countries the highest per capita consumption is that of Israel, 50 kg./head due to high production and small population. Among importing countries the highest per capita consumption is in Canada, 32 kg./head. In Western Europe uniform level is 15-20 kg./head. In the Eastern Block countries per capita consumption is low, but compared with 1960 all per capita consumptions have risen as can be seen from the following table.

TABLE 6: Citrus Consumption (per cap.)[9]

Western Block	1960	1964
Switzerland	17.7 kg	20.7 kg
Netherlands	17.0 "	19.5 "
Belgium	15.5 "	16.5 "
West Germany	14.2 "	17.6 "
Norway	13.8 "	16.2 "
Sweden	13.4 "	15.4 "
Austria	12.0 "	14.7 "
England	9.3 "	11.2 "
Denmark	9.0 "	11.6 "
Eastern Block		
Czechoslovakia	2.5 "	3.0 "
Yugoslavia	2.2 "	3.2 "
Hungary	1.9 "	3.6 "
Poland	1.1 "	1.2 "
East Germany	0.7 "	1.7 "
Roumania	0.6 "	0.7 "
Russia	0.4 "	0.8 "
Bulgaria	0.4 "	1.1 "

Changes in consumption have occurred due to demographic conditions, income growth, variation in prices and other factors such as marketing improvements and dietary habits. Based on the results of time series analysis in the 3 major consuming countries in Europe, namely, France, the United Kingdom and West Germany, A Review of the Outlook for Productio and Consumption, a document, stresses in particular the sensitivity of the demand for citrus fruit to changes in income and prices. See figure 5 in Appendix I. Average per capita consumption has been plotted against average per capita income levels. The upward movement of consumption with rising income in the individual countries is clearly indicated. The Unite Kingdom is the only exception. On the basis of the general demand curve, the income elasticity was found approximately .6 to .5 in the lower part of the curve, and at .4 in the upper part, above incomes of $ 1,000 per head.

Population, Income and Price Effects on the Changes in Consumption of Oranges and Tangerines in the Federal Republic of Germany and France: Periods of comparison 1955/56, 1957/58, 1963/64 and 1965 (10)

Periods of Comparison	Actual 1963/64		Previous Estimate 1965	
	Germany	France	Germany	France
Population Effect	1.074	1.080	1.049	1.040
Ratio of real per cap. income	1.373	1.170	1.30	1.320
Income Elasticity	1.1	.8	1.1	.8
Income effect	1.410	1.136	1.33	1.25
Combined pop. and income effect	1.510	1.227	1.40	1.30
Ratio of deflated prices	.787	.762	constant	constant
Price elasticity	-.6	-.5	-	-
Price effect	1.128	1.119	-	-
Combined calculated effect	1.707	1.373	1.40	1.30
Actual intake	1.77	1.36	-	-

Although rising consumer income have been a most important factor in the development of citrus demand, considerable stimulus to the latter has also been given by favorable price trends. Real prices have declined and this added to the attractiveness of citrus fruit to the consumer in importing countries. Actual import demand was much higher than previously expected under certain assumptions of population and income growth.

Demand is also affected by the availability of other fruit. Bananas, apples, and pears are close substitutes; also, methods of conservation have extended their marketing season. In Western Europe it can be observe that imports of oranges and tangerines tend to show some inverse variation in relation to apple output in the major importing countries. For instanc

(9) 1960 figures are taken from Turunçgil İhracatının Geliştirilmesi, a publication of İGEME and 1964 figures from Table 12, Appendix I.

(10) A Review of the Outlook for Production and Consumption

Production and Imports of fruits in Western Europe (11)

Years	Production of apples in importing countries	Imports of oranges and tangerines
	(thousand metric tons)	
1955/56	4,016	1,876
1956/57	5,506	1,778
1957/58	2,795	2,206
1958/59	7,044	2,118
1959/60	4,756	2,467
1960/61	7,460	2,338
1961/62	5,144	2,674
1962/63	6,877	2,334
1963/64	7,352	2,803

In the above table an element of substitution can be seen, but the information given is not enough for a definite result.

Demand for citrus is favorably influenced by some other factors. They include especially new eating habits as a result of urbanization, and a better understanding of the nutritive value of fruit in general. Improvements in marketing facilities and in the quality and presentation of citrus supplies have also played an important role. These latter factors are of growing significance since with rising standards of living consumer requirements in regard to quality and convenience tend to increase rapidly.

2. Demand in Main Importing Countries

a. Federal Republic of Germany: West Germany's imports of citrus are:(12)

Years	Orange	Mandarin	Lemon	Grapefruit
1964	762,834 tons	89,725 tons	136,895 tons	41,405 tons
1965	739,121 "	92,885 "	139,512 "	50,177 "
1966	722,209 "	99,317 "	138,446 "	66,701 "

(11) CENTO Traveling Seminar on Fresh Fruit and Vegetable Marketing, 1965

(12) Attaché report on January 1968, Munich

Yearly orange consumption is on the average 741,000 tons. The varieties imported are: Outspan and Hamlins from overseas, Navel, Sanguine Blood orange, Late Vernas, Thompson Navel, Tarocco, Sanguinelli, Jaffa (Shamouti), Jaffa Late, Moro and Blondo. These are imported from Spain, Morocco, Italy, Israel, South Africa, Algeria, Brazil, Greece, Turkey and U.S.A. See Tables 14 and 15 in Appendix I.

Average yearly consumption of mandarins is 94,000 tons. Varieties imported are: Palermo, Paterno, Satsumas, Clementines. They are imported from Italy, Spain, Morocco, Algeria, Turkey, Tunis and Greece.

Average yearly consumption of lemon is 139,000 tons. Imported varieties are: Verdelli, Primofiore, Speciali, Lemas. Lemons are imported from Italy, Spain, U.S.A., Turkey and Chile.

Average yearly consumption of grapefruit is 50,000 tons. Marsh-Seedless is the popular variety. Grapefruits are imported from U.S.A., Israel, South Africa, Cyprus, Morocco, Spain, Brazil, Algeria, Paragui and Turkey.

Main exporting countries to West Germany are Israel, Greece, Italy, Spain, U.S.A. and Turkey.(13)

Israel: West Germany imports Jaffa oranges which are sent in very light boxes surrounded by thin wire. They are not nailed as Turkish boxes are; in order to open the box wires are loosened and not the whole container broken. Packing and waxing are excellent and Israel Jaffas can endure for about 2 months. Oranges are wrapped in waxy paper. Boxes are numbered (show the number of fruit in them). In Germany middle size Jaffas are demanded. Israel's exports are between January and April. Fruits are sent by ship to Trieste and then brought to Germany by wagons and trucks.

Greece: Germany imports Washington Navels from Greece. Oranges are sent either in bulk or in fillet bags of 5-10 or 25 kg each. Oranges are not all of the same size, but they are very clean, waxed and well packed. 50% of fruits are wrapped in thin dephenyl paper. Lemons are exported in cardboard boxes of 20 kg each. Mandarins are exported too, but they are seedy. Fruits are exported mostly between December and Marc 15.

(13) Some details of the information are supplied by German importers.

Spain: Between January and May considerable amounts of oranges are imported from Spain. Quality is good. Valencia and Murcia are the most imported ones, also Spain Blood oranges are very favored in Germany.

Italy: She supplies an important part of the citrus fruits of Germany. German people prefer Italian citrus fruit especially because of the good packing. Because of short distance, costs and prices are low. High quality, good packing and low prices result in high demand for Italian fruits. Exports are made by wagons and trucks.

U.S.A. and South America: Tastes of the fruits are not very attractive but exports are continuous and packing is excellent. Imports are made by ships that come to Hamburg and distributed in Germany by trucks and wagons.

Turkey: Till 8 years ago, Germany was importing a considerable amount of citrus fruit from Turkey. At that time Israel and Greece were not as efficient as they are today. Because of packing and price competition Turkey's exports decreased to a very small percentage. There is not enough quantity of one standard quality and this causes lack of continuous exports. The only citrus type sold in Germany free of competition is Satsuma. Till 1962, Germany was importing Satsuma from Spain. It's quality was lower and Turkish Satsumas later replaced Spain's. Turkish Satsumas are favorable because of high quality (no seeds, early variety), also they are packed better than other Turkish citrus fruits. The weight vouchers given to those mandarins at the time of export pleased German importers.

Insurance: All citrus fruits entering Germany are insured; they are inspected by experts upon their arrival. If the importing firm buys on f.o.b. basis, the insurance company will pay if there are damages due to transportation; if trucks have no insurance the owner will pay the loss. A certificate of origin is not required at the customs, but a health certificate given by the exporting country is asked for.

All imports are collected in 3 main centers and are distributed throughout Germany. These centers are Munich, Frankfurt and Hamburg. Trucks that come to Germany are followed, upon the request of the importer by one of the firms of PAF which organizes the internal transportation in Germany.

There are two types of importers: a) one who has a stand in the market, b) one who doesn't have a stand in the market. If (a) type receives more goods than his capacity, he meets difficulties in selling and some goods have to wait, but his commission is high due to the fact that he is both the importer and seller. (b) type importer distributes the goods to the stands; in this case there are two commissions involved, but this importer has the chance to distribute the goods very quickly. Wholesale markets belong most of the time to the town council.

Advertising is carried on by representatives, distributors, etc. on account and instruction of the shippers.

Prices: Prices change according to the season, supply and demand, but they are under strict control. In the wholesale markets everyday an official price is quoted and the records of daily prices are kept in such a way that it is possible to find out the market price 10 years ago. Sales are made by kg. in Munich, by size and calibration in Hamburg.

Greece has opened a branch of Agrex in Munich. All the fruits and vegetables come there and Agrex distributes the goods according to the daily market conditions. Agrex receives no commissions; therefore sales expenses do not rise.

Umumi Mağazalar also has a bureau in Munich, but it is not active because Turkish exporters are not sending goods to this bureau; they are not sure about the information this bureau will have; also it can not extend financial facilities for the time being.

Yearly costs of a 3-person-bureau in Munich is around 75,000 DM/year.

Consigners receive 8% commission usually; if a firm has a representative in Turkey to negotiate with the Turkish exporters, this percentage rises to 10.

Edeka is a union of cooperatives and buys from the producer directly and sells; others in the market are forced to lower their prices according to Edeka.

For German people, the most important qualifications are standardization, good appearance, cleanliness and then quality. Their valuation might be attributed to the interest of Germans in form, order, rigidity and to the demands of a country with a high standard of living.

b. <u>France</u>: Total citrus imports of France in 1965 was 874,000 tons: 625,000 tons of oranges, 34,445 tons of mandarins, 83,780 tons of Clementines, 86,486 tons of lemons and 37,440 tons of grapefruit. Turkey's share was only 87 tons of lemons. France imports mainly from Spain, Algeria, Morocco, United States and Israel. In South Africa there are large plantations that belong to France.

People are used to get standardized goods and in the packages they desire to get. They prefer middle calibrated 26-27 kg/box or 150 (14) oranges/box, standard goods with 25 mm. diameter, mature oranges whose juice content is 30% and the Acide Citrique 6.5 to 9.5 brix degree; and light boxes. They do not accept fruits that are more than 10% damaged.

c. <u>Austria</u>: Austria is not one of the CM countries and is closer to Turkey. The people prefer middle-sized mandarins, but large sized ones are also sold at high prices. For instance:

No. 4	mandarin	(53-57 mm diam.)	6.5 Austria Shilling
3	"	(57-61 ")	7 " "
2	"	(61-66 ")	7.5-8 " "
1	"	(66-71 ")	8-9 " "
0	"	(71-77 ")	9-10 " "

It is seen that as the size increases, so does the price. Turkish standards are limited to 77 mm. Importers want also the larger ones, more than 77 mm, but in separate containers.

In summer Austria imports oranges from South Africa and Brazil, lemons from Italy and California and grapefruit from North America.

d. <u>Sweden</u>: Yearly import of oranges is around 90,000 tons. Imports are made from Spain, Italy and Israel during December-April. People do not like mandarins much, especially very mature ones. Mandarin imports are usually toward New Year. Import of grapefruit is around 2500 tons from Israel and United States. People consume mostly from November-April. Lemons are imported from Italy and United States on the average 4500 tons/year. The people prefer juicy and thin-peeled ones.

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(14) Information obtained from Paris Commercial Attaché's reports.

Average citrus import is around 100,000 tons per year. People want citrus fruit for vitamine-C during the winter. Blood oranges are preferred in the north and east regions, Jaffa type in south and west regions. Most people prefer middle-size and yellow colored ones.

Size	England, West Germany, Austria	Scandinavian Countries
71-77 mm	10%	50%
66-71 mm	40%	40%
61-66 mm	40%	10%
57-61 mm	10%	-

It is seen that Scandinavian countries prefer middle and/or large size; the first group prefers middle size.

C. Competitors of Turkey

Turkey's competitors are Israel, Spain, Italy, Greece, Morocco, Algeria, South Africa, Lebanon and Tunis.

TABLE 7: Seasonal Distribution of Oranges and Tangerines[15] in Selected Countries

Countries	Satsuma Clemantine	Early Varieties	Orange midseason	Late Varieties	Total
Spain	8%	26%	56%	10%	100%
Italy	13%	32%	48%	7%	100%
Morocco	9%	54%		37%	100%
Israel	5%		78%	17%	100%
United States	5%	56%		39%	100%
South African Republic	2%	41%		57%	100%

(15) 1965 FAO report on citrus fruit. Average of recent years is taken, only for Italy 1964-65 crop is taken.

(16) **TABLE 8: Oranges and Tangerines: Trade Pattern of Selected Countries**

to / from	Algeria	Morocco	Spain	Italy	Israel
	. . . .	. . . .	per cent . . .	. . . . .	. . . .
United Kingdom, Ireland	-	4.8	11.5	-	32.0
France	93.4	44.0	18.4	-	2.2
West Germany	-	25.4	36.7	36.5	18.5
Benelux	-	9.5	17.3	-	11.5
Total European Economic Community	93.4	78.9	72.4	36.5	32.2
Scandinavia	-	1.7	7.7	10.3	22.4
Austria, Switzerland	-	-	5.0	36.1	4.1
Yugoslavia, Eastern Europe, U.S.S.R.	2.5	11.9	1.9	17.1	3.8
Other destinations	4.1	2.7	1.5		5.5
Total	100.0	100.0	100.0	100.0	100.0

Variety, Production Estimates: As can be seen from Table 9, orange production in O.E.C.D. countries in 1968 is estimated to be 4.2% below 1967, but 10.8% above 1966 level due to decline in production in Spain (-148.900 tons compared with 1967) Production of Italy and Greece will be a little lower and of Turkey will be a little higher. Mandarin production will be a little lower. Lemon production will be 5.3% higher than in 1966/67 and 12.3% above 1965/66. We see that grapefruit production is of minor importance in O.E.C.D. countries.

a) Spain: Early oranges are Navels and Nevelinas, semi-late are blood and Common oranges, and late oranges are Verna, Late Common and Valencia Late. Tangerine varieties are Clementine and Satsuma.

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(16) March 1965 F.A.O. Report, page 25

TABLE 9:(17)

Estimates for Total Orange Production in 1965/66, 1966/67 and 1967/68

('000 m.t.)

Countries	1965/66	1966/67	1967/68 (Estimate)
Spain	1.761.9	2.015.9	1.867.0
Italy	997.5	1.176.5	1.170.0
Turkey	300.0	310.0	315.0
Greece	297.3	379.3	368.0
Total Above	3.356.7	3.881.7	3.720.0
United States	5.475.9	7.418.2	4.960.7

Estimates for Total Tangerine Production

Spain	165.3	218.4	217.1
Italy	177.2	193.0	180.0
Turkey	35.0	50.0	60.0
Greece	20.0	26.8	24.3
Total Above	397.5	488.2	481.4
United States	222.3	342.0	258.3

Estimates for Total Lemon and Grapefruit Production

	1965/66		1966/67		1967/68	
	Lemon	Grapefruit	Lemon	Grapef.	Lemon	Grapef.
Italy	559.6	-	603.9	-	630.0	-
Spain	95.8	3.6	92.1	4.5	94.7	4.1
Turkey	78.5	3.3	84.5	3.5	90.0	3.5
Greece	97.7	-	106 .8	-	119.2 (18)	-
Total Above	831.6	6.9	887.3	8.0	933.9	7.6
United States	543.4	1.718.2	624.1	2.081.2	568.8	1.542.6

(17) O.E.C.D. report Feb 23, 1968

(18) Before damages due to frosts

b. Italy: Early orange varieties are Thompson Navel and Navelinas, semi-late varieties are Moro and Sanguinello, and late oranges are Valencia and Ovale "Calabrese". Quality is considered satisfactory for all varieties produced in Italy. Mandarin varieties are: Clementine, Late of Ciaculli, Avana. Avana is 78% of total crop.

c. Greece: Early oranges are Washington Navel and Shamouti, semi-late are Common and Blood oranges. Late oranges have no importance. Mandarin varieties are: Clementine, Satsuma and Native mandarin.

d. United States: Early, semi-late Navels and Valencias are orange varieties and Tangelos is a mandarin variety.

2. Organization and Marketing of Competitors

a. Greece: Agrex is a corporation founded for export of fresh fruit and vegetables, with little government participation. In 1964 its name was changed to 'New Agrex'. Its functions are: 1) to help the producer and provide sales both in home and export markets, 2) to provide control and standardization and also the surplus needed for processing, 3) to sell fruit both on its account and on producers' and cooperatives' account.

The duration of 'Agrex' is 25 years and this period can be extended upon the will of 3/4 of the shareholders. 96% of the capital was provided by the Ministry of Agriculture and 4% by the State. Later 48% of the capital was transferred to the Union of Agricultural Cooperatives. Transfer of shares is forbidden. Only those of Agricultural Cooperatives Union can be transferred to Fresh Fruit and Vegetable Producer Cooperatives. The Agricultural Bank extends credit at 2% rate, yearly in 10 equal installments to the cooperatives.(19)

The Board of Directors consists of 7 persons, 3 chosen by the Agricultural Bank, 1 by the State and 3 representatives of cooperatives. It can be decided by the State upon the request of the cooperatives and unions to supply the citrus to the market solely by the Union or cooperatives.

(19) "Yunanistan'ın Yaş Meyve ve Sebze Pazarlama Teşkilâtı, a publication of İGEME.

Export permit and invoice visa are required from the exporters. Most of the citrus exports of Greece are on consignment basis.

In order to export fruits promptly, railways, customs and control officers work night and day. Exemption of stamping of documents, avoidance of customs brokers' fees decrease the costs.

Greece has increased its exports to Germany because the Common Marke Agreement and lower tariffs are in operation. Also Common Market countries have taken decisions to help Greece in case of difficulty in its exports to other countries. The Government supplies credit to the exporters. Cooperatives have formed a pool among themselves not to compete and to follow a common price policy. All these facts help in developing citrus exports of Greece.

b. Israel: Export of citrus fruit is 32% of Israel's total exports, and 12% of world citrus export. In 1962/63 Israel's total agricultural export was 90 million dollars and 72 million dollars were from citrus export. Because of the important place citrus has in exports 'The Citrus Marketing Board of Israel' was established. Its main functions are: 1) to plan production, 2) to select varieties for production, 3) to plan exports, 4) to control disease and insects harmful to citrus, 5) quality control, etc.[20]

This organization has the monopoly of citrus marketing. It protects producers against fluctuations in prices and demand in the export markets All the internal and foreign sales are accomplished by this organization. It advertises each year before the citrus season the names of the contractors to whom the producers should go. Producers get in touch with them and deliver their fruit to a contractor. There are 5 large contractor firms. These are producer cooperatives, exporters' firms or Jewish Agency's firms and own large plantations. Others, besides producers' cooperatives may sometimes act as contractor and get commissio Cooperatives receive no commission and distribute what's left from the expenses to their members.

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(20) Information is obtained from Tel Aviv Embassy's report.

The Board consists of 21 members, 3 belonging to the State. The Ministry of Agriculture is the president of the board. The 3 members of the State are the Ministries of Commerce, Finance, and Industry who send their representatives to the meetings. The remaining 18 members are chosen from among the contractors according to their regions, and most of them are producers. Contractors give the name of the nominees to the Ministry of Agriculture where final selection is made. The organisation has no profit motive. Net income from sales is distributed to the producers.

Sources of income: Citrus organisation has an internal fund. (A small percentage of sales revenue has been collected in certain seasons) This fund is spent when required during the season, but additional financing need is met by credit from banks, if Ministry of Finance and the Israel Bank approve. The rate of interest is 9-10% which is the agricultural credit, and the period is 3-4 months.

Contractors get produce from producers on equal terms at certain periods and send them to the packing houses after sorting them for export, for internal consumption, and for processing. Exportable fruits are packed with the packing materials provided by the Organization; also these goods are delivered to the demanded place upon the instructions given by the Organization with regard to amount, kind and quality. Home prices are also determined at the beginning of the season by the Organization and Ministry of Agriculture and prices are kept at the same level throughout the season. Export licenses are given by the Board. No payment is made to the producer when he submits his citrus. After sales revenues are received, necessary calculations are made per box, payments are made to the contractors who in turn distribute the revenues to the producers. When the season ends, final calculations and adjustments and payments are made.

Exports are made in two ways: 1) Definite sales which are on f.o.b basis. Most exports to the Eastern Block are of this kind. 2) Consignment sales which are made by sending the produce to the brokers and representatives of the Organization in large trade centers. Brokers deliver the fruit to the market according to the conditions in that period. In addition to the brokers, the Organisation has bureaus in England, Germany and Belgium, Netherlands and France.

For paying the producers a pooling system is employed. This is practiced as follows: Sales revenues of each kind of citrus fruit are gathered in different pools which also have divisions according to the sizes of the fruit for export and quality for home consumption, and then they are distributed to the producers at the rate of their produce. By the pooling system the following benefits are obtained. Price fluctuatio in the export market would cause some exporters to get lower benefits than others. With this system this inequality is prevented. Organizatio gives a premium to the producers who bring their fruits late. These premiums are in a way insurance against risks arising from late delivery of goods, but their marginal benefits are not high and most producers want to sell their produce as soon as possible.

The Citrus Board is emphasizing advertising and spends 500,000 Israe liras (TL 1,475,000) per year for this purpose.

There is also a 'Citrus Control Board' which is not very active. It approves the budget of the Board.

c. Italy: In Italy there is "National Fresh Fruit, Vegetable and Citrus Importers and Exporters Syndicate" which is a freely formed organization. There is also "Italian National Foreign Trade Institute" which controls quality, order, packing, and tolerances and prepares a certificate before export.

Packing is attractive and new methods are searched for. For instan in Vignola, a city in Italy, the Automac firm introduced a machine to th market for wrapping the citrus fruit automatically in the papers. (100 oranges/minute) This is now used in Italy, Israel and Greece.[21]

d. Spain: Two thirds of the exporters have formed a corporation to handle exports of citrus in 1960.

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(21) Information is obtained from Madrid Embassy's report, 1967

e. <u>South Africa</u>: "South African Cooperative Citrus Exchange Limited" handles export of citrus fruit. There is also "Citrus Borseau" which has representatives in Europe. Promotion and advertising are carried on by them. Each year technicians are sent to various centers in Europe.

In this section it was observed that although the quality of Turkish citrus fruit is good, Turkey hasnot been as successful in exporting it as have her competitors. We have many problems related to production, marketing activities - storage, packing, standardization, organization, transportation, cost, etc. - and to trade relations. These problems and measures against them are discussed in the next sections.

II) REASONS FOR FAILURE OF TURKISH CITRUS EXPORTS AND MEASURES AGAINST THEM

A. Problems arising from Product and Production

1. Production

When compared with 1958, there is a 74% increase in mandarin and orange production, 20% increase in lemon and 140% increase in sour orange and grapefruit production. According to trend there is a 21,600 tons yearly increase in production. The 1977 production will then be 650,000 tons. Using formula $X = kY^a N^b$, where X is consumption, Y per capita income and N population, and k a constant, 1967, 1972 and 1977 consumptions are found to be 450,000 tons, 600,000 tons and 752,000 tons approximately. Increase in consumption would be due to both population and standard of living increases; and if present conditions continue we will have trouble in satisfying home demand and no supplus left for export. Turkey's per capita consumption is 12.6 kg/head. This may increase to 25 kg/head when the distribution in the home market is improved more. With the increase in demand if we don't increase produtcion prices will rise and incentive for export will be weakened even more unless government does something about it.

In Turkey yield per decar is very low, 1.5 ton/year. It could be increased by irrigating, fertilizing, fighting against diseases, etc. For increasing production ecological circumstances are very promising. Turkey has long production seasons which can be further extended.

TABLE 10: Some approximations and related deviations[22] of citrus gardens

Specifications	App. Area (decar)	% variation ±	No. of trees	% varia[tion] ±
Gardens with only citrus	239,818	1.6	9,536.747	1.3
Operated by the owner	233,345	1.5	9,282.962	1.4
Gardens in level places	200,619	2.0	7,797.329	1.9
Gardens in inclined places	37,541	5.0	1,649.583	4.9
Irrigated by running water	176,760	2.4	6,795.126	2.0
Nonirrigated places	4,301	6.0	202,459	4.0

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Specifications	App. Area (decar)	% variation ±	No. of trees	% variation ±
Places where frost occurs	[illegible]2,473	2.3	6,389.847	1.9
Places where frost doesn't occur	73,577	3.0	3,002.753	3.1
Places where stable manure is used	58,887	3.0	2,508.863	3.9
Places where mixed manure is used	142,525	2.9	5,606.753	3.1
Places with good upkeep	135,679	2.2	5,321.376	2.4
Places with medium upkeep	80,477	4.0	3,336.101	4.0
Places whose produce is sold at the market	82,093	4.7	3,568.515	4.0
Places whose produce is sold on tree	92,630	1.6	3,531.070	3.0
Places operated by renters	3,496	28.0	121.947	23.0

2. Location and Spatial Distribution of Output

Citrus fruits are produced in the Mediterranean, Aegean and Black Sea regions.

a. Orange Production: The main production area is the Mediterranean Region. See Table 17 in Appendix II. According to 16 years' averages 93.14% is produced in this region. İçel, Antalya, Hatay and Adana are the main centers. Then comes the Aegean Region with Aydın, Muğla and İzmir as main centers. In the Black Sea Region production has decreased due to minimum heat condition and tea production. About 25.03% of orange are produced in Antalya, 43.4% in İçel, 9.43% in Adana, 11.3% in Hatay and 12.1% in Muğla, Aydın, Rize and İzmir.

b. Mandarin Production: According to 16 years' averages 56.21% of mandarin production is in the Mediterranean, 23.76% is in the Aegian, 19.96%[23] is in Black Sea regions. İçel, Antalya, Adana, Hatay, Muğla, İzmir, Rize are the main centers. But since 1964 Satsuma has gained importance in the İzmir Region and lost in Rize.

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(22) 1963-1964 Türkiye Turunçgiller Anketi

(23) This percentage is decreased now due to decreased production in Riz

TABLE 11: 1963-64 Mandarin Production[24]

Cities	Trees (no.)	Production (tons)
Adana	64,000	1.566
Antalya	154,000	3,776
Hatay	173,000	975
İçel	221,000	5,777
Mugla	867,000	12,843
İzmir-Aydın	385,000	8,765
Rize-Trabzon	166,000	2,411
Total	2,030,000	36,113

Approximately 1,081,000 trees are native type (in Muğla there are 850,000 trees); 876,000 Satsuma trees $364,000 in İzmir) and 73,000 Clementine trees are the rest. Yield per tree is very low, 18 kg/year, whereas a normal mature tree yields 70 kg. Trees are young and when the enter maturity their yield and consequently production will increase. I is expected that 15-20 years later production will increase to 200,000 t

Satsuma is an early variety whose export will be profitable; therefore the plantation area in the Aegean Region may be extended to Edremit. (This leaves olive trees in danger). There is still a 15,000 decar area suitable for mandarin growing. Main centers of Satsuma production are İnciraltı, Narlıdere and Gümügsu.

c. Lemon Production: Lemon production is mostly in the Mediterranea Area (97.64%) and partly in the Aegean Region. See Table 3, Appendix II Antalya, İçel, Adana, Hatay, Muğla, İzmir are the production centers. A minimum heat requirement is important for lemons; therefore the Black Sea and Aegean production areas are risky.

d. Grapefruit Production: Production areas are in the Mediterranea and Aegean Regions. Antalya, İçel, Adana, Muğla are centers of production. Best quality, March-Seedless is raised in Antalya. This wa not a kind demanded by home market, and for that reason producers have been cutting these trees and replacing them by other citrus varieties. Since there is a high demand in the export markets, production should be increased. In 1963 with the help of İGEME the Antmar Firm exported

(24) 1963-64 Türkiye Turunçgiller Anketi

Native Antalya lemons and grapefruit at very good prices.

3. Nature of Citrus Fruit

a. Variety and size: There are many varieties of citrus. The ones suitable for export are discussed below.(25)

Orange: Early varieties are Thompson Navel and Washington Navel; transitionary types are Magnum Bonum and Hamlin; mid-season varieties are Alanya Slice, Blood, Finike Native, Shamouti (Jaffa), and a late variety is Valencia.

Thompson Navel has an elliptic shape. Diameter: 65-85 mm., length: 80 mm., weight: 150-200 gr., color: light orange to dark orange. It usually has no seeds, high sediment and low juice. Period: November-early January. It has high endurance because it is rather dry.

Washington Navel is a mutation out of a Brazilian type; it is also called Navelli because it has a small belly. Antalya Citrus Station imported it in 1936 from California. There were similar types in Turkey, but they have disappeared now. Size: middle to large, diameter: 8[illegible] mm, length: 90 mm, shape: elliptic, color: dark orange, juice: 41%, extract: 10-12%, acidity: 0.90 - 1.3. It usually has no seeds. Thickness of rind changes according to the age of the trees; as they get older rind becomes thinner. Harvesting period: 3rd week of November-January, this changes according to climate and soil. If the harvesting period passes acid is lowered and taste is spoiled. Washington Navel is irresistant to Stubbron and other viruses.

Magnum Bonum was brought from Florida to Antalya Citrus Plantatio[n] Shape: elliptic, diameter: 63 mm, length: 65 mm, weight: 130 gr., extract: changes from place to plac[e] 11-14%, acidity: 1.5-1.2; it has a nice smell, it is resistant to illnesses, but has a thin peel and not fit for long distance shipment.

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(25) Information is obtained from Türkiye'de Turunçgil Ziraatı by Bilâl Özman, 1967, Ankara

Hamlin is a flat round orange. Diameter: 65 mm, length: 62 mm It usually has 5 seeds. Color: light orange, juice: 43%. It is resistant to diseases except Stubborn. It is good for home market and processing, not for export over long distances.

Blood (Moro) was brought from Italy to Antalya in 1936. It is a round orange. Diameter: 75 mm, length: 85 mm, weight: 185 gr, color: it takes its color during January when the weather gets cold; its flesh is dark red. It usually has 2 seeds. Harvesting time: 2nd week of January, extract: 11%, acidity: 1.7. It can endure long distance transporting because it is a rather tough fruit, but weak to Xyloporosis and Bacteriose-Citrus.

Finike Native is a round elliptic or close to elliptic orange. Diameter: 78 mm, length: 80 mm, weight: 165-240 gr, color: dark orange, seeds: average 13. Because of high number of seeds the harvesting period is rather late and comes to market in March and has a higher price. It is good for processing with a juice content of 46% and acidity 1.7%.

Shamouti is a mutation from an Israel variety, Beledy. Jaffa is the name given by Israel, and we cannot export under the name 'Jaffa'. It is an elliptic orange with various sizes. Diameter: 71-84 mm, length: 84-99 mm, weight: 188-290 gr. Seeds occur occasionally. Extract: 14-15%, acidity: 1.3-1.5%; harvesting period 2nd, 3rd week of January-end of March. It has high endurance for long distance transporting and for packing, and is resistant to diseases because it has a thick rind. It is not resistant to frost.

Valencia orange was also brought in 1936. It has an elliptic shape. Diameter: 71 mm, length: 73 mm, weight: 150 gr, seeds: average 5 seeds, color: during summer the fruit's color starts changing from yellow to green. This is bad for export markets; artificial coloring is done by ethylene gas in coloring rooms. Juice yield is high, 54% and at least 46%. Harvesting period: March-June; if harvested later granulation is seen. For processing it should be picked before July and stored. Valencias are resistant to illnesses and fitted for packing and export.

Lemon: Turkish lemons are known in Europe because of their high qualit They can be harvested at any time, green or yellow. Green lemons can stay 6 months in storage and continue developing. The fruit gets water from the rind and juice content increases. In Italy there is a Verdelli method. During spring when the trees bloom irrigation is stopped. During summer by giving water and fertilizer lemons are produced again for summer export. Varieties are:

Eureka is an elliptic lemon. Diameter: 55 mm, length: 85 mm, weight: 125 gr, seeds: average 5, juice yield: 42%, extract: 10-11%, acidity: 7.4%, harvesting season: winter. It is suitable for long distance transporting but non-resistant to Mal secco.

Interdonata was brought from Italy to Antalya and İçel. Diameter 55-90 mm, length: 10-12 mm, weight: 155-222 gr, seed: 16, yield per tree: 40-166 kg/year. It is an early variety compared with those of Spain and Greece. Small ones are more fitted for long distance travelli

Black lemon is a native variety raised in Antalya. It has an elliptic shape. Diameter: 55-85 mm, weight: 125 gr, seed: 8, juice yield: 39%, extract: 9%, acidity: 7%

Lemas is also a native variety produced in Mersin. Although it is not a standard variety it is suitable to be kept as bed ("yataklık") lemon. It has few seeds. Diameter: 60 mm, length: 95 mm, weight: 130 gr, juice: 38%, harvesting time: starts in November, acidity: 7.1%.

Mandarin: The following varieties are important:

Satsuma is also called Rize Mandarin. It is raised mainly in limeless land and its rootstock is three-leaf trifoliata which is not raised in competitors' lands. Therefore Turkey has a great advantage in this respect. Fruit's shape changes according to the rootstock. Diameter: 6.5-7.5 cm., length: 6.0-6.5 cm., weight: 115-125 gr., rind: normally it has a thin rind, 3.5-4.5 mm, color: it gets yellow after it is mature but also is picked when it is still green. In this case artificial coloring is done in ethylen gas. It has no seeds, juice: 36%. After harvesting the fruit does not show further development. It is fitted for long distance transporting but its root-stock is weak to Exocortis virus. It can endure cold more than the other varieties.

Clementine was brought from Italy to Antalya in 1936. Its origin is Algeria. Diameter: 67 mm, length: 64 mm, rind: it is thick if there are few fruits on the tree and thin if many fruits. It is hard to peel. Seeds: change from place to place. If they are raised together with other seedy fruits, number of seeds can be as much as 22. Juice: 33%, harvesting time: November-December. Its rootstock is sour orange which is also found in competitors' land and therefore this variety is highly competitive. It is resistant to Blind Pocket, a virus disease. If Clementines are packed in small container they can endure long distance transporting. Extract over acidity determines whether the fruit is fitted for export, but in Turkey this is not done.

Native Mandarin is raised in Bodrum. Diameter: 63 mm, length: 57 mm, weight: average 100 gr, color: dark yellow, rind: is thin and can resist rain unlike Clementine, seed: can be as much as 20., juice: 33%, has a low juice content, extract: 11-13%, acidity: 1.2%, harvesting period: From December till the end of January. It is weak to Xyloporosis virus.

Grapefruit:

Marsh-Seedless is a well-known export variety. Diameter: 112 mm, length: 96 mm, weight: 350 gr, colàr: yellow, seed: average 4, flesh: grey-white, juice: 38%. Marsh-Seedless is an early variety. It has a glucoside called 'narengine' and because of it, it is sour. A 15-20 years old tree can give 250 kg/year. It is weak to Psorosis (Tristeza and Stubborn). This variety matures at the end of October, in places where there is no fear of frost such as İskenderun and Samandağ harvesting can be done earlier.

Ruby is also a variety whose flesh is ruby colore. It is not exported.

b. <u>Ingredients:</u>[26]

Acids: 98% of acid in citrus fruits is citric acid, 1% is malic acid, 0.23% oxylith acid. Citric acid have received its name from citrus fruit.

Sugar: There are high differences among citrus fruit with regard to sugar. For instance in lemon, 70% of extract (which is 11-12% of lemon) is acid, whereas in orange 75-80% of extract is sugar. Some of the sugar is sucrose and some is reducing sugars. In grapefruit the reducing sugar is twice the sucrose amount, whereas in orange both are the same; in mandarin reducing sugars are half of sucrose.

As the fruit gets mature 2% of both sugars increase, but in depots

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(26) <u>Turunçgil Meyvalarımızın Terkipleri Üzerinde bazı Araştırmalar</u> by Prof. Dr. Turgut Yazıcıoğlu, A. Ü. Ziraat Fakültesi

sucrose in the fruit decreases, it dissolves in acid by inversion and becomes inverted sugar. By measuring sucrose and inverted sugar in the fruit it is possible to learn how long the fruit in the wharehouse has stayed. IGEME has brought a pressure tester for measuring commercial market maturity. When it is dipped into the fruit, pressure of the fruit is measured by pound.

Investigations about the ingredients of citrus fruits is not complete, results of those already made are as follows:

TABLE 12: Ingredients of Citrus Fruits

Ingredients	Orange	Mandarin (Mersin)
Average weight	249 gr	88 gr
% of rind	24 %	26%
% of juice	31-36%	32%
% of extract	12%	13.3%
Total sugar %	9.45%	10.05%
Reducing sugars %	4.56%	3.66%
Sucrose %	4.74%	6.06%
Acidity %	1.58%	2.1%
Ph	-	2.92%

Ingredients	Lemon	Grapefruit
Average weight	234 gr	340 gr
% of rind	30%	33%
% of juice	22%	37%
% of abstract	10.4%	13%
Total sugar %	2.1%	8.44%
Reducing sugars %	0.65%	5.50%
Sucrose %	1.99%	2.94%
Acidity	6.6 %	3.50%
Ph	2.1	2.66

Maturity test is given in other countries by measuring extract/acidity. This is usually 8 in Turkey, but test is not given.

According to these results the fruit that contains the highest level of sugar is mandarin, the most thin-peeled one is Finike Orange and the highest yield of juice is found in grapefruit. In mandarin sucrose is twice inverted sugar and in grapefruit inverted sugar is twice sucrose. In oranges both are equal. In lemon sucrose is three times as that of inverted sugar.

c. Perishability: Citrus is a perishable fruit. The mature fruit can be stored for some time on the trees or after harvesting, but these possibilities are limited. Normally the fruit should reach the consumer within a period of 6-8 weeks after harvesting, otherwise the rate of spoilage increases greatly and the eating quality is reduced rapidly. The deterioration is caused by weather, light, humidity and heat.

After the fruits are harvested, biological activities continue. As a result of respiration sugar, carbohydrates and acids dissolve, enzymes show their activities. Fruit gets softer, micro organisms on the external part of the fruit get into activity. The heat of the fruit should be decreased as much as possible to prevent its physiological functioning. Close to 0° micro organisms lose their activities. But cold causes water loss in fruits and excessive humidity is required. With the humidity mold fungus can start activating. For that reason, before the warehouse is filled, it should be cleaned with a disinfective gas such as Chlorine.

Physiological changes occur also because of the affect of cold on the cell water of the fruit. Temperature of the room should be arranged according to the respiration of the fruit and vegetables (if both are stored together). If there is too much respiration high-capacity evaporators are needed.

Maturity of the fruit is important. If the unit heat of the fruit is decreased before the water in the cells get cold the cells' membranes will burst, some water will squeeze and remain between the cells. With the functioning of the enzymes in the fruit oxidation will occur. As a result the fruit will get darker.

Since bruises and damages shorten the life of the fruit, harvesting should be done with care. While collecting fruit stem should not be damaged, and gloves, blunt-edged scissors should be used.

d. Damages to Citrus Fruit: Damages are caused mainly in 5 ways:

1) By insects and other living organisms. These are rust insects, flies especially Mediterranean fruit fly (Ceratitis Capitata), orange fly and internal worms. Mediterranean fruit fly is very harmful. Small black points at the center of yellow specks are seen on the fruit. To fight against them other insects are used. (biological fight) Also medicine is sprayed. Fruit flies start in October.

2) Fungus and bacterial diseases are another cause. Phytophtora, blue mold and green mold are common. Cause of Citrus blast (Bacteriose) is a bactery named Pseudomas syringe and also cold. Symptoms: Brown specks are seen at the binding points of leaves to the branches. They get darker later. Leaves become pale green, then light grey and then wither and fall. Medicine is poured during Autumn every 10 days. During this time potassium and phospor fertilizer instead of nitrogen should be used. Fruit trees should also be guarded against cold and wind.

Stem-end-rot is caused by a fungus group named Phytophtora, and also by deep planting and faulty irrigation. Color of the peel of the tree changes at the inflicted part. It gets darker by time, a hole is formed and gum comes through it. This disease is also called 'gum'. As a precaution good and resistant rootstock should be chosen such as three-leaf trifoliata.

Malsecco is a lemon disease caused by a fungus named Deuterophoma traheiphila which lives in the tubes of the tree. Pallet of leaves fall, cambium layer turns into orange color. It is difficult to cure this disease and measures taken are rather protective than therapeutic. In the lemon gardens protective trees from wind should also be planted. Thornless lemons are more strong to this disease, because by wind thorns form bruises which become entrance places for fungus. Lemon trees should not be pruned between November and March. Roots should not be damaged. Nitrogen fertilizer should be used during Autumn, and medicine should be over the trees from October to spring every 15-20 days.

3) Virus disease is the most important cause of damage to citrus fruits. It passes through insects (leaf lice, etc.) or with grafting.

Psorosis is a virus disease that passes by grafting. Sympton is a light color seen in the veins of shoots. Grafting trees should be chosen carefully.

Tristeza or Quick Decline also pass by grafting and by leaf lice (puseron). Carbohydrates precipitate at a point and pipes are blocked. Trees starve and die. First development stops in roots, fruits are very small and tasteless. As a remedy rootstock which is strong against this disease should be used.

Xyloporosis (Pitting) is another virus disease where hollows under the rind are seen. Leaves fall, development stops. It is also caused through grafting.

Stubborn also passes by grafting. Fruits become acorns, leaves grow abnormally, tree seems like a broom. This disease is especially seen in Washington oranges.

Exocortis is especially seen in mandarins, Satsumas. It passes by grafting. Large yellow specks on branches are seen, wrinkles are formed. Yield falls and trees can not grow. Sour orange, orange and Cleopatra mandarin should be used as rootstock.

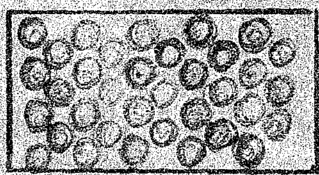
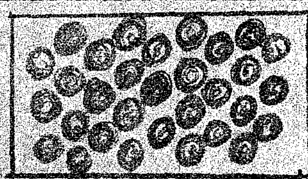
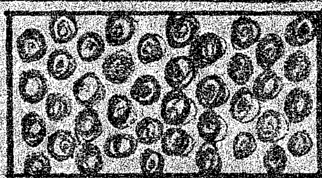
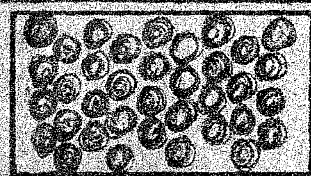
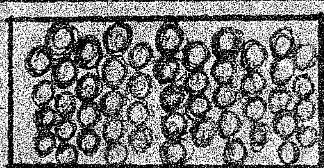
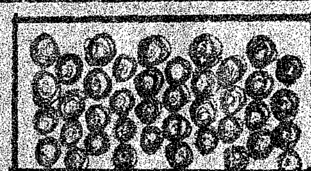
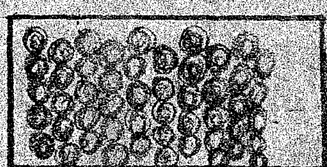
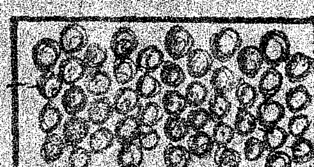
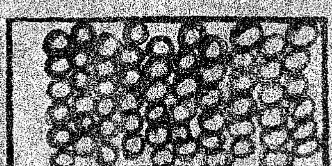
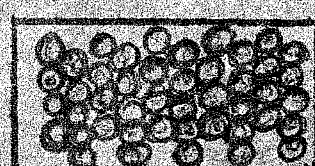
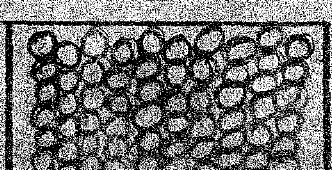
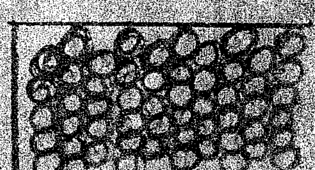
4) Physiological disorders are brought about by bad pruning, fertilizing and irrigation. These should be improved.

5) Frost is an important cause of damages to fruits. Leaves fall; at that time fertilizer should be decreased first and then gradually increased together with the proper irrigation.

Variety of uses: Besides fresh consumption, citrus fruits are used in the following ways: Pasteurized juices, juice powder, frozen juices, citrus essence (by pression), essence oil, pectic acid, all sorts of juices and marmalade, gele, wine, pectin (obtained from grapefruit and lemon and is used in processing for marmalade).

No.

Arrangement of Mandarins in Boxes
TS: 34/12

Sizes			
No.	diameter mm	No. of fruits	Appearance from top
0	71-77	86	4/4  1st and 3rd rows  2nd row 3/4
1	66-71	108	4/4  1st and 3rd rows  2nd row 4/4
2	61-66	121 122	4/5  1st and 3rd rows  2nd row 4/4
3	57-61	135 150	5/5  1st and 3rd rows  2nd row 4/5
4	53-57	165 180	6/6  1st and 3rd rows  2nd row 4/5
5	49-53	165	6/7  1st and 3rd rows  2nd row 5/6

4. Summary of Measures related to Production

In the Western Block countries consumption amounts have reached a rather stable level, for that reason Mediterranean countries have taken some measures to limit their production areas. Citrus trees, although they begin to bear fruit from 2-3 years after planting develop in size and bearing capacity for many years and reach their maximum yield sometimes only after a period of 30-40 years. Thus the growing of citrus is a very long-range enterprise inelastic to changes in price or market conditions in the long run. Citrus trees which are planted during periods of high prices will have an effect on output only with a time lag of several years. By then market conditions might have changed or it might have become clear that earlier expectations would not materialize. But adaptation to price declines is still more difficult since trees once planted continue to produce and do so over a considerable period at an increasing rate. This is not a problem for Turkey, on the contrary we have to increase our production both for home consumption and exports and turn to plantations rather than horticulture.

Yield of citrus fruit is very low in Turkey. It can be increased with technical and cultural precautions such as pruning, fertilizing, irrigation, harvesting, fight against diseases. Ministry of Agriculture has to concentrate and with an efficient group of technicians teach the producer how to perform these. Conferences must be given with the cooperation of State and Private sector according to a program; films, pictures can be shown, actual demonstrations of fertilizing, irrigation, etc. should be made by experienced individuals.

a. Selection of Variety: Production of good quality and marketable fruits is needed. The variety should be chosen according to the ecological factors that make it possible to raise the best quality and of high commercial value; also seasonal factors and uses should be considered. For instance Washington Navel which is a good variety for eating is not so good for processing and for late season. There are too many varieties; their number should be reduced. Growers must change their native varieties to foreign ones. Each region should concentrate on the variety (ies) demanded and for which it has a potential.

b. Selection of grafting: This is very important because mutations occur often due to wrong grafting. There are some good mutations such as the variety Washington Navel, but most are undesirable. Grafting should be taken from healthy trees which have been observed for a long time.

c. Selection of rootstock: Citrus is a long-lasting tree and it is as important to choose the rootstock as the variety, because the tree has to endure a lot of things - diseases, cold, etc.-. There are many varieties of rootstocks because citrus has many relatives such as Poncirus, Fortunella. Mostly cross-breds such as rootstock of sour orange, three-leaf lemon, Cleopatra mandarin, rough lemon and grapefruit are used.

d. Fertilizer selection: In addition to the analysis of soil, analysis of leaves are also important to choose the right kind of fertilizer, because what the citrus tree can get from the earth is more important than what we put to the earth. Reactions of tree and fruitfulness are measured and macro and micro elements are considered in foreign countries. Sometimes extremes are seen in fertilizing - too much or lack of Nitrogen - Micro and macro elements should be in balance.

e. Fight against virus diseases: Psorosis, Quick Decline, Exocortis, Xyloporosis, and Stubborn are the most important virus diseases. They are spread either through vegetative production or through insects that act like vectors. An American specialist pointed out that in 90% of Turkish citrus production there is Psorosis and this caused 30% loss in production. To prevent virus diseases, 1) indexation (detection of disease by way of visiting plants) method should be used. Types that have no viruses may be obtained and used for further production. 2) Root-stocks and varieties resistant to viruses should be chosen.

B. Problems arising from Marketing Activities

1. Purchase Methods

Various methods are used depending on exporters' financial and organisational facilities. There is a competition during the season among the native buyers and the exporters. This leaves the exporter in a difficult position because he has to abide by the export prices no matter what the home prices are.

Both buyers buy the produce 2-3 months before harvest time and pay 25-30% of the value, and later at the time of harvest they pay the remainder. This is cheaper, but riskier for the buyer and cheap but certain for the producer. Buyers provide boxes, nails, wire, wrapping paper, etc. and do the picking, packing and transporting themselves.

A small exporter buys little from the producer. He usually buys from the wholesaler at the current market price. Financially capable exporting firms buy both from the producer and wholesaler. They also export for the wholesaler. In that case, the wholesaler takes the responsibility of quality, packing, transportation, etc. Fruits are sold under the name of the wholesaler, and the exporter, in return for his expenditures and services, gets a commission. (Usually 2 TL/box)

2. Sales Methods

Usually the fruits are sold in wholesale markets and at auctions as in Hamburg and West Germany. Importers in West Europe rarely purchase at fixed firm prices. This is a special method to guarantee future purchases and this requires a stable demand for the goods in the foreign country as well as stable supply by the exporting country. This is practiced in Scandinavian countries such as Norway. There are generally two sales methods:

a. Commission method (consignment): The exporter sends the fruits to the importer on a consignment basis. The importing firm deducts from the sales revenue expenses and commissions and transfers the rest of the revenue to the exporter in Turkey. All the losses are borne by the exporter. For that reason, the importing firm should be selected with car

b. F.o.b. sales: This is practiced usually in far away markets. It is preferred by exporters who cannot follow the foreign market prices, but this is rarely practiced in Turkey. In 1965 mandarin export to Edeka, a firm in West Germany, was made on f.o.b. basis.

Russia, Poland, Czechoslovakia, Hungary, Roumania and Bulgaria purchase on fixed prices through their commercial attachés in Turkey. They pay 80% downpayment and 20% later.

Turkish exporters are selling their fruits directly or through special commissionaires, but they don't have representatives abroad.

3. Standardization and Control

The controls are based on Law No. 1705 (in 1930) and its attachment No. 3018 (in 1936).(27) In 1960 Turkish Standards Institute was founded with Law No. 132 and took over the function of establishing standards. The Ministry of Commerce has the controlling function. In 39 centers there are about 300 controllers and experts performing this function. On November 7, 1959 there was a regulation for application of Turkish standards.

For citrus fruit, standards were established according to OECD standards. The first standardization was on April 4, 1962 with additional regulation again in 1962 and 1963. The second standardization also took place in 1963. Control centers are Trabzon, Istanbul, İzmir, Antalya, Mersin, Adana and İskenderun.(28)

Turkey is now under OECD standards and has to abide by them. For details see Appendix II.

Problems of the control of standards are mainly in 3 phases:

a. Agricultural phase: For export, fruits should be produced according to the OECD standards. Variety improvement, encouragement of demanded varieties that are free from disease and damages are required. Otherwise Turkey has to separate from OECD and establish her own standards or stop exports altogether, which is not desirable. Agricultural Fight Organisation has a lot to do.

b. Control Phase: Inspections are not made during export, but in gardens or in the working places, for color, disease and grading. The

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(27) Name of the Law is "Ticarette Tağşişin Men'i ve İhracatın Murakabesi ve Korunması"

(28) Outside of these areas demand control from the nearest center.

application of standards is very difficult. Also gardens are far from each other and demands for inspections are not promptly met. This causes delay in exports, too. Present inspecting personnel is not enought. For instande, in the Aegean Region there are more than 50 places that require inspection at the same time. Inspection should be made at the export places; for the time being it can also be made at the packing houses in various centers.

c. After control phase: Because of lack of warehouse and transportation facilities some fruits are damaged after inspection. Since inspection is made before packing, bad packing will destroy the effect of fruits even if they are well standardized.

Inspections are made in the following way: 1% for each party[29] not less than 5 boxes, are examined. Decision on these units are attributed to the whole lot. If not already packed, the controlled units equal to the number of fruits in 5 boxes. For testing maturity, color and appearance are observed and if needed, juice content of at most 10 fruits is analyzed. Control certificate has a period of 10 days, the beginning date is printed on the package.

If there are objections to the result of the control, the questionable produce is put in a sack and the opinion of an authoritative group is taken. The group gathers within 24 hours and has to decide within 6 hours.

If standards are met, but tolerances are exceeded by one times, lot is not rejected but is sent for preparation again.

Experimental exports are outside of these regulations and this fact is pointed out on the packages or boxes. For further details of standardization see Appendix II.

Agricultural Quarantine Control is made by the Ministry of Agriculture. Quality Control by the Ministry of Commerce, and Customs control by the ministry of Customs and Monopoly. These three types of inspections should be joined under one organization, because time is lost and extra difficulties arise.

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(29) By 'party' is meant 'of the same variety, quality and package'.

4. Grading

Grading of fruits is made by hand or machine according to size. Bad fruits are separated. After washing and waxing fruits are piled diagonally as can be seen in mandarin boxes. There should not be more than 7 rows. The number in the box changes depending on the demand of the importer. As an example see methods of grading mandarins on the next page. According to the method the number in the box changes. For instance the lot sent to Munich on Dec 6, 1964 had the following numbers of each variety in the boxes: Lemon - 96, 100, 112, 120, 140, 160, 180, 210 -, grapefruit - 48, 50, 60, 70, 80, 90, 100 -, Washington Navel orange - 113, 138, 180, 125, 162, 140, 135, 168 and Jaffa (Shamouti) orange - 88, 105, 113, 125, 138, 164, 165, 180, 192. In general the mentioned number of fruits are packed in one box.

5. Packing

In marketing, type and price of package are important. In Turkey wood boxes out of native pine, beech, poplar and ocaliptus trees are used. These are obtained from General Forest Administration at 550 krs/box, whereas white wood from Spain is 173 krs/box. This can be imported with Temporary Acceptance or General Forest Administration should sell the boxes more cheaply.

In the wooden boxes 1-1.5 cm are left at the sides for air conditioning. Boxes should not be more than 10% of gross weight. For oranges and grapefruit bruce boxes are used. For mandarins Holland type boxes are used.

The face of the fruits is covered with white or colored wrapping paper. When people open it to see what's inside, the appearance is spoiled. Gelatin paper should be used to show through, and rubber bands instead of strings should be used. If boxes are sent by ship they should be bound with wire.

Turkey imports grapefruit cardboard boxes from Israel, one of her competitors in the citrus field. She has the danger of delay of export due to delay in receipt of boxes.

Building of packing box installations are recommended. This will cost about $ 36,000.-

Wrapping paper may have diphenyl or other chemical material left on the fruits if the importing country approves it. Signs may be written in the foreign language, but no signs are allowed to be put where there are standard stamps. See Appendix II.

The first well organized packing installation, 'Güven Packing House', was founded in 1959 in Mersin. Its daily capacity is (8 hours) 5600 boxes net 14 kg lemon or 7200 boxes net 18 kg orange. Its operations include brushing, washing, waxing, sizing and boxing. There is also a refrigerated depot on the first floor. It is capable of having 80,000 boxes of lemons net 18 kg each and 30,000 boxes of oranges under technical conditions. It has 1,000,000 BTU/hour. (British Thermal Units) 'Güven Packing House' prepares also other exporters' goods at 250 krş/box (wire, nail, labor, washing, wrapping paper, waxing costs belong to the exporter).

The second packing house in Mersin belongs to Vittakola Firm whose daily capacity (8 hours) is 1,820 boxes of lemons; it has only sizing machines. It usually does its own work. For others' packing 100 krş/box is demanded. There is another packing house in Mersin. It includes washing, brushing and waxing units.(30)

In Antalya Horticultural Station there is a packing installation with a daily capacity of 300-350 boxes of lemons or 400-450 boxes of oranges. It has a calibration machine, but no waxing equipment. Packing is done at 25 krş/box.

In Mersin, Antalya and İzmir more packing houses are needed by both exporters and producers. There is a demand for 50 tons capacity/day, in İzmir.

There are two reasons why exporters prefer packing fruits in the orchard. They declare that cost between orchard and ship becomes lower if a packing house is not involved; and that delays may occur in the packing house if too many fruits come at the same time and the ship will be missed Of course by increasing packing houses both of these problems will be solved. Unit prices will decrease, too.

After standardization, interest in packing houses increased. It was found that those fruits prepared in a packing house and those in the garde bring a sales difference of 0.5-1.0 DM. See the next page for the operations in a packing house.

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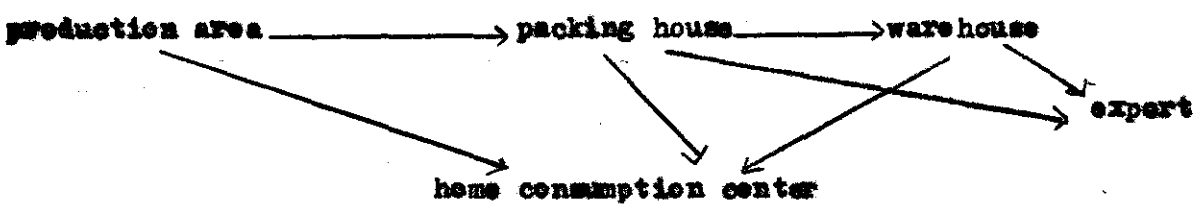
(30) Information is obtained from "Yaş Meyve ve Sebze İhracatının Geliştirilmesi.

6. Transportation



a. <u>Transportation from tree to internal markets:</u> Picking and packing are done at the orchards during the day and produce is transported at night with trucks, tractors, and other vehicles.

b. <u>Transportation from tree to packing houses:</u> Ordinary trucks are used.

c. <u>Transportation from packing houses to internal markets and cold storage houses:</u> It is done at night, no frigorific trucks are used.

d. <u>Transportation from storage houses to home markets and sales places:</u> Ordinary trucks are used, whereas frigorific vehicles should be used.

e. <u>From storage houses to export markets:</u> Transportation is made by trucks, wagons or ship. Turkey has economic and technical problems in this respect. Freight competition, customs duties, transit fees are non-economical. There is insufficient loading and unloading equipment at harbors, and repair stations and traveling repairmen are lacking. For this reason small disorders cause the whole frigorific system's stopping and this results in deterioration of fruit. In February, 1966 two truck loads of lemons and oranges were entirely spoiled, although they were in frigorific trucks, because as a result of a small disorder the frigorific system stopped and there was no repairman.

Turkey is far away from export markets and pays high customs duties and transit fees to third countries. Drivers' wages are lower than those of her competitors, but other costs are much higher. There are mainly three means of exporting citrus fruit, highway, railway and seaway.

1. Highway is the fastest and most available means for citrus transportation. Frigorific trucks and fleet are used by Italy, Greece and other European countries for exports to Germany. Turkey has 20 frigorific trucks for the time being each having a capacity of 8-25 tons.

Each season some trucks are rented from Bulgaria, Yugoslavia and Austria. Before the Cyprus event they were also rented from Greece. For mandarin exports trucks with awnings are used.

Seeing the importance of frigorific trucks for citrus export, the import tax was eliminated in April, 1968. According to this regulation frigorific trucks (fleets containing at least 10) and pullers will be imported tax-free.[31]

As can be seen in figure in Appendix II, a complete frigorific truck has two parts, tractor and a case containing cooling equipment. Puller and thermos case are manufactured in assembly industry in Turkey. Main assembly firms are Otoyol A.Ş. and Ünver. They have started manufacturing the whole frigorific truck and trailer, too.

The import price of a whole trailer on f.o.b. basis is 27,000-30,500 dollars. It has around 40 m^3 volume; till 1968, with the addition of customs fee total cost of the vehicle was 415,000 TL. Native manufacturing cost, on the other hand was:[32]

Imported parts	exchange paid for imported parts c.i.f. $	with customs fees TL
Tractor (180-190 PS-HP)	8,500	109,517
Cooling unit	3,000	55,212
Accumulator, break	1,200	16,954
Aluminum plate	750	11,621
Others	120	1,696
	13,750	195,000
Materials used in Turkey		45,000
Labor		40,000
Indirect expenses		15,000
Factory cost		295,000
Manufacturer's margin		75,000
Sales price		370,000

With the new tariff import seems to be more advantegeous, but with the import of one vehicle around $ 30,000 exchange goes out of the country, whereas imported parts for manufacturing the same vehicle in Turkey costs around $ 14,000 exchange. Thus manufacturing in Turkey gives on the average $ 16,000 exchange gain. Manufacturers are extending one year credit to the buyer.

For fresh fruits 50 for the time being, and 3-4 times that amount of frigorific trucks will be needed in the following years. The present capacity of home manufacturers is enough. Otoyol has a capacity of manufacturing 400 frigorific trucks per year if it deals only with them. It has produced 15 trailers so far. These are tested by experts from Istanbul Technical University and found satisfactory. Both Otoyol and Ünver are manufacturing pullers, they import parts with Quota no. 344-345.

IRU and TIR are the main agreements for highway transportation. See Regulations and Treaties.

2. Railway is the second means of citrus transportation. Frigorific cars are rented from Interfrigo Organization whose center is in Switzerland It was founded in 1949; Turkey entered it in 1956, and she has a bureau in Sirkeci. Upon demand this bureau arranges for the cars. The exporter should inform the bureau at least 15-20 days beforehand and deposit some money. But there are delays and fruits deteriorate or with price changes they are sold in the home market or prices fall in the export markets. The cars are delayed to load another good and this will result in extra stoppage loss. Fruits are loaded from Sirkeci, there are loadings and unloadings on the way, and all these cause at least 10% loss and deterioration of fruit.

3. Seaway is the cheapest means if direct shipments to export harbors are possible, for instance, directly to England. State Seaways Administration has ventilated ships of 700 tons minimum capacity. Experimental export of Satsumas in 1964 was made by ship and the results were good. Sea transportation is good for early exports of mandarins.

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(31) Declaration Number 6/9745 on Resmi Gazete, April, 1968

(32) "Yaş Meyve ve Sebze İhracatında Nakliye Meseleleri", by Rauf Kandemir 1966.

Sending a great party of fruits has had unsatisfactory results at the loading and unloading places. Citrus producer increases price at the loading place and price falls at the selling place because of too much supply. For instance in Munich when fruits of Greece, Italy and Turkey are brought at the same time, there is a price decline of about 50%. Also ships stop at several ports, loading and unloading occur frequently, and 10-30% deterioration occur.

There are differences in freight limits and charges among exporting countries. Turkey is at a disadvantage as can be seen in the following table.

TABLE 13: Frigorific Rail Freight to Munich[32]

DM/ton

Exporting Country	Distance to Munich	Freight cost
Spain	1,725 km	170 DM
Italy	1,284	90
Greece	2,167	165
Turkey (Istanbul)	2,190	255
Turkey (İzmir)	2,785	298
Turkey (Mersin)	3,105	356

Frigorific Truck Freight to Munich

DM/ton

Exporting Country	Distance to Munich	Freight cost
Spain	1,725 km	- DM
Italy	1,284	100-120 DM
Greece	2,167	200-240
Turkey (Istanbul)	2,190	300-360
Turkey (İzmir)	2,785	340-440
Turkey (Mersin)	3,105	440-520

The difference between Turkey and other countries with respect to freight costs is due to the high cost of trucks in Turkey and transit charges, and distance to export markets.

(32) IGEME records, with TIR agreement these charges were lowered a little.

Measures for simplifying and reducing cost of freight:

1. For the producer: High production will lower unit costs; formation of cooperatives and unions among producers will settle some problems; also keeping agreements is important. If there is steady production, there will be continuous work for the transporter and this will reduce freight costs.

2. For the transporters: Reduction in operational costs and manipulation, in technical work such as loading and unloading, provision of goods for return trips (by imports), occupational foundations to solve common problems and prevent competition will help reduce freight charges.

3. Support by the Government and Chambers of Commerce: There have been some attempts such as reductions in customs tariffs, but more is demanded. Credit is a great problem. $ 500 per truck is not enough.

4. Transit agreements: Turkey is still paying transit fees to Yugoslavia and other countries that do not belong to TIR. Either we should take fees from them for transit through Turkey or demand their cancellation. In case fees are received, they can be given as premiums to the exporters and/or transporters.

7. Storage

Total storage capacity in Turkey is 50,200 m^3. (This is the total of Meat and Fish Institute, Ürgüp caves, municipalities and private sector capacities.) A small percentage of the capacity is reserved for fresh fruit and most of storage houses are in consumption rather than production centers.

Near Ürgüp and Üchisar 200 caves have been formed with 145-200 m^3 capacity. Most of them have the size 14.5 x 10.0 x 2.25. There are also small caves for family use. These caves are cut out of tuff which can be sharpened easily and is a very good isolator in both cold and hot weather. Water exists in these caves and supplies the humidity. Caves are separated into 1st, 2nd, and 3rd classes. In 1965, 350,000 boxes of lemons, oranges and grapefruit were kept. Costs depend on the bargain between the owner of the cave and the owner of fruit. The 6-month rent of a cave with a capacity of 2500-3000 boxes of lemons or apples is around 500-600 TL. Between April and September, lemons, and, after September, apples are stored in the caves.

Stored fruits should be as free as possible from skin breaks, bruises and decay. They should be neither too immature nor overmature, because in either case their storage life may be impaired.

The successful storage of oranges demands that the fruit be harvested at the peak of maturity and carefully handled during all operations, and also that when transported over long distances to terminal storage, it be precooled and refrigerated in transit. Oranges do not improve in quality in storage. They are subject to several kinds of decay and other disorders that may develop in storage. Decay is being reduced by several washes and protective solutions such as diphenyl-impregnated liners, and borax. It is desirable that oranges in storage be examined often to prevent loss from the development of pitting or decay. If pitting and decay occur they will increase rapidly after the fruit is removed to higher temperatures. For oranges, temperature in the depot should be between 0° and 2°, relative humidity 85-90%[34]. Average storage period is 8-10 weeks and freezing point is -3° C.

Lemons picked during winter have the capacity to endure storage and are even improved by it, so that they are better able to withstand shipping and marketing operations. Most lemons when harvested are not ready for immediate consumption, but need conditioning to develop color, juice content and flavor. Temperature in the storage place should be between 0°, -3° C to +15°C. Relative humidity is 85-90%, average storage period is 1-4 months, and freezing point is -3°C. At very low temperatures pittin straining of the membranes separating the segments, and red blotch develop. At high temperatures growth of decay organisms is brought about. Lemons that are of proper size and dark-green color when picked have the longest storage life. Tree-ripened fruit does not keep well in storage. It is of utmost importance that lemons be handled carefully during picking and packing in order to avoid scratches, bruises and consequent damage later by green mold rot and blue mold rot. If the skin of the fruit is broken more damage results. They can also spread from one fruit to another in th package and for that reason, it is referred to as 'blue contact rot'.

(33) The Commercial Storage of Fruits, Vegetables, Florist and Nursery Stocks, Agriculture Handbook, No. 66

Storage rooms for grapefruit should have a relative humidity of 85-90%. Lower humidities favor the development of pitting where cells have been damaged by injury and higher humidities may increase decay. Temperature in the storage should be between 0° and -10°C, freezing point is -3°C. Sound fruit that is not overmature or likely to suffer from stem-end rot can usually be held for 4-6 weeks without serious spoilage; this period can sometimes be doubled, but storage for as long as 10-12 weeks is dangerous because of the loss of quality or flavor and rapid breakdown after removal from storage. Fruit of low acidity is not consider to be of good storage quality; probably for this reason mid-season fruit generally keeps better than late-picked fruit.

Tangerines are not adapted to long storage. They cannot be expected to keep in good condition for much over 4 weeks and are subject to excessive loss in weight, loss in flavor and decay. Relative humidity is 90 to 95%.

It should be noted that temperature in transit is usually higher than the recommended storage temperature and that except in winter, ripening or other changes are likely to go on more rapidly during a given transit period than during the same period in cold storage.

Control of humidity is very difficult. In other countries 'humidistat is used for automatic regulation. Respiration results in decomposition of products and eventually CO_2 and water. Energy is released during this process in the form of heat which varies with the fruit and increases as the temperature increases. Some products have much higher respiration rates than others at given temperatures. This means they require more refrigeration than the more slowly respiring products to keep them at a specified temperature.

Citrus fruit should not be stored in the same room with dairy products because of the readiness with which the latter absorb odors.

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(34) Humidities are expressed in % of saturation. For example, 85% humidity means that air should be approximately 85% saturated with water vapor at the recommended temperature.

Ürgüp caves by nature have the proper qualifications needed, but they are primitive and require improvement; also they are not sufficient. The private and public sectors should found storage houses. If more storage houses are provided fruits will be marketed according to demand and price fluctuations. Exporters may go credit, in this case by showing their fruit in storage houses as collateral.

8. Marketing Channels

There are not many middlemen in the channels; as can be seen in the diagram next page, producer either sells his fruits in the municipal market or sells them to wholesalers, assemblers, exporters, commission agents or to industrialists (such as Fruko). The exporter buys either from the producer before harvest, at the time of harvest, or from a wholesaler. He exports through a commissionaire in the export market who sells the produce in the auction market to wholesalers or industrialists on commission. These commissionaires should be chosen carefully. They should be well-known firms such as J.O. Sims in England, and Fischer Weppler Firm in Munich. These firms suggest that Turkey should have representatives in Munich and other export centers like the Italians and other competitors have. In the 5 Year Plan this is stated, too, "formation of representatives of exporters or exporters' union in importing countries shall be encouraged under certain conditions".(35)

By having a representative in Europe, at least one qualified person in each center will give the following advantages: a) Daily information about sales and prices will be supplied. b) The representative will observe consumers' reactions to Turkish and other countries' fruits and give information to exporters about them. c) He will give information about the effects of package, design, variety, etc. on sales, competitive sales methods, exhibitions and supply. d) He will try to secure Turkey's representation in fairs and exhibitions. e) He will visit importers and give information about Turkish standars and quality of fruits. f) He will try to solve problems between exporters and importers. g) Finally he will give information about competitors' export levels and warn exporters about the quantity that should be sent to certain harbors or markets, whether they should increase or decrease their supply.

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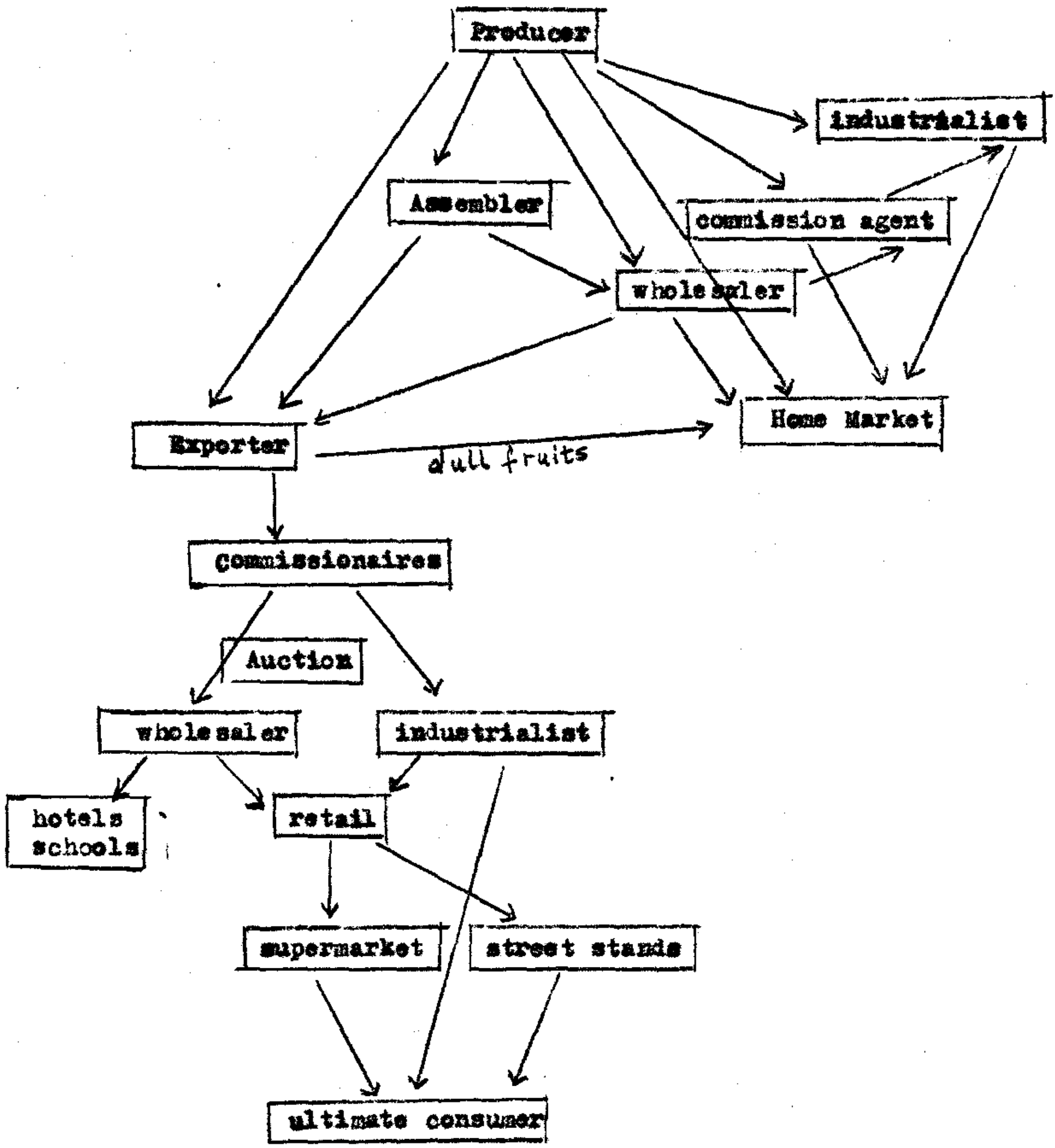
(35) 5-year Development Plan II, Export division, part m.

Citrus Marketing Channels



9. Marketing Organization

Citrus export business is divided between Ministries of Agriculture and Commerce. Related institutions are: Marketing Section of the Ministry of Agriculture, Chambers of Commerce and Industry, export unions, Export Promotion and Research Center (İGEME) Turkish Standards Institute, Antalya Horticultural Investigation Institute. All the research and investigation institutes are spread. They should be combined under a central organization similar to that of Israel and Greece. The details of these organizations have already been discussed. Israel's Board may be an extreme example and cannot be applied in Turkey. Proposal of a citrus marketing borporation was given by İçel Technical Agriculture Administratio but was refused, with the declaration that it might disturb the existing order. It has been proposed to form a special committee within İGEME for this purpose, reports have been prepared, but no action has been taken till now. İGEME wants first to form an organization for fresh fruit and vegetables and then in time a sole organization for citrus fruit. The name of the organization was proposed as 'Turkish Citrus Marketing Corporation' and it would be a joint corporation of the public and private sectors.

Organization in Turkey till now has only been in the form of cooperatives such as Antnar and Mersin Citrus Production and Industry Development firms. Organization of producers for uniformity of interest and goal in exports is necessary. Among the main cooperatives are Narkop, Gümüşsu in İzmir, Menas in Mersin, Zürtaş in Bursa, Süs in Istanbul, Nittakola in Mersin and Meyvex in İstanbul. There are two main export unions. 'Türkiye Yaş Meyva ve Sebze Muhtelif Kurutulmuş Meyve ve Sebzeler ve Mamulleri Birliği' in Istanbul and 'Türkiye Narenciye İhracatçıları Birliği' in Mersin.

10. Market Information

In Turkey information about foreign markets is obtained through: commercial attachés' and consultants' monthly market reports, İGEME Information Bulletin, Türkiye İktisat Gazetesi (Turkish Economic Newspaper it is published weekly) and European Information System. Turkey is a proposed member of European Telecommunication System, but because of Greec intervention, there are some difficulties for full participation.

After World War II the fruit market was developed in Europe and need for information system arose. In 1954 European Information System was established. West Germany, Belgium, Holland, France, Italy, England and Greece (1961) entered it. A telex arrangement was formed among Paris, Bonn, Brussels and La Haye. Information concerning the market, especially prices, is immediately sent to these centers.

Information centers in Europe are:

In West Germany there is an organization named, "Zentrale Markt-und Preisberichtstelle der Deutschen Landwirtschaft" (ZMP). It was established in 1950 and has bureaus in Munich, Hannover, Hambourg and Stuttgard.

In Netherlands there are "Veilling" - cooperatives that make sales at auctions. "Central Burave van de Tuinbouw veilingen in Nedarland" is the general name given to these cooperatives. Its center is La Haye.

"Office National des Debouchés Agricoles" is the information center in Belgium. It was established in 1959 and works as a branch of the Ministry of Agriculture.

In France there is also an information institute called, "Service des Nouvelles du Marché des Fruits et Légumes".

Formation of information bureaus, or full participation in European Information system will be beneficial and give direction to exports according to demand and prices.

11. Advertising and Promotion

The following measures are suggestible for the promotion of Turkish citrus fruits:

a. A special promotional campaign should be opened in main export centers, in Germany, England, Netherlands, Sweden to let people know about Turkish citrus fruits.

b. Ads and articles about Turkish citrus fruit should be published in foreign countries, for instance "Obst und Gemüse" in West Germany.

c. On high quality citrus fruit boxes ads and posters can be put; also fruits can be wrapped in attractive colored papers bearing Turkish trademarks. Ads should be on the outside of the paper not to make the fruits dirty. Colored etiquettes also can be used.

d. Exporters should be encouraged to participate in fairs and try to make sales in the fairs and exhibitions.

e. If few agencies are used in the exporting countries, they will show greater interest and help to Turkish exporters. As an example we can take Edeka, in Germany.

f. With the application of discounted transportation tariffs, exporters and importers can be brought together.

g. Possibilities of insuring more fruits and also export credits should be searched for. Lower rates of insurance should be established.

h. Turkish standards should be translated and sent to export markets to inform them.

i. Advertisements can be made by the Ministries of Tourism, Commerce, and private sector together.

12. Finance and Risk Taking

Financing export sales is one of the major problems of exporters. There are subjective and objective risks associated with citrus export and also lack of economic liquidity. Subjective risks are those arising from the position of the exporter and objective risks arise out of the nature of the fruit, packaging, transportation, price fluctuations and sales methods. Citrus is perishable, and there are many problems related to transportation etc. Because of the fact that there are no continuous citrus exports by one exporting firm, each year new exporters arise. Some are inexperienced. Because of these risks banks are very cautious and demand strong collateral from the exporters. This complicates the financing of export and also raises the cost of credit.

Sources of credit are current debt account, special funds, and Central Bank's rediscount credits. In 1962 an AID fund (20,000,000 TL) was given to the Agricultural Bank. Of this amount 5,000,000 TL was given to Mesebe which is no longer functioning. Credit is given over the remaining 15,000,000 TL. Interest rate is 4.5% (3% to finance the fund and 1.5% for service and risk). The period of credit is 9 months.[36] All the risk pertaining to the use of the fund rests with the Bank. For credit limit and coverage there are sometimes misunderstandings between the exporter and the Bank.

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(36) This was in the 1968 Program and was accepted on Dec. 12, 1967.

The Central Bank is separating the definite export financing into two parts - preparation for export and actual export phase-. Discounted rate for credit is applied only at the actual export phase. (5-25%) Financing of consignment sales are out of the Bank's financing. Most of the exports are on consignment basis; therefore this creates a very tight situation for the exporters.

A special credit system for citrus fruit should be established and proposed solutions are as follows:(37)

a. Financing during the preparation phase is very risky. Producers can be given notes payable by the exporter and can get agricultural credit at a discount from the Agricultural Bank. The exporter clears the debts when he gets the produce.

b. The special fund should be raised to meet the demand of the exporters and thus provide equal competition.

c. Priority for extending credit should first be given to exporting firms functioning together rather than individual exporters. The risk will be less.

d. A foundation of export credit insurance would be beneficial. The premium for the insurance would be collected from producers and exporters. İGEME has a study about this.

e. All the risks are borne by the exporter and indirectly by the Bank. Producers should participate in the risk by a system.

There are export promoting measures in other countries such as

a. commercial - return of tax or some export profits and exchange free of tax.

b. Export credits. In Italy 6-month short-term credit has 4.5% interest. For 4 year credits, 4 private banks to which some rediscount facilities are given by Medito Credito, a state enterprise, extend credit. In Italy there is also Institut Nazionale di Assicurazione which insures exporters against increases in costs. (up to 10%) In addition to cost guarantees, commercial fairs, market research, investigation activities and related costs can be insured.

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(37) "Yaş Meyve ve Sebze İhracatının Kredilendirilmesi", by Cavit Oral, 1966

In Greece the government is supporting the exporters by paying premiums, also supports the farmers, supplies credit to the producer for installations and so on. With this support Greece has increased its export of citrus from 30,800 tons in 1956 to 81,935 tons in 1963.

Return of tax is asked by many firms, such as Eczacıbaşı (for exporting Oralet) in Turkey. An Export Bank with participations of the State, Bank and exporters is another suggestion.

As an incentive exporters' exchange can be transferred to TL at 11.40 as those of workers in Germany.

13. Costs of Production and Operation

Due to fluctuations in fruit prices and customs fees there are differences between costs each year. For each exporter picking, packing, labeling and transportation cost differ; therefore all the costs are variable.

With an analytic method detailed costs of production and exporting are calculated between 1960 and 1964. According to 4-year averages, in exports with ventilated ships: f.o.b. cost was 60.3% of c.i.f. cost in orange exports; 57.0% in grapefruit exports, 66.8% in lemon exports and 68.3% in Satsuma exports. From these we realize that f.o.b. costs are very high. As can be seen in the examples given on the next pages, the nature of f.o.b. costs is as follows: For oranges, 65% to 56% is fruit, 10.8-13% is box, 12% packing house, 5% loss on fruit value; for grapefruit, 58% was cost of fruit, 13.2% packing cost, 4.2% was harvesting labor, for lemon 67% was cost of fruit, 11.9% packing house, 10.7% box.

It is seen that fruit costs are very high. Producers increase prices at the time of export. When the exporter has already arranged for transportation, he has to fill the vehicle and buys the fruit even if the prices are higher than he has expected.

Of c.i.f. lemon costs, Mersin-Hamburg cost -36.8% is commission, 31.6% is transportation, 23.2% is port fee, of c.i.f. İzmir-Munich costs-31.2% transportation, 28.3% customs duties, 17.8% transportation to Trieste, 15.6% truck cost, and of İzmir-Hamburg c.i.f. cost 35% is transportation to Kopenhag, 23.3% İzmir-Hamburg transportation and 22% commissions.

Of c.i.f. orange costs - Mersin-Hamburg, 64% was customs fees, 20% transportation, 11% port fees and unloading, of İzmir-Munich cost, 27% customs fee, 26% Trieste-Munich, 20% İzmir-Trieste transportation and 19% truck.

Main percentage of c.i.f. costs is customs and commissions, transport.

Costs of Satsuma export in 1964 was as follows:

Expenses	DM
freight	5.686 DM
customs, sales taxes	5.098
other customs expenses	.192
commission 8%	2.078
Total sales expense	13.054
Total sales revenue (price per kg 1.20 DM)	25.930
exporter receives	12.926

22% of cost was freight, 20% customs and 8% commission. With loss of fruit and consignment losses, the exporter gets less than 50% of sales revenue.

TABLE 14:

Cost of Orange Export from Tree to Export Market[x]

F.o.b. cost net 21 kg/box, gross 24 kg/box including packing house operation

Nature of Expense	Mersin Ship TL	% of f.o.b	Antalya Truck-Ship TL	% of f.o.b.
Box	2.25	10.8	2.50	13.0
Fruit	13.65	65.6	11.00	56.0
5% discount on goods	1.05	5.0	1.00	5.0
Picking cost	-	-	0.80	4.0
Wrapping paper, no cust. duty (temporary acceptance)	0.50	2.4	0.55	2.8
Transportation to packing house	0.14	0.6	0.07	0.3
Packing house cost(wire, nail, grading, packing)	2.48	12.0	0.61	3.0
Transportation to shore	0.10	0.5	-	-
Antalya-İzmir transp.	-	-	1.80	9.0
Customs expenses	0.50	2.4	0.72	5.6
Colored label	0.07	0.3	0.20	1.0
White label	0.03	0.1	0.05	0.2
Unexpected expenses	0.02	0.09	0.03	0.1
F.o.b. shore Mersin	20.79	100.0	-	-
F.o.b. İzmir			19.33	100.0

Accordingly: $\frac{20.79 \text{ TL}}{21} = 99$ kr./kg. f.o.b. Mersin shore net cost

$\frac{19.33 \text{ TL}}{21} = 92$ kr./kg. f.o.b. Antalya-İzmir shore net cost

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(x) "İhraç Ürünlerimizden Meyve ve Sebzelere ait FOB ve CIF Maliyetler" by Ömer Buçukoğlu, Tarım Bakanlığı Pazarlama Dairesi Başkan yardımcısı

C.i.f cost of net 21kg/box from Mersin to Hamburg and Antalya-Trieste-Munich.

Nature of Expenses	Mersin-Hamburg TL	% of c.i.f.	Antalya-Trieste Munich	% of f.o.b. and c.i.f.
Mersin-Hamburg trans. ($ 15.0 per ton)	2.76	0.20		
Unloading at Hamburg	0.60	0.04		
Various expenses at port	1.46	0.11		
13% import tax, 4% sales tax, 0.5% bank, 6% commission overall 23.5%	8.70	0.64		
1% insurance over c.i.f.	0.16	0.01		
Izmir-Trieste trans. ($ 13.5 per ton)	-	-	2.88	0.20
Trieste-transhipment (39.5 pfennig)	-	-	0.81	0.06
Trieste-Munich trans. (1.68 DM)	-	-	3.78	0.26
Customs fee 9.6%	-	-	3.89	0.27
Commission 7%	-	-	2.84	0.19
Bank costs	-	-	0.02	0.001
Insurance 1% over c.i.f. value	-	-	0.16	0.02
C.i.f. Hamburg	13.68 TL	100.0		
C.i.f. Munich			14.38	100.0
General total f.o.b. and c.i.f	34.47 TL		33.71 TL	

Accordingly: $\frac{13.68 \text{ TL}}{21}$ = 65.38 kr/kg is c.i.f. Hamburg cost

$\frac{34.47 \text{ TL}}{21}$ = 164.1 kr/kg is c.i.f. Mersin-Hamburg net cost

$\frac{14.38 \text{ TL}}{21}$ = 68.47 kr/kg is c.i.f. Munich cost

$\frac{33.71 \text{ TL}}{21}$ = 160.5 kr/kg is c.i.f. Munich net cost.

TABLE 15:

Cost of Lemon Export from Tree to Export Market[x]

F.o.b. cost net 14 kg/box including packing house operations

Nature of Expense	Mersin-Shore TL	% of f.o.b.	Antalya-İzmir TL	% of f.o.b.
Fruit cost (14 kg x 100)	14.00	67.0	12.00	62.5
Picking cost	0.70	3.3	0.80	4.3
Transp. to packing house	0.15	0.7	0.10	0.6
Box	2.25	10.7	2.25	11.8
Handkerchief paper	0.50	2.3	0.90	4.6
Packing house cost (wire, nail, labor, etc.)	2.50	11.9	0.91	4.1
Transportation to shore	0.20	0.9	1.35	7.0
Customs expenses	0.40	1.9	0.54	2.8
Colored labels	0.02	0.1	0.05	0.3
White labels	0.02	0.1	0.05	0.3
Unexpected expenses	0.08	0.6	0.07	0.4
F.o.b. Mersin	20.88	100.0		
F.o.b. İzmir			19.17	100.0

Accordingly: $\frac{20.88 \text{ TL}}{14 \text{ kg}}$ = 149.1 kr/kg is f.o.b. Mersin shore cost

$\frac{19.17 \text{ TL}}{14 \text{ kg}}$ = 136.2 kr/kg is f.o.b. Antalya-İzmir shore cost

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(x) İbid

C.i.f. cost of net 14 kg/box from Mersin to Hamburg, Antalya-İzmir-Trieste-Munich and İzmir-Hamburg.

Nature of Expenses	Mersin-Hamburg TL	% of c.i.f.	İzmir-Trieste-Munich TL	% of c.i.f.	İzmir-Hamburg TL	% of c.i.f.
Mersin-Hamburg freight ($ 15.0 per ton)	2.00	31.6	-	-	-	-
Unloading at Hamburg	0.38	6.0	-	-	-	-
İzmir-Hamburg freight ($ 14 per ton)	-	-	-	-	2.27	23.3
Insurance over c.i.f	0.15	2.4	-	-	-	-
Cost of port (0.65 pfen)	1.46	23.2	-	-	-	-
2.4% import duty, 4% sales tax, 0.5% bank, 6% commission (12.9%)	2.33	36.8	-	-	-	-
İzmir-Trieste freight ($ 13.5 per ton)	-	-	2.16	17.8	-	-
Trieste-transhipment (35.9 pfennig)	-	-	0.81	6.7	-	-
Trieste-Munich trans. (1.68 DM)	-	-	3.78	31.2	-	-
Customs fee (9.6%)	-	-	3.42	28.3	-	-
Commission (7%)	-	-	1.89	15.6	2.16	22.0
Bank cost	-	-	0.02	1.4	15.6	-
Hamburg-Kopenhag	-	-	-	-	3.50	35.8
Unloading at Kopenhag	-	-	-	-	0.70	7.2
Refrigeration cost	-	-	-	-	1.15	11.7
C.i.f. Hamburg	6.32	100.0				
C.i.f. Munich			12.18	100.0		
C.i.f Hamburg					9.78	100.0
General Total (f.o.b. and c.i.f.)	27.20TL		31.25 TL		28.95 TL	

$\frac{27.20 \text{ TL}}{14 \text{ kg}}$ = 194.28 kr/kg (c.i.f. Hamburg)

$\frac{31.25 \text{ TL}}{14 \text{ kg}}$ =223.21 (c.i.f. Munich)

$\frac{28.95 \text{ TL}}{\text{kg}}$ = 206.78 kr/kg (c.i.f.Hamburg)

TABLE 16:
Grapefruit F.O.B. and C.I.F. Costs[x]

F.o.b. cost net 20 kg/box, gross 24 kg/box

Nature of Expenses	Antalya-İzmir Trieste-Munich TL	Antalya-İzmir Hamburg TL	% of f.o.b.
Fruit cost (5% loss)	11.00	11.00	58.1
Picking cost (labor)	0.80	0.80	4.2
Box	2.50	2.50	13.2
Colored labels	0.18	0.18	1.1
White labels	0.07	0.07	0.3
Wire and nail	0.36	0.36	2.0
Labor	0.30	0.30	1.6
Packing House	0.25	0.25	1.4
Wrapping paper	0.90	0.90	5.0
Unexpected loss and expenses	0.30	0.30	0.1
Antalya-İzmir transportation	1.80	1.80	9.0
Customs expenses	0.72	0.72	4.0
F.o.b. İzmir	18.91 TL		100.0
F.o.b. İzmir		18.91 TL	

Accordingly: $\frac{18.91 \text{ TL}}{20 \text{ kg}}$ = 94.55 kr/kg is f.o.b. İzmir shore net cost.

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(x) Ibid

C.i.f. cost of net 20 kg/box from İzmir to Hamburg and Antalya-İzmir-Trieste-Munich.

Nature of Expenses	Antalya-İzmir Trieste-Munich TL	% of c.i.f	Antalya-İzmir Hamburg TL	% of c.i.f.
İzmir-Trieste freight ($ 13.5 per ton)	2.88	20.0	-	-
Trieste-transhipment (0.36 DM)	0.81	5.7	-	-
İzmir-Hamburg freight ($ 14.0 per ton)	-	-	3.02	25.2
Trieste-Munich transp. (1.68 DM)	3.78	26.5	-	-
Customs duties (9.6%)	3.89	27.3	-	-
Commission (7%)			2.84	19.8
Unloading at Kopenhag	-	-	0.72	6.0
Bank expenses	0.02	1.4	-	-
Refrigeration cost	-	-	1.20	10.0
Hamburg-Kopenhag transp.	-	-	3.78	31.5
Banking expenses	-	-	0.02	0.3
C.i.f. Munich	14.22 TL	100.0		
C.i.f. Hamburg			11.98	100.0
General Total (f.o.b. and c.i.f.)	33.13 TL		30.89 TL	

Accordingly: $\frac{33.13 \text{ TL}}{20 \text{ kg}}$ = 166 kr/kg is c.i.f. Munich cost.

$\frac{30.89 \text{ TL}}{20 \text{ kg}}$ = 154.4 kr/kg is c.i.f. Hamburg cost.

14. Pricing

The Mediterranean Market has not been as close to saturation as the U.S. market has and shows a lower price flexibility. Within-season price fluctuations are wide. Some erratic movements and sharp declines have been noticed not mainly as a result of bad weather in producing or in receiving countries, but rather the result of heavy and uncoordinated arrivals from various sources of supply. Of course, the higher the level of supplies and consumption, the more difficult it becomes to maintain a market equilibrium in the short run.

Turkey has no regular exports of permanent markets, operational costs and freight costs are higher than competitors' and unlike competitors, home prices affect export sales and revenues very much. In the other countries home prices are under the effect of export prices.

Shamouti ornages which are the most exported variety of oranges are 55-60 krs/kg on the tree. They have higher quality than Israel's Jaffas but because of bad packing and presentation they were always sold 1DM below those of Jaffas. Washington Navel is demanded in the export markets, but its price is higher in the home market and there isn't the possibility of large scale exports yet. When the young trees enter their maturity, prices will fall and there will be higher export facilities. As can be seen in Appendix II Turkey's 1966 export prices of oranges were not satisfactory, sometimes equal and sometimes below those of competitors. In January, 1967, they were equal with Israel's, but fell in March.

During the last years lump bargain price of lemons was 70-80 krs/kg. Each year at the beginning of the season prices are high and gradually decrease later. In the home market the main factor effecting the lemon prices is the fact that wholesalers choose the most enduring lemons of best quality at the harvest season, store them in Ürgüp caves and later sell them at high prices. When the lemon prices fall in West Europe no competitive possibility is left between exporters and wholesalers in the home market. Exporters send whatever they have on hand on the consignment basis and they are sometimes forced to sell at a loss. During 1960-63 prices in Hamburg for Turkish lemons were lower than production cost. But in 1963 there was a substantial amount of profit, because prices were high in Hamburg and Munich due to decrease in supply of lemons as a result of frost in Spain and United States. Turkish lemons were sold at 20-25 DM/box and during the same period (January, February) prices for Italian lemons were 11.75-15 DM/15-16 kg, and for Spanish lemons 9-11.75 DM/25 kg. As can be seen in Appendix II, prices of Turkish lemons were higher again for Turkish lemons in 1966 in West Germany. This was mainly due to the quality of Turkish lemons, but there were some complaints such as delays in shipment, lack of ventilation, that the color of the lemons was greener than normal, and of wet packages.

Importers declare that Turkish citrus prices are too high and that they should be decreased in order to be competitive.

C. Problems Arising from Trade Regulations

Quantitative restriction on citrus imports were non-existent in the early days of citrus trade; between 1930-1950 there were some restrictions, licensing procedures, bilateral trade and payment arrangements, etc. They were gradually lifted. In Western Europe much of this was due to the trade liberalization program of the OECD which started in 1948. Citrus imports into most countries were freed from any quantitative controls. Exceptions are Finland and Yugoslavia which operate on a global quota system. Also in France import restrictions on winter oranges were maintained until the beginning of the 1963/64 marketing season when imports of fresh citrus fruit were liberalized. The United Kingdom continues to maintain restrictions on imports from the dollar area of fresh grapefruit, canned or bottled grapefruit and orange juice. However, unpasteurized frozen orange juice concentrate was placed on open general license early in 1964. Citrus imports remain restricted in Eastern European Countries and in U.S.S.R.

Tariffs became more important with the removal of government controls. No duties on imports of fresh citrus fruit are charged in Canada, Ireland and Norway. Oranges and grapefruit can enter free of duty in Sweden and lemons in Austria. However internal taxes are payable at varying rates in the form of general sales taxes, and turnover compensation taxes in Sweden, Norway, Netherlands, Belgium, Luxembourg, West Germany, France and Austria.

Morocco has duty-free quota preference on the French market (Tunisia lost it in 1964). Exports of members of the Commonwealth and the Republic of South Africa are exempt from duty in United Kingdom. Reduced rates are applied within EEC and all tariffs will be abolished by 1970. These preferences are enjoyed by Italy, Greece and Algeria. For Turkey, rates are still high.

Turkey wants to include citrus among the other commodities whose export taxes are discounted, such as figs, raisins and tobacco. This request is still being negotiated. In return we have to give some rights too. Greece has included fresh fruit and vegetables under the C.M. agreement in 1965.

Turkey has bilateral agreement with Eastern Block countries. These are made yearly. Commercial attachés of the countries act like traders and exports are made between countries, not firms. Turkish exporters are not satisfied with this. There are always misunderstandings. Besides, agreement on a dollar basis is better than on a commodity basis.

Oranges, lemons and grapefruit, each have such a different market structure and their markets are so little interchangeable that common measures would be difficult. Since the products are perishable flexibility should exist in agreements.

1. International Agreements on Transportation

Principal ones are as follows:

a. IRU (International Route Union): Its center is in Geneva in Switzerland. It tries to provide best circumstances for railroad transportation. Except Iron Curtain countries all countries are members.

b. TIR (Transit Agreement): It was established in January 15, 1959. Turkey entered it on May 24, 1966. This was against Customs Law article 5383, but was accepted because delays at the customs were prevented this way. Members are: Spain, Austria, Bulgaria, Denmark, Finland, France, Greece, Hungary, Norway, Netherlands, Poland, West Germany, England, Switzerland, Sweden, Yugoslavia, Belgium, Italy, Luxembourg and Turkey.

TIR certificates are prepared and given by Chamber of Commerce and Industry. When the TIR sign is put on the truck the following advantages are obtained:

1. Unless there is a report no inspection is made at the customs.
2. Transit fees will be removed or reduced to a small percentage.
3. Members are not required to submit a bank letter of guarantee for import or export tax.
4. The country which has the agreement may supply its own vehicle to the other in case something occurs on the way. This saves time and money.

TIR certificates are also given to those who have rented the trucks, but to get it for the first truck they have to submit a bank guarantee of TL 100,000.-

c. Interfrigo Agreement: It was established by European Railways Administration. Turkey entered it in 1956 and is still benefiting from the frigorific cars.

d. Other agreements: Turkey is a member of,

1. Levcon (1950) which is an agreement on Turkish ports and Near East.
2. Conec Conference (1952) on Mediterranean and Near East.
3. Ametile Conference (1952) covers Turkish ports, Near East and West Coast of Italy.
4. Bace Conference (1963) covers Black Sea and Mediterranean ports.
5. IATA (International Air Transport Association) Turkey entered it in 1957.

2. Customs Formalities

Customs tax for citrus fruit is calculated as follows: There is an established percentage of customs fee. For instance, in West Germany this was 13%. Germany advertises prices for fruits and vegetables. In November, 1964 second week, Satsuma price was .90 DM. Over this price 13% customs fee was taken, the result was added to the price of produce, 2.5% of this sum was taken as import duty and all were added together. But now the taxes are raised again. Following calculations are according to 1964 and 1968 assuming same price, .90 DM, as an example.

year	Declared price (pfennig)	customs tax	subtotal	import duty	total tax
1964	90	11.70	101.70	2.54	14.24
1968	90	18	108	5.40	23.4

As can be seen customs expenses have risen 64% (9.16/14.24) This difference was due to increase of customs tax from 13% to 20% on January 1968, and increase of import duties from 2.5% to 5%.

Turkey pays higher customs taxes than its competitors only in C.M. countries. Rates have changed to the disadvantage of Turkey. We have demanded cancellation of all customs duties. This right together with other rights has been given to Greece.

West Germany's customs tax since January, 1965:

	Italy, Greece		Turkey		
	Customs	Uas t	Customs	Uas t	Difference
Orange:					
April 1-Oct 15	4%	2.5%	13%	2.5%	9%
Oct 15 -March 31	4%	2.5%	16%	2.5%	12%
Lemon	Free	-	4.8%	2.5%	4.8%
Mandarin	4%	2.5%	16%	2.5%	12%

	Common Market	Greece	Others, Turkey customs	Uas t
Orange				
April 1-Oct 15	-	-	15%	5%
Oct 16-March 31[38]	-	-	20%	5%
Mandarin	-	-	20%	5%
Clementine	-	2%	16%	5%
Grapefruit	1%	7.1%	9.2%	5%
Lemon	-	-	8%	5%

(38) Katma Protokol, January 1968

III. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusions

Factors influencing the competitive position of citrus exporters were as follows:

a. Production costs which are dependent upon many items such as general suitability of climate, soil, standard of technical development, yield, etc.

b. Proximity to markets is important as transport and distribution costs represent an important part of the final price. Considering Western Europe as the main importing area, Italy and Spain are obviously in a preferred position; then come Greece, North African Countries and Turkey. Israel's transportation costs are the highest in the Mediterranean region. Apart from the high cost of transport over long distances there is the high risk of deterioration on the way and the need to use preventive safeguards such as diphenyl arises; these may cause unpleasant odours which will be resisted by the consumer.

c. The question of consumer preference and the ability of the exporting countries to supply the produce required is of utmost importance. Israel is in a strong position since its main brand, Jaffa orange, attracts consumers by its color, size and packing. Republic of South Africa has the great advantage of supplying fruit in the summer, 'outspan'. Spanish and Moroccan oranges have also found particular favor in certain markets such as France and Germany. Turkey, although its quality of fruits was good, lost sales due to the fact that the general appearance of certain consignments has not been up to the standard required by consumers. Greece has been selling mostly to Eastern European countries because quality-wise, its fruit has not been acceptable in the highly developed markets of Western Europe.

d. The question of adaptability is becoming more and more important. There is a trend towards processed fruits. This will be discussed later.

B. Recommendations

Turkey has many problems with regard to export of citrus fruits. There are many people trying to solve them, but for an efficient and quicker solution a central organization is needed. There have been many conferences and arguments, but no action has yet been taken. A citrus institute for export would deal with the following problems:

a. Provision of fruit: Provision of healthy and standard fruits is needed for export. The government should extend credit to farmers for raising the varieties demanded in export markets. If the installation expenses are met, production will increase at a growing rate because of the nature of citrus trees.

b. Efficient packing: Provision of packing material export markets prefer, and the method of packing should be highly improved. In Spain plastic trays are used. Israel exports grapefruit in cartoon boxes, because light boxes are preferred in Europe. Whereas in Turkey heavy boxes are used. Standard stamps on the boxes are dirty specks, they mean nothing to the European consumer. Some numbers on the boxes were put wrongly, holes on cartoon boxes were too small for ventilation, fruits deteriorated.

c. Transportation: It is another great problem. A fleet of organized frigorific trucks is needed. Transporting and delivery should not be made during Easter and 15 days after Easter, because there is excess supply in the markets.

There are many inexperienced exporters in the market. What they need most is information and actual demonstration. Unqualified exporters should be driven out of this area, because their exports create bad impressions on consumers and importers in foreign countries.

d. Strengthening and coordination of marketing activities: They are needed extensively. Storage houses and packing houses should be founded near to each other. Trade statistics should be kept correctly and in more detail. Exporters need information about the relation between box size and price, fruit size, packing, variety of fruit, season, and prices. Comparison of Turkish and competitors' prices, sales tendencies according to markets and countries, perishability and transportation regulations should be shown. Turkey has qualified men for performing these functions, but they are spread here and there; they should be gathered under one organisation.

e. Incentives: They should be given to exporters such as a premium for the exchange they bring to the country; the special fund should be increased. Something should be done about the credit problem.

f. More effective controls: Controls are made by experts of Ministries of Agriculture and Commerce. There are two groups of experts then controlling the same produce. They travel in different vehicles; sometimes the exporter has to pay their transportation expenses. The separation of controls results results in loss of time, money and waste of experts' time.

In Turkey 30% of fruits is not evaluated, it is wasted. For instance, in Fenike there are no transportation facilities for exports. Between Antalya and Fenike the fastest transporting takes 4-4.5 hours. There is no harbor. Citrus fruit, especially oranges that are produced in Fenike, Dörtyol, Fethiye, Kozan Native are suitable varieties for the juice industry. They have high juice content and acidity. If a juice factory is formed in this region, fruit will be easily supplied. Concentrated juice can be put in large containers and sent to markets.

Whether the Turkish citrus products will compete with others is for the time being questionable, but in most of the export markets consumer demand is towards citrus products rather than fresh consumptions. It is estimated that rate of growth of import demand for fresh fruit may decline, but for citrus juices will be sharply accelerated. Elasticity of demand for processed goods is higher than that for fresh fruit. (In excess of unity). As can be seen in the table, per capita citrus juice in Europe has increased very much between 1959 and 1965. If this increase continues there will be a higher demand and Turkey may have export possibilities. But for the time being there are many competitors with attractive packages and promotional facilities in this field, and Turkey has many problems with regard to processing. Tin is very expensive, 460-465 krs/kg. Large containers made out of other materials can be used. But factories are primitive, standards have not yet been established. Also, sugar needed for processing fruits is expensive. Even if export possibilities do not seem promising now, fo home consumption and for the evaluation of fruits, the processing industry should start. This has taken place in 1968 Yearly Program and 1968-1972 Development Plan. It is stated,(39) "Development of fruit juice industry without alcohol and their export will be encouraged." For this the responsible ministry is Ministry of Commerce and the auxiliary one is Ministry of Agriculture.

Till now there has been one export of orange juice concentrate. This was Oralet by Eczacıbaşı to Saudi Arabia in 1966, in the amount of 1200 bottles each containing 225 gr. (total 270 kg). Export was made by Saudi Arabian Airlines, but there was no promising profit. The owners have applied for tax return, but were refused. They complain about high tax rate for the bottles. Till now orange essence was imported from Italy; now Tamek is processing that.

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(39) 1968-1972 Program, page 224, measures, f.
İcra Plânı, General measures, Article 329.

TABLE 17: Per Capita Citrus Juice Consumption(40)

(kg)

Countries	1959	1965	% increase
Europe (total	.94	1.60	70.21
Fed. Germany	.89	1.47	65.17
France	.14	.36	157.1
Sweden	1.90	2.25	18.42
Netherlands	1.03	2.08	101.94
Switzerland	1.18	2.05	73.73
Denmark	1.21	3.05	252
Austria	.36	.75	108.3
Belgium-luxembourg	.54	.34	- 37.04

(40) Türkiye İktisat Gazetesi, "Turunçgil Meyve Suları Tüketimi" by Arslan Karabağlı, April 11, 1968

A P P E N D I X I

Table 10 - Production of Citrus Fruit by Type and Region, averages 1934-38; 1950/51-1953/54; 1958/59-1961/62 and annual 1963/64

Region	1934-38 average				1950/51-1953/54 average				1958/59-1961/62 average				1963/64			
	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL
	. . . . thousand m. tons															
North + Central America	2570	550	1070	3990	4627	606	1606	6839	5549	728	1604	7881	4840	794	1340	6406
of which U.S.A.	2284	322	1017	3523	3942	503	1544	5989	4611	597	1523	6731	3746	639	1249	5066
Mediterranean Region	2336	526	55	2917	2138	518	72	2728	4660	780	109	5549	[illegible]	910	177	7042
Other Regions	2927	374	32	3333	4832	595	83	5511	6263	601	171	7035	6361	[illegible]	235	7779
of which S.Hemisphere	2217	142	20	2379	3952	256	51	4259	4633	307	131	5071	4522	306	193	5589
WORLD TOTAL	7833	1250	1157	10230	12648	1719	1761	16128	16472	2109	1884	20465	17152	2319	1752	21234

Table 11 - Indices of Production of Citrus Fruit by Type and Region, averages 1934-38; 1950/51-1953/54; 1958/59-1961/62 and annual 1963/64

Region	1934-38 average				1950/51-1953/54 average				1958/59-1961/62 average				1963/64			
	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL
	. . . . pre-war = 100															
North + Central America	100	100	100	[illegible]	[illegible]	173	[illegible]	171	216	208	150	198	188	227	125	161
of which U.S.A.	[illegible]	[illegible]	[illegible]	[illegible]	173	156	[illegible]	155	202	185	150	188	164	198	122	144
Mediterranean Region	100	[illegible]	[illegible]	[illegible]	135	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	198	190	157	173	[illegible]	241
Other Regions	100	100	[illegible]	[illegible]	165	159	[illegible]	[illegible]	[illegible]	161	534	[illegible]	[illegible]	164	734	234
of which S.Hemisphere	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	255	179	[illegible]	[illegible]	[illegible]	[illegible]	204	215	965	235
WORLD TOTAL	[illegible]	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	211	169	16[illegible]	[illegible]	219	185	151	208

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Table 12 - Exports of Citrus Fruit by Type and Region, averages 1934-38; 1950/51-1953/54; 1958/59-1961/62 and annual 1963/64

Region	1934-38 average				1950/51-1953/54 average				1958/59-1961/62 average				1963/64			
	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL
	. . . . thousand m. tons															
North + Central America	180	22	60	262	316	28	79	424	254	82	101	437	252	99	93	444
of which U.S.A.	150	17	45	212	296	24	56	376	217	81	86	384	189	97	78	364
Mediterranean Region	1261	253	40	1554	1577	230	44	1851	2172	365	69	2606	2736	426	103	3265
Other Regions	367	2	20	389	212	6	14	233	478	11	30	519	451	19	51	521
of which S. Hemisphere	266	2	16	284	195	6	13	214	379	9	27	415	430	17	50	497
WORLD TOTAL	1808	277	120	2205	2106	264	128	2498	2834	458	200	3492	3439	244	247	4230

Table 13 - Indices of Exports of Citrus Fruit by Type and Region, averages 1934-38; 1950/51-1953/54; 1958/59-1961/62 and annual 1963/64

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Region	1934-38 average				1950/51-1953/54 average				1958/59-1961/62 average				1963/64			
	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL	Oranges + Tangerines	Lemons + Limes	Grapefruit	TOTAL
	. . . . pre-war = 100															
North + Central America	100	100	100	100	176	127	117	158	141	371	168	167	140	450	155	169
of which U.S.A.	100	100	100	100	197	141	124	177	145	476	191	181	126	571	173	171
Mediterranean Region	100	100	100	100	125	91	110	119	172	144	173	168	217	168	258	210
Other Regions	100	100	100	100	58	300	70	60	111	550	150	115	123	950	255	134
of which S. Hemisphere	100	100	100	100	73	300	81	75	142	450	169	146	162	850	313	175
WORLD TOTAL	100	100	100	100	115	95	107	113	157	165	167	158	190	196	206	192

TABLE 4: Orange Exports of Turkey by Countries (x)

Countries	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
I.EPU Countries	2.648	39.1	1.920	56.2	8.870	78.7
CM Countries	2.057	30.4	1.253	36.7	8.453	75.0
West Germany	925	13.7	1.151	33.7	4.877	43.3
Belgium	1.132	16.7	52	1.5	-	-
France	-	-	12	0.4	-	-
Netherlands	-	-	38	1.1	3.581	31.7
II.EFTA Countries	591	8.7	667	19.5	412	3.7
Austria	-	-	60	1.7	32	0.3
England	419	6.2	607	17.8	210	1.9
Sweden	-	-	-	-	57	0.5
Switzerland	172	2.5	-	-	113	1.0
III. Sterling Area	170	2.5	19	0.6	-	-
IV. Agreement Co.	2.714	40.1	687	20.1	500	4.4
East Europe	500	7.4	687	20.1	-	-
Russia	500	7.4	-	-	-	-
Poland	-	-	687	20.1	-	-
Other Agre. Co	2.214	32.7	-	-	500	4.4
Yugoslavia	1.628	24.0	-	-	500	4.4
Iran	586	8.7	-	-	-	-
V. Other Count.	1.244	18.3	789	23.1	1.905	16.9
General Total	6.776	100.0	3.145	100.0	11.275	100.0

(x) İGEME publications

TABLE 5-a: Mandarin Export of Turkey by Countries (x)

Countries	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
EPU Countries	469	97.1	414	100.0	947	100.0
CM Countries	278	57.6	414	100.0	567	59.9
West Germany	278	57.6	402	97.1	567	59.9
Netherlands	-	-	12	2.9	-	-
EFTA Countries	191	39.5	-	-	380	40.1
Austria	164	33.9	-	-	380	40.1
Sweden	27	5.6	-	-	-	-
Agreement Count.	14	2.9	-	-	-	-
Yugoslavia	14	2.9	-	-	-	-
General Total	483	100.0	414	100.0	947	100.0

(x) IGEME publications

TABLE 5-b: Orange-Mandarin Exports of Competitors in 1963 (x)

Countries	Tons
Israel	427.490
Libia	2.330
Tunis	26.240
Algeria	288.000
Republic of Arab Union	4.390
Spain	669.990
Italy	180.430
Greece	46.950
France	22.090

(x) F.A.O. Trade Yearbook 1964

TABLE 5-c: Mandarin Exports of Turkey in 1964 by Countries(x)

Countries	Amount kg.	Value TL.
West Germany	540.940	719.450
Austria	1.932.183	2.661.804
Belgium	27.900	46.341
Bulgaria	223.340	373.170
France	4.000	5.104
Netherlands	283.785	463.166
Kuwait	77.300	86.072
T o t a l	3.099.448	4.355.120

(x) "Satsuma Deneme İhracatı Raporu, 1964" by İGEME

TABLE 7: Grapefruit Exports of Turkey by Countries(x)

Countries	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
EPU Countries	938	98.1	725	97.3	735	100.0
CM Countries	778	81.4	594	79.1	623	84.8
West Germany	676	70.7	572	76.1	580	78.8
Belgium	-	-	-	-	8	1.1
France	-	-	22	3.0	4	0.7
Italy	37	3.9	-	-	-	-
Netherlands	65	6.8	-	-	31	4.2
EFTA Countries	160	16.7	131	17.6	112	15.2
Austria	17	1.7	-	-	-	-
England	59	6.2	67	9.0	40	5.4
Switzerland	84	8.8	64	8.6	72	9.8
Agreement Countries	-	-	20	2.7	-	-
Poland	-	-	20	2.7	-	-
Other Countries	18	1.9	-	-	-	-
General Total	956	100.0	745	100.0	735	100.0

(x) İGEME publications

TABLE 5-d: Mandarin Exports of Turkey in 1965-66 by Countries(x)

Country	Amount(kg)	Value(TL)	Price(kg/krş)	% of countries
West Germany	1.724.223	2.608.161	151	28
Austria	3.960.333	5.983.556	151	64.4
Finland	5.000	15.750	315	0.1
Netherlands	234.947	320.004	136	3.8
Kuvait	65.996	86.916	132	1.1
Lebanon	31.910	38.664	121	0.5
Syria	106.664	135.560	127	1.7
Saudi Arabia	4.500	5.625	125	0.1
East Germany	20.000	29.880	149	0.3
Total	6.153.573	9.224.116	150	100.0

Mandarin Exports of Turkey in 1966-67 by Countries

Country	Amount(kg)	Value(TL)	Price(kg/krş)	% of countries
West Germany	4.000.053	5.523.029	138	41.7
Austria	4.863.725	7.018.845	144	50.6
Bulgaria	296.622	459.559	155	3.1
Finland	17.820	22.453	126	0.2
England	147.854	177.433	120	1.5
Syria	14.630	19.872	136	0.2
Hungary	256.320	393.008	153	2.7
Total	9.597.024	13.614.279	142	100.0

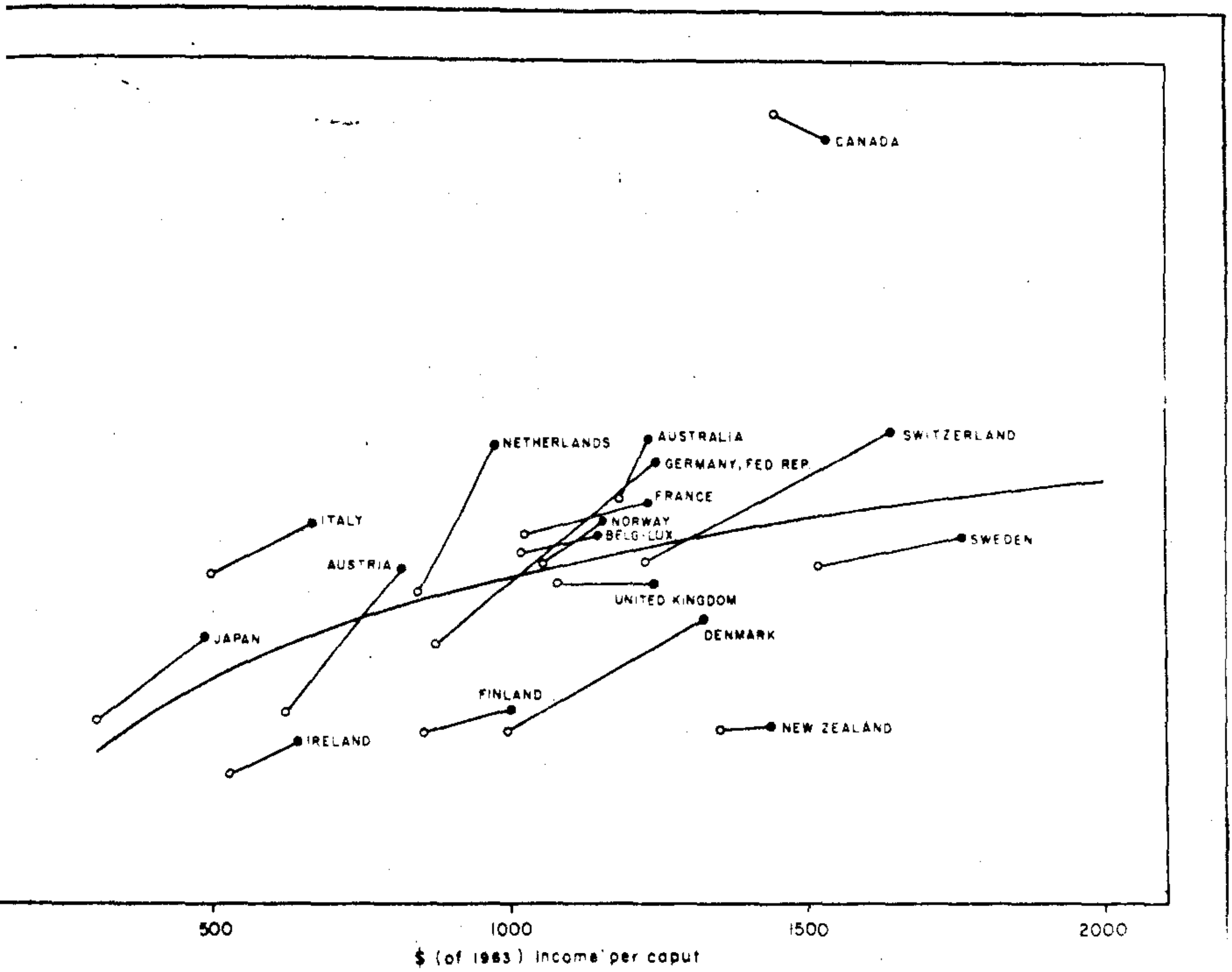
(x) State Statistical Institute

TABLE 6: Lemon Exports of Turkey by Countries (x)

	1961		1962		1963	
	Tons	%	Tons	%	Tons	%
I. EPU Countries	5.520	62.2	8.879	88.8	10.943	92.2
CM Countries	4.842	54.5	8.483	84.8	10.573	89.2
West Germany	4.235	47.7	7.965	79.6	7.894	66.6
Belgium	18	0.2	17	0.2	381	3.2
France	75	0.8	126	1.3	580	4.9
Italy	-	-	-	-	45	0.4
Netherlands	514	5.8	375	3.7	1.673	14.1
EFTA Countries	413	4.7	396	4.0	370	3.1
Austria	96	1.1	39	0.4	-	-
England	259	2.9	311	3.1	223	1.9
Sweden	-	-	29	0.3	98	0.8
Norway	25	0.3	-	-	-	-
Other EPU Count.	265	3.0	-	-	-	-
Greece	265	3.0	-	-	-	-
Dollar Area	60	0.7	-	-	-	-
Canada	60	0.7	-	-	-	-
II. Agreement Coun.	3.227	36.9	1.120	11.2	908	7.7
East Europe	3.275	36.8	1.080	10.8	900	7.6
Bulgaria	-	-	110	1.1	-	-
Poland	-	-	452	4.5	-	-
Hungary	250	2.8	-	-	-	-
Czechoslovakia	3.025	34.0	518	5.2	900	7.6
Other Agree. Cou.	2	0.1	40	0.4	8	0.1
Finland	-	-	40	0.4	8	0.1
Iran	2	0.1	-	-	-	-
General Total	8.872	100.0	9.999	100.0	11.851	100.0

(x) IGEME publications

Figure 5: Per Caput Citrus Fruit Consumption in Relation to per Caput Income



G 2536

age 1955-57 • Average 1961-63

TABLE 8: Citrus Production, Export, per capita Consumption(x) of Various Mediterranean Countries in 1960

Countries	Population	Production		Export		Per capita consum.	
Israel	2.114.000	450.000	tons	346.400	tons	49	kg.
Lebanon	1.783.000	155.000	"	81.100	"	41	"
Greece	8.327.000	276.000	"	54.900	"	26	"
Italy	49.361.000	1.110.000	"	401.800	"	14	"
Spain	30.128.000	1.839.000	"	995.100	"	14	"
Morocco	11.626.000	477.000	"	326.800	"	13	"
Turkey	27.561.000	294.000	"	19.700	"	10	"

(x) F.A.O. Production Year Book 1961 Vol. 15

TABLE 9: Citrus Production by Mediterranean Countries in 1964/65(x)

Countries	Orange-Mandarin	Lemon	Grapefruit	Total	
Italy	1.195.000	623.000	-	1.818.000	ton
Spain	1.515.000	131.000	4.000	1.650.000	"
Israel	730.000	34.000	(63/64) 160.000	924.000	"
Morocco	567.000	9.000	13.000	589.000	"
United Arab Rep.	376.000 (63/64)	51.000	-	427.000	"
Algeria	394.000	13.000	3.000	410.000	"
Greece	322.000	88.000	-	410.000	"
Turkey	284.000	37.000	3.000	324.000	"
Lebanon	160.000	65.000	3.000	(62/63) 228.000	"

(x) F.A.O. Production Yearbook, Vol. 19, 1965

TABLE 10: Citrus Exports and Consumptions of[x] Mediterranean Countries in 1964

Countries	Exports (tons)	Consumption per capita (kg)
Spain	1 389 321 (84.2% of production)	16.0
Italy	513 146 (28.2% " ")	20.0
Israel	492 483 (53.3% " ")	50.0
Morocco	476 203 (80.8% " ")	12.0
Algeria	296 173 (72.2% " ")	10.3
Lebanon	95 578 (41.9% " ")	48.2
Cyprus	84 134 (84.1% " ")	35.9
Greece	78 226 (19.1% " ")	30.0
Tunis	43 505 (45.3% " ")	9.5
Turkey	14 705 (4.5% " ")	10.8
United Arab Repub.	13 306 (3.1% " ")	14.1

(x) F.A.O. Production Yearbook, 1965 and Trade Yearbook 1965
Consumption per capita is an average of 1962, 1963 and 1964
Percentages are calculated based on Tables 9 and 10.

TABLE 11: Citrus Exports of Israel, Spain, Italy and Turkey(x)

Years	Israel (tons)	Spain (tons)
1963/64	333 373	858 851
1964/65	367 247	998 064
1965/66	425 702	971 850

Years	Italy (tons)	Turkey (tons)
1963/64	423 770	24 808
1964/65	435 900	14 705
1965/66	278 709	32 153

(x) ICEMS records

TABLE 12:

Citrus Imports and Per Cap. Consumption of Main Countries(x)

Countries	Average 1934-38 (ton)	1950 (ton)	1955 (ton)	1960 (ton)	1964 (ton)	Per cap. in '64 (kg)
West Block						
West Germany	250 000	274 700	552 500	803 100	1 030 440	17.6
France	29 800	442 000	713 000	694 379	910 100	18.8
England	642 700	424 000	455 600	516 400	529 491	11.2
Austria						14.7
Belgium						16.5
Denmark						11.6
Netherlands	1 521 800	1 538 300	2 353 000	2 820 000	3 349 870	19.5
Norway						16.2
Sweden						15.4
Switzerland						20.7
East Block						
Bulgaria	2 200				9 087	1.1
Czechoslovakia	40 000				41 708	3.0
East Germany	-				30 700	1.7
Finland	7 200				40 386	8.8
Hungary	19.000				36 447	3.6
Poland	34 300				38 942	1.2
Roumania	13 100				12 700	0.7
Russia	19 000				183 900	0.8
Yugoslavia	11 000				62 619	3.2
Middle East						
Iran	1 200				1 215	0.6
Syria	3 500				85 872	15.5
Jordan	-				4 453	2.4
Saudi Arabia	-				15 109	2.3

(x) ICEME publications

TABLE 13:

Turkey's Orange Export Markets(x)

Years	Countries	Amount (tons)	General Total
1963	West Germany	4 876	11 274
	Netherlands	3 581	
	Syria	1 207	
	Saudi Arabia	688	
	Yugoslavia	499	
	England	209	
	Switzerland	113	
	Sweden	56	
	Austria	31	
	Lebanon	9	
1964	East Germany	1 037	4 220
	Syria	869	
	West Germany	621	
	Netherlands	539	
	England	520	
	Saudi Arabia	386	
	Belgium	151	
	Lebanon	82	
	France	17	
1965	West Germany	4 908	18 707
	East Germany	4 634	
	Syria	3 766	
	Russia	3 562	
	Netherlands	913	
	Saudi Arabia	370	
	Lebanon	243	
	Roumania	199	
	Austria	90	
	France	22	
	England	20	

(x) İGEME records

TABLE 14:

Orange Imports of Germany(x)

Countries	1960 (ton)	1961 (ton)	1962 (ton)	1963 (ton)	1964 (ton)
Spain	369 950	356 716	430 041	259 058	448 918
Italy	64 262	59 359	46 779	54 451	43 782
Israel	52 055	40 396	52 218	83 312	60 604
Greece	1 593	-	1 898	4 959	1 008
Turkey	2 735	1 077	201	5 966	613
Morocco	78 274	86 249	94 907	80 484	124 511
Algeria	14 868	17 102	12 433	15 122	12 139
Tunis	816	2 050	1 190	546	399
Rep. of South Africa	57 407	40 086	44 778	36 082	46 320
Lebanon	-	36	355	508	299
Others	-	21 945	25 338	39 121	23 456
Total	701 093	625 016	710 178	539 609	762 649

(x) IGEMS records based on import statistics of Germany

IMPORTS OF WEST GERMANY in 1963 by COUNTRIES (x)
TABLE 15

Country	Lemon		Orange		Mandarin		Grapefruit	
Turkey	5.100	tons	5.967	tons	550	tons	500	tons
Italy	85.000	"	55.000	"	15.000	"	-	
Spain	15.000	"	350.000	"	30.000	"	-	
Morocco	-		80.000	"	10.000	"	1.900	"
Israel	-		60.000	"	-		-	
Brazil	-		20.000	"	-		-	
Algeria	-		14.000	"	3.000	"	1.200	"
United States	-		-		-		5.400	"

(x) Commercial Attaché report, 1964

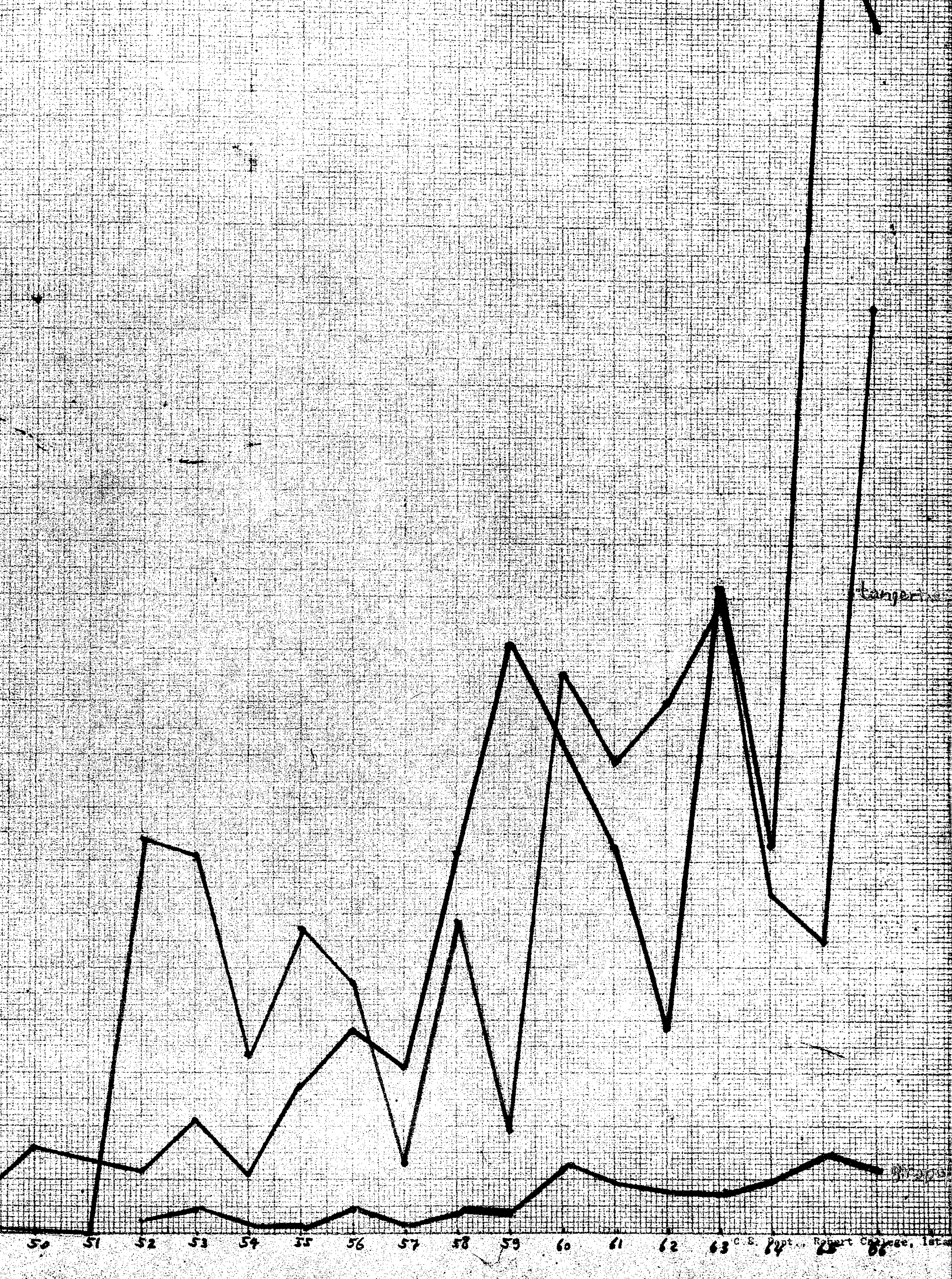
TABLE 16:

Orange Exports of Competitors in 1964-65(x)

Importing Countries

	Exporting Countries			
	Spain (1000 t)	Israel (1000 t)	Italy (1000 t)	Greece (1000 t)
West Germany	334	80	66	4
East Germany	14	-	9	8
Austria	6	-	25	14
Belgium	62	22	5	-
Denmark	13	20	-	-
France	214	22	2	-
England	90	127	-	2
Netherlands	76	31	-	-
Sweden	38	31	20	-
Switzerland	22	9	35	-
Norway	21	13	-	-
Poland	4	-	2	-
Finland	8	21	-	-
Canada	-	13	-	-
Yugoslavia	-	5	-	3
U.S.A.	-	5	-	-
Others	17	25	10	39
T o t a l	915	424	174	69

(x) IGEME records



...us Exports by years

orange, tang...
lemon
grapefruit

DATE

APPENDIX II

STANDARDS FOR CITRUS FRUITS(x)

1. CLASSIFICATION

Citrus fruits are classified according to their quality, variety and size

1.1 Varieties

1.1.1 Orange varieties

1.1.1.1 Finike

1.1.1.2 Shamouti

1.1.1.3 Valencia

1.1.1.4 Washington Navel

1.1.1.5 Other varieties are offered to the market with their names and origins.

1.1.2 Lemon varieties

1.1.2.1 Interdonata

1.1.2.2 Lamas

1.1.2.3 Other varieties are offered to the market with their names and origins.

1.1.3 Mandarin varieties

1.1.3.1 Yerli, Clementine, Satsuma(Rize), Wilkins

1.1.3.2 Other varieties are offered to the market with their names and origins.

1.1.4 Grapefruit varieties

1.1.4.1 March Seedless

1.1.4.2 Thompson

1.1.4.3 Other varieties are offered to the market with their names and origins.

1.2 Quality Classification

Minimum requirements: Citrus fruit should be whole, healthy, clean and devoid of faults because of medicine remainings, strange smell, taste, abnormal external humidity, especially of frost, and should be strong enough to go thethe consumption center.

./.

(x) Turunçgiller Standardı, Sept 1967

1.2.1 Extra: Best Quality with no faulty appearance and having the right color according to the region and season.

1.2.2 First class: Should have good quality and show the specialties of its place of origin and variety.

1.2.3 Second class: Can be offered to the market and has the minimum requirements though cannot enter other classes.

1.3 Size Classification

Citrus fruits are classified by size according to their diameters.

TABLE 1: Sizes of citrus fruits (mm)

No.	Orange	Lemon	Mandarin, Satsuma Wilkings	Clementine	Grape-fruit
0	-	-	71-77	71-77	-
1	92-98	75-80	66-71	66-71	114-122
2	88-92	70-75	61-66	61-66	105-114
3	85-88	65-70	57-61	57-61	98-105
4	81-85	60-65	53-57	53-57	92-98
5	76-81	55-60	49-53	49-53	88-92
6	73-76	50-55	45-49	45-49	85-88
7	70-73	45-50	-	43-45	81-85
8	67-70	-	-	41-43	75-81
9	65-67	-	-	38-41	70-75
10	63-65	-	-	35-38	-
11	61-63	-	-	-	-
12	57-61	-	-	-	-
13	53-57	-	-	-	-

1.4 Maturity

Citrus fruits should have the following maturity specifications:

1.4.1 Orange

1.4.1.1 Amount of juice: It should not be less than 33% in Washington type, 30% in Thompson, and 33% in other types as far as weight is concerned.

1.4.1.2 Peel of fruit: It should have the typical color of the particular variety in accordance with growth region and harvest time.

1.4.2 Lemon

1.4.2.1 Amount of juice: It should not be less than 25% of the fruit as far as weight is concerned.

1.4.2.2 Peel of fruit: It should have the typical color of the particular kind in accordance with growth region and harvest time. However, if 4/5 of thefame of lemon,with relation to its natural tendencies is not yellow, then the buyer and seller should make an earlier agreement.

1.4.3 Mandarin, satsuma and wilkings

1.4.3.1 Amount of juice: It should not be less than 33% of the fruit.

1.4.3.2 Peel of fruit: At least 2/3 of peel of fruit should have its typical color.

1.4.4 Clementine

1.4.4.1 Amount of juice: It should not be less than 40% of the fruit in connection with weight.

1.4.4.2 Amount of peel: At least 2/3 of peel of fruit should have its typical color.

1.4.5 Grapefruit

1.4.5.1 Amount of juice: It should not be less than 35% of the fruit in connection with weight.

1.4.5.2 Peel of fruit: Fruit should bear its typical color in accordance with growth region and harvest time.

1.5 TOLERANCES

Quality and size tolerances are determined for various quality classes in packing.

1.5.1 Quality tolerances:

1.5.1.1 Extra:

Only 5% tolerance in number is given for the following defects:

a) Up to 5%

One or several bruises whose length does not exceed 10% of diameter of the fruit.

b) Up to 2% for each of the following defects: ./.

-Defected size according to its variety

- very rough peel
-very thick peel
-one or several deep peel bruises already closed
-one or several surface cuts
peel defects as a result of disease
-some dirt on the peel
The addition of the above mentioned tolerances should never exceed 5%.

1.5.1.2 I. Class:
Only 10% tolerance in number is given for the following defects:
a) Up to 10%
One or several closed bruises whose length does not exceed 20% of diameter and whose area does not exceed 2% of area of the fruit.
b) Up to 5% for each of the following defects:
- defected size according to king
- very rough peel
-very thick peel
-one or several bruises recovered
-one or several surface cuts
-peel defects as a result of disease
-some dirt on the peel
c) Up to 2% for each of the following defects:
-boursoufleé (swollen peel)
-gaufreé (emptied peel)
-deteriorated, soft fruit
-one or several bruises
-partially recovered peel bruises
The addition of the abovementioned tolerances should never exceed 10%.

1.5.1.3 II. Class:
Only 15% tolerance in number is given for the following defects:
a) Up to 15%
One or several bruises whose length does not exceed 20% of the diameter and whose area does not exceed 2% of the area of the fruit

./.

1.5.2 SIZE TOLERANCES

1.5.2.1 In accordance with diameter for each package:

- ± 4 mm for those with diameter above 90 mm
- ± 3 mm " " " " between 75-90 mm
- ± 2 mm " " " " less than 75 mm

1.5.2.2 Maximum 5% is tolerated in number of top and small sizes in each package for all classes.

2. SUPPLYING THE MARKET

Citrus fruits are supplied to the market under the following conditions:

1. Extra fruits; only in standard packages
2. I. II. class fruits; either in standard packages or:
   a) land transportation: In packages or as bulky produce
   b) marine shipment: In packages or as bulky produce

2.1 <u>Packaging</u>:

Chart III shows the type, size and dimensions of the standard packages.

2.1.1 1.0 or 1.5 cm. space should be left on side, cover and bottom of the standard packages.

<u>CHART III: Type, size and dimensions of standard packages</u>

Type	.... Length	sizes Width	.... Height	Characteristics
Large pack.	610 mm	300 mm	300 mm	Two divisions
Small pack.	440 mm	300 mm	300 mm	One division
Mandarin box	430 mm	280 mm	130 mm	One division
Lemon box	531 mm	260 mm	195 mm	Two divisions
Orange box	580 mm	280 mm	240 mm	Two divisions

2.1.2 The package wood should be clean, dry and undefective, and not used before.

2.1.3 After the box tops are nailed, they are supported by covering wires.

./.

2.1.4 In all packages, same kind class and size of fruits are placed.

2.2 <u>Wrapping</u>

2.2.1 Citrus fruits are wrapped in paper and then stowed in boxes.

2.2.1 Wrapping paper should be minimum 14 g/m^2 in weight and large enough to wrapp the fruit, thin, dry, new and oderless.(x)

2.3 <u>Stowing</u>

Stowing form is diagonal. Fruits should be stowed with less space left in between and not very tight.

No other strange material can be placed in the package other than packagingmaterial.

2.4 During citrus transportation in bulky condition, kind, type and dimensions of only packages and wrapping are free.

2.5 <u>Marking</u>

2.5.1 One of the citrus package headlines is reserved for standard marking and trade mark and the other for special marking and trade mark. No other writing, marks, letters or pictures can be put on the headline reserved for standard marking.

2.5.2 Headline reserved for standard marking contains trademark of the exporting and packing firm, kind, type, class, size number, amount, control stamp and partly number of the fruit andthe statement 'made in Turkey'. These could be written in foreign language as well, and should be printed in black ink.

3 <u>Control</u>

Controls are made for every party over at least 5 packages chosen at random in the following way: In control unity is a package. Once a decision is given on unities, it covers the whole party. In bulky parties, 1% is controlled and inspected accordingly, during transit.

3.1 <u>Control of packages:</u>

The height, characteristics, marks and trademark are inspected by measuring or observation.

(x) Diphenyl or other chemicals that may leave something on the fruits may be used if the importing country approves it.

./.

3.2 <u>Inspection of fruits:</u>

The control of fruits for kind, type, quality, class, number, size and tolerances are made by hand, observation(using sorting machine or particular rings if necessary) and cutting.

4 MISCELLANEOUS ARTICLES

4.1 Dirty materials spreading bad odors should be kept away from depots and vehicles in which citrus fruits are placed.

4.2 Packages containing citrus fruits should not be left uncovered

4.3 Conveyors and pallets are used for loading and unloading of packages of citrus fruit during shipment.

4.4 Packages should be stowed in depots, vehicles or packing houses in such a way as not to damage each other and if there are no pallets or wood between the rows, 7 rows is the maximum stowing.

4.5 Citrus fruits can artifically be made yellow.

4.6 All stems of the citrus fruits should be cut.

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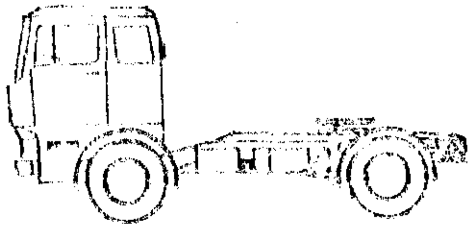
TS. 34/UDK 634.31 - 634.33 - 634.323

İGEME



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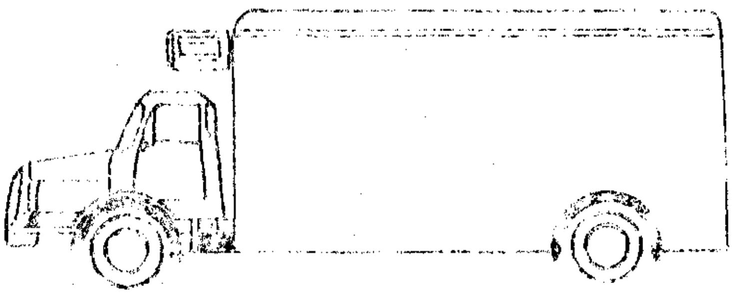
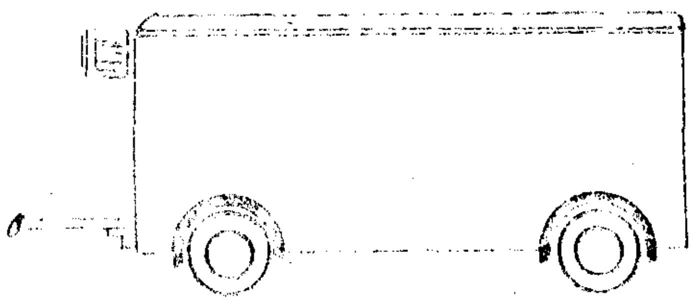


FRİGORİFİK
KAMYON



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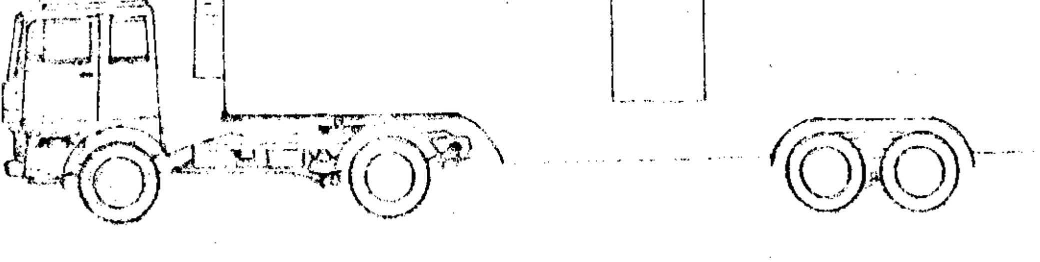

FRİGORİFİK
SEMİTREYLE

RECOMMENDED TEMPERATURES OF PERISHABLES IN TRANSIT

)MMODITY	MINIMUM °F	MINIMUM °C	MAXIMUM °F	MAXIMUM °C
›ples	38	3·3	42	5·5
›paragus	40	4·4	—	—
ınanas	56	13·3	60	15·6
›ans, green	40	4·4	45	7·2
›ets	45	7·2	50	10
ackberries	42	5·5	45	7·2
occoli	40	4·4	45	7·2
ıtter	45	7·2	50	10
ıbbage	45	7·2	—	—
ırrots	40	4·4	45	7·2
ıuliflower	40	4·4	45	7·2
›lery	45	7·2	50	10
ıeese	39	3·8	45	7·2
ıocolate candies	68	20	70	21·1
ıerries	40	4·4	—	—
›rn, sweet	45	7·2	—	—
·anberries	36	2·2	40	4·4
·eam	40	4·4	45	7·2
ıcumbers	45	7·2	50	10
ates, cured	55	12·8	60	15·6
ggplant	45	7·2	50	10
ggs, fresh	38	3·3	45	7·2
sh, fresh, iced	32	0	36	2·2
sh, frozen	0	−17·8	5	−15
sh, smoked	40	4·4	50	10
owers	45	7·2	50	10
ozen fruits, vegetables				
ıd concentrates	−5	−20·6	0	−17·8
rapefruit:				
alif. & Arizona	45	7·2	55	12·8
orida & Texas	32	0	34	1·1
rapes	35	1·6	40	4·4
oney	45	7·2	50	10
e Cream	−5	−20·6	0	−17·8
ırd	40	4·4	45	7·2
›mons	55	12·8	58	14·4
›ttuce	45	7·2	—	—
elons	40	4·4	45	7·2
ilk	40	4·4	45	7·2

COMMODITY	MINIMUM °F	MINIMUM °C	MAXIMUM °F	MAXIMUM °C
Mushrooms	32	0	35	1·6
Nut Meats	35	1·6	40	4·4
Oleomargarine	34	1·4	36	2·2
Onions	50	10	60	15·6
Oranges	50	10	—	—
Oysters	32	0	35	1·6
Parsnips	34	1·1	40	4·4
Peaches	50	10	—	—
Pears	40	4·4	—	—
Peas, green	40	4·4	45	7·2
Peppers	40	4·4	45	7·2
Pineapple, ripe	50	10	—	—
Plums	40	4·4	45	7·2
Potatoes, sweet	55	12·8	60	15·6
Potatoes, white	45	7·2	60	15·6
Poultry, dressed	29	−1·6	32	0
Poultry, frozen	0	−17·8	10	−23·3
Pumpkin & Squash	55	12·8	60	15·6
Quinces	40	4·4	45	7·2
Raspberries	40	4·4	45	7·2
Spinach	45	7·2	50	10
Tomatoes, ripe	55	12·8	70	21·1
Turnips	40	4·4	45	7·2
Yeast	38	3·3	42	5·5
MEAT				
Bacon, fresh	36	2·2	40	4·4
Bacon, smoked	60	15·6	65	18·3
Beef, fresh	38	3·3	42	5·5
Beef, frozen	0	−17·8	10	−12·2
Fat Backs	38	3·3	42	5·5
Ham, fresh	38	3·3	42	5·5
Ham, frozen	0	−17·8	10	−12·2
Ham, cured	60	15·6	65	18·3
Lamb, fresh	34	1·1	42	5·5
Pork, fresh	36	2·2	40	4·4
Pork, frozen	0	−17·8	10	−12·2
Sausage	40	4·4	45	7·2
Veal	36	2·2	40	4·4

he above recommendations are taken from the American Society of Refrigerating Engineers publication and other commercial sources, ıd generally conform to commercial practices. In case of doubt consult the customer.

RECOMMENDED TEMPERATURES OF PERISHABLES IN TRANSIT

:OMMODITY	MINIMUM °F	MINIMUM °C	MAXIMUM °F	MAXIMUM °C
,pples	38	3·3	42	5·5
,sparagus	40	4·4	—	—
ananas	56	13·3	60	15·6
eans, green	40	4·4	45	7·2
eets	45	7·2	50	10
lackberries	42	5·5	45	7·2
roccoli	40	4·4	45	7·2
utter	45	7·2	50	10
abbage	45	7·2	—	—
arrots	40	4·4	45	7·2
auliflower	40	4·4	45	7·2
elery	45	7·2	50	10
heese	39	3·8	45	7·2
hocolate candies	68	20	70	21·1
herries	40	4·4	—	—
orn, sweet	45	7·2	—	—
ranberries	36	2·2	40	4·4
ream	40	4·4	45	7·2
ucumbers	45	7·2	50	10
ates, cured	55	12·8	60	15·6
ggplant	45	7·2	50	10
ggs, fresh	38	3·3	45	7·2
ish, fresh, iced	32	0	36	2·2
ish, frozen	0	−17·8	5	−15
ish, smoked	40	4·4	50	10
lowers	45	7·2	50	10
rozen fruits, vegetables nd concentrates	−5	−20·6	0	−17·8
rapefruit:				
alif. & Arizona	45	7·2	55	12·8
lorida & Texas	32	0	34	1·1
rapes	35	1·6	40	4·4
loney	45	7·2	50	10
e Cream	−5	−20·6	0	−17·8
ard	40	4·4	45	7·2
emons	55	12·8	58	14·4
ettuce	45	7·2	—	—
lelons	40	4·4	45	7·2
lilk	40	4·4	45	7·2

COMMODITY	MINIMUM °F	MINIMUM °C	MAXIMU °F	MAXIMU °C
Mushrooms	32	0	35	1·6
Nut Meats	35	1·6	40	4·4
Oleomargarine	34	1·4	36	2·2
Onions	50	10	60	15·6
Oranges	50	10	—	—
Oysters	32	0	35	1·6
Parsnips	34	1·1	40	4·4
Peaches	50	10	—	—
Pears	40	4·4	—	—
Peas, green	40	4·4	45	7·2
Peppers	40	4·4	45	7·2
Pineapple, ripe	50	10	—	—
Plums	40	4·4	45	7·2
Potatoes, sweet	55	12·8	60	15·6
Potatoes, white	45	7·2	60	15·6
Poultry, dressed	29	−1·6	32	0
Poultry, frozen	0	−17·8	10	−23·3
Pumpkin & Squash	55	12·8	60	15·6
Quinces	40	4·4	45	7·2
Raspberries	40	4·4	45	7·2
Spinach	45	7·2	50	10
Tomatoes, ripe	55	12·8	70	21·1
Turnips	40	4·4	45	7·2
Yeast	38	3·3	42	5·5
MEAT				
Bacon, fresh	36	2·2	40	4·4
Bacon, smoked	60	15·6	65	18·3
Beef, fresh	38	3·3	42	5·5
Beef, frozen	0	−17·8	10	−12·2
Fat Backs	38	3·3	42	5·5
Ham, fresh	38	3·3	42	5·5
Ham, frozen	0	−17·8	10	−12·2
Ham, cured	60	15·6	65	18·3
Lamb, fresh	34	1·1	42	5·5
Pork, fresh	36	2·2	40	4·4
Pork, frozen	0	−17·8	10	−12·2
Sausage	40	4·4	45	7·2
Veal	36	2·2	40	4·4

'he above recommendations are taken from the American Society of Refrigerating Engineers publication and other commercial sources nd generally conform to commercial practices. In case of doubt consult the customer.

EXPORT MARKET PRICES(x)

Grapefruit:

Munich Market

Date	Exporting Country	kind	Sales price
1.2.1966	Turkey	1/2 box	13-16 DM
"	Cyprus	1 "	24-26
"	Italy	100 kg gross	50-80
"	Israel	Jaffa 1/2 box	12.5-16
23.11.1966	Turkey	" "	8-10
"	Israel	" "	10-11
8.12.1966	Turkey	" "	8-9
"	Israel	" "	9-10

Hamburg Market

15.3.1966	Turkey	36/40 box	8.5-9.5DM
"	Israel	1 box (40)	11.25-11.75
"	Hungary	23/27	10.75-11.75
"	Turkey	48/100	12.00-14.00
15.10.1966	Turkey	36/88	16-19.5
"	Spain	40/64	14.5-15.25
10.11.1966	Turkey	36/80	7-11.75
"	Israel	38/84	8-11.50
"	Morocco	70/150	11.00-14.00
2.8.1966	Turkey	36/64	7-10.50
"	Israel	38/84	8.50-11.25
"	Florida	64	8.50-8.75
"	Cyprus	40/72	9.00-10.50
"	Morocco	80/150	13.50-14.75

Lemon:

Munich Market

10.11.1966	Turkey	100/160	17.00-18.00

(x) "Enformasyon Bülteni", 1966-1967, attaché reports and records of İGEME.

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Lemon (continued)
Munich Market

Date	Exporting Country	kind	Sales price
14.11.1966	Turkey	100/160	16.00-18.00 DM
"	Italy	120/150	12.5-14.5
24.11.1966	Turkey	100/160	16.00-18.00
"	Italy	120/180	9.75-10.50
12.12.1966	Turkey	100/160	15.00-16.00
"	Italy	120/180	8.75- 9.50
17.12.1966	Turkey	100/160	15.00-16.00
"	Italy	120/180	8.50- 9.00
Hamburg Market			
10.1.1966	Turkey	80	9.00- ...
"	Turkey	120	10.00-12.00
"	Sicily	120/180	10.00-10.75
20.2.1966	Turkey	100	8.00-10.50
"	Spain	100/140	9.75-11.00
15.3.1966	Spain	100	8.75-10.50
5.10.1966	Turkey	80	12.00-14.00
"	Turkey	100/160	16.00-18.00
19.10.1966	Turkey	100/180	11.25-13.25
"	Spain	100/180	9.00-10.75
10.11.1966	Turkey	100/180	13.00-15.00
"	Israel	80/240	13.00-14.00
23.11.1966	Turkey	100/180	13.50-17.50
"	Sicily	120/180	10.00-12.50
15.12.1966	Turkey	100/120	11.00-12.50
"	Turkey	140	9.50-11.00
"	Turkey	160	8.75-10.50
"	Spain	100/180	7.00-12.00
Orange:			
Munich Market			
15.1.1966	Turkey, Shamouti	1/2 box	13.50-14.50
"	Israel, Jaffa	1/2 box	13.50-15.50

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Orange (continued)

Munich Market

Date	Country, variety	Amount	Sales Price
15.1.1966	Italy, Blond	100 kg gross	43.00-45.00 DM
"	Italy, Moro	" "	95.00-100.00
"	Spain, Navel	" "	68.00-78.00
1.2.1966	Turkey, Shamouti	1/2 box	14.00
"	Israel, Jaffa	" "	15.00-17.00
"	Spain, Navel	100 kg net	80.00-86.00
"	Italy, Blond	100 kg gross	38.00-47.00
"	Greece, Navel	100 kg gross	69.00-74.00
23.2.1966	Turkey, Shamouti	100 kg gross	80.00-82.00
"	Spain, Navel	100 kg gross	78.00-85.00
"	Greece, Navel	100 kg gross	76.00-80.00
"	Italy, Navel	100 kg gross	30.00-40.00
"	Italy, Moro	100 kg gross	80.00-85.00
"	Israel, Shamouti	1/2 box	15.00-19.00
23.3.1966	Turkey, Shamouti	100 kg net	76.00-82.00
"	Greece, Navel	100 kg gross	74.00-75.00
"	Spain, Navel	100 kg gross	92.00-110.00
"	Italy, Sanguin	100 kg gross	70.00-85.00

Hamburg Market

10.1.1966	Turkey, Shamouti	23/26 kg, 64	12.75
"	Turkey, Shamouti	" 80	15.50
"	Turkey, Shamouti	100/126	15.00-15.75
"	Turkey, Shamouti	140/240	16.00-16.50
"	Cyprus, Shamouti	20/22 kg, 120	20.50
"	Israel, Shamouti	19/24 kg, 60	14.00-15.75
"	Spain, Navel	33/36 kg, 80	20.50
20.1.1966	Turkey, Shamouti	20/24 kg,113	11.75-1500
"	Israel, Shamouti	22/24 kg,140	15.25-17.00
"	Spain, Navel	34/37 kg,288	20.00-25.00
"	Morocco, Navel	33/36 kg,288	22.00-28.00

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Orange (continued)

Date	Country, variety	Amount	Sales Price
15.3.1966	Turkey, Shamouti	21/23 kg, 54/80	10.00-12.00 DM
"	Turkey, Valencia	21/23 kg, 80	11.25
"	Israel, Shamouti	21/23 kg, 60	13.50-13.75
"	Spain, Washington	34/37 kg, 96/140	22.75-26.00
"	Spain, Blood	34/37 kg, 92/126	24.00-24.50

Tangerine

Vienna Market

7.1.1966	Turkey, Bodrum	kg	6.50-9.00 Shilling
"	Italy	"	3.00-8.00
"	Greece	"	4.40-6.50
15.1.1966	Turkey, Bodrum	"	6.50-9.00
"	Italy	"	3.00-8.00
5.11.1966	Turkey, Satsuma	"	6.50-10.50
"	Spain, Satsuma	"	8.00-9.50
25.11.1966	Turkey, Satsuma	"	7.00-10.00
30.11.1966	Turkey, Satsuma	"	7.50-10.50
"	Greece	"	5.00-6.50
"	Italy	"	6.00
5.12.1966	Turkey, Satsuma	"	6.50-10.00
"	Spain, Satsuma	"	6.50-7.30
"	Italy	"	5.20-7.20
"	Greece	"	5.00-6.50
10.12.1966	Turkey, Satsuma	"	7.00-10.50
"	Spain, Satsuma	"	8.00-9.00
"	Italy	"	4.80-9.00
"	Greece	"	4.50-5.50

Munich Market

15.1.1966	Turkey, Satsuma	100 kg	60.00-80.00 DM
"	Spain, Satsuma	"	80.00-110.00
24.10.1966	Spain, Satsuma	"	120.00-160.00

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Tangerine (continued)

Munich Market

Date	Country, variety	Amount	Sales Price
27.10.1966	Turkey, Satsuma	100 kg	120.00-140.00 DM
"	Spain, Satsuma	"	100.00-140.00
3.11.1966	Turkey, Satsuma	"	100.00-120.00
"	Spain, Satsuma	"	80.00-120.00
7.11.1966	Turkey, Satsuma	"	100.00-120.00
"	Spain, Satsuma	"	105.00-140.00
17.11.1966	Turkey, Satsuma	"	120.00-148.00
"	Spain, Satsuma	"	120.00-155.00
1.12.1966	Turkey, Satsuma	"	115.00-120.00
"	Spain, Satsuma	"	120.00-130.00
12.12.1966	Turkey, Satsuma	"	130.00-150.00
"	Spain, Satsuma	"	140.00-165.00
29.12.1966	Turkey, Satsuma	"	130.00-140.00
"	Spain, Satsuma	"	140.00-160.00
Hamburg Market			
26.10.1966	Spain	10 kg net	12.50-16.00
10.11.1966	Turkey	9-9.5 kg	7.50-11.00
"	Spain	10.5-11 kg	10.50.-13.00
1967 prices in West Germany			
January 1967	Spain, Navel	1/2 box, net	70.00-80.00 DM
"	Morocco, Sanguinas	32/35 kg	23.00-25.00
"	Greece, Navel	1/2 box net	60.00-70.00
"	Israel, Shamouti	1/2 box	14.00-16.00
"	Turkey, Shamouti	"	15.00-16.00
"	Italy, Blonde	net	35.00-40.00
"	Italy, Moro	gross	70.00-80.00
February, 1967	Morocco, Sanguinas	32/35 kg	25.00-30.00
"	Spain, Navel	net	80.00-90.00
"	Greece, Navel	gross/net	65.00-85.00
"	Israel, Shamouti	1/2 box	15.00-18.00

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Orange(continued)

Munich Market

Date	Country, variety	Amount	Sales price
February, 1967	Italy, Taracco	gross	80-90 DM
" "	Moro, Italy	net	65-80
" "	Italy, Blonde	net	30-35
" "	Italy, Sanguinelli	gross	65-70
March, 1967	Morocco, Late Vernas	Cartoon	20-25
" "	Spain, Navel	net	80-90
" "	Spain, Sanguinas	net	80-90
" "	Greece, Navel	gross	60-70
" "	Greece, Sanguinas	gross	35-40
" "	Israel, Shamouti	1/2 box	15-20
" "	Turkey, Shamouti	20 kg	13-15
" "	Italy, Sanguinello	gross	70-80
" "	Italy, Moro	gross	80-90
" "	Italy, Blonde	net	35-40
April, 1967	Morocco, Late Vernas	32/35 kg	25-30
" "	Spain, Late Vernas	gross	95-110
" "	Spain, Navel	gross	80-100
" "	Spain, Sanguinas	gross	65-70
" "	Israel, Shamouti	1/2 box	14-17
" "	Cyprus, Late Vernas	"	15-18
" "	Italy, Sanguinelle	gross	70-80
" "	Italy, Blonde	net	40-42
May, 1967	Spain, Late Vernas	gross	70-80
" "	USA, Late Vernas	Cartoon	16-17
" "	Israel, Jaffa	1/2 box	13-15
" "	Italy, Sanguinelle	gross	80-90
September, 1967	South Africa, L.Vernas	cartoon	16-18
" "	Brazil, Late Vernas	1/2 box	13-15
October, 1967	South Africa, "	cartoon	15-20
" "	Spain, Navel	net	110-115
November, 1967	Greece, Navel	net	80-85

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Orange (continued)

Date	Country, variety	Amount	Sales Price
November, 1967	Italy, Navel	gross	55-65 DM
" "	Spain, Navel	net	90-120
December, 1967	Greece, Navel	net	65-68
" "	Spain, Navel	net	70-75
" "	Italy, Blondo	gross	45-60
" "	Italy, Moro	gross	75-85

Tangerine:

January, 1967	Italy, mandarin	gross	65-85
February,1967	Italy, "	"	60-100
March, 1967	Italy "	"	60-80
November,1967	Italy "	gross/net	110-115
" "	Spain "	net	100-110
December, 1967	Spain "	net	80-110
" "	Greece "	gross/net	70-100
" "	Italy "	gross/net	75-110
January, 1967	Spain, Satsuma	gross	140-200
" "	Turkey, Satsuma	gross	130-145
November, 1967	Spain, Satsuma	net	100-150
" "	Turkey, Satsuma	gross/net	120-130
December, 1967	Spain, "	net	120-140
" "	Turkey "	gross/net	120-130
" "	Israel "	" "	130-135

Grapefruit:

January, 1967	Cyprus	40/75	13-15
" "	Israel	40/60	12-15
February, 1967	Cyprus	40/60	12-14
" "	Israel	1/2 box	12-15
March, 1967	"	"	13-15
April, 1967	"	"	14-17
May, 1968	"	"	14-17

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Grapefruit:(continued)

Date	Country, variety	Amount	Sales Price
June, 1967	South Africa	32/56 box	15-18 DM
" "	U.S.A.	"	18-20
July, 1967	South Africa	"	15-17
August, 1967	"	"	15-18
September, 1967	"	"	15-18
October, 1967	"	cartoon	15-17
" "	Spain	"	12-15
November, 1967	Israel	40/75 box	15-18
" "	Spain	cartoon	12-14
December, 1967	Israel	40/75 box	13-15
" "	Cyprus	1/2 box	12-13

Lemon:

January,1967	Italy	120/150/180	8-9
" "	Turkey	1/2 box	12-13
February,1967	Italy	150/180	8-9
" "	Spain	100/160	13-15
March, 1967	Italy	120/150/180	8.5-9.5
" "	Spain	100/160	13-15
April, 1967	Italy	120/150/180	9-11
May, 1967	Italy	100/120/150/180	12-14
" "	Spain	120/160 1/2 box	18-19
June, 1967	Italy	100/120	11-13
" "	Spain	120/160	17-18
July, 1967	Italy	100/160	13-15
" "	Spain	"	19-20
" "	Turkey	"	13-14
August,1967	Italy	cartoon	15-17
September, 1967	Italy	cartoon	14-15
October, 1967	Italy	150/cartoon	13-15
" "	Greece	120/210	12-14
" "	Turkey	100/160	12-14

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Lemon:(continued)

Date	Country, variety	Amount	Sales price
November, 1967	Italy	cartoon	9-12 DM
" "	Greece	120/210	11-14
" "	Turkey	120/160	12-15
December, 1967	Italy	cartoon	9-10
" "	Greece	180/box	10-11
" "	Turkey	120/160 1/2 box	12-13

TABLE 17:

PRODUCTION OF ORANGES BY REGIONS

REGIONS	1948 Tons	1948 %	1949 Tons	1949 %	1950 Tons	1950 %	1951 Tons	1951 %
Black Sea	2442	6.41	2919	6.60	43	0.15	88	0.15
Aegean	952	2.50	978	2.21	1284	4.34	2161	3.77
Mediterranean	34666	91.06	40336	91.18	28225	95.51	55031	96.05
Other Regions	8	0.02	5	0.01	-	-	14	0.02
Total Production	38068	99.99	44238	100.00	29552	100.00	57294	99.99

	1952 Tons	1952 %	1953 Tons	1953 %	1954 Tons	1954 %	1955 Tons	1955 %
Black Sea	1151	1.56	584	0.82	278	0.25	2820	1.86
Aegean	2621	3.56	2549	3.58	3493	3.15	7154	5.07
Mediterranean	69936	94.86	68046	95.60	107169	96.58	131397	93.05
Other Regions	17	0.02	1	-	24	0.02	43	0.03
Total Production	73725	100.00	71.180	100.00	110964	100.00	141214	100.00

	1956 Tons	1956 %	1957 Tons	1957 %	1958 Tons	1958 %	1959 Tons	1959 %
Black Sea	1167	1.01	3217	1.75	1635	0.91	1481	0.94
Aegean	5801	5.05	17577	9.59	7892	4.39	8455	5.37
Mediterranean	107986	93.92	162509	88.65	170071	94.69	147455	93.68
Others	28	0.02	4	-	6	-	7	-
Total Production	114982	100.00	183307	99.99	179604	99.99	157398	99.99

TABLE 17:
PRODUCTION OF ORANGES BY REGIONS

REGIONS	1960 Tons	1960 %	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
Black Sea	1133	0.63	4212	2.37	1285	0.68	3190	1.24
Aegean	10104	5.63	16642	9.36	15301	8.14	16875	6.56
Mediterranean	168056	93.72	156979	88.27	171443	91.17	237294	92.20
Other Regions	21	0.01	2	-	21	0.01	21	0.01
Total Production	179314	99.99	177835	100.00	188050	100.00	257380	100.01

	Average of %
Black Sea	1.71
Aegean	5.14
Mediterranean	93.14
Other Regions	0.01
Total Production	100.00

TABLE 18:

MANDARIN PRODUCTION BY REGIONS

REGIONS	1948 Tons	1948 %	1949 Tons	1949 %	1950 Tons	1950 %	1951 Tons	1951 %
Black Sea	974	28.08	1390	35.98	793	27.06	1300	14.30
Aegean	745	21.48	806	20.86	621	21.19	1753	19.28
Mediterranean	1749	50.42	1665	43.10	1515	51.69	6038	66.40
Others	1	-	2	0.05	2	0.07	2	0.02
Total Production	3469	100.00	3863	99.99	2931	100.01	9093	100.00

REGIONS	1952 Tons	1952 %	1953 Tons	1953 %	1954 Tons	1954 %	1955 Tons	1955 %
Black Sea	1752	19.71	1579	15.88	1755	12.09	7216	30.47
Aegean	1765	19.85	2183	21.95	2584	17.80	4367	18.44
Mediterranean	5366	60.35	6176	62.10	10173	70.07	12092	51.06
Others	8	0.09	7	0.07	7	0.05	9	0.04
Total Production	8891	100.00	9945	100.00	14519	100.01	23684	100.01

REGIONS	1956 Tons	1956 %	1957 Tons	1957 %	1958 Tons	1958 %	1959 Tons	1959 %
Black Sea	3158	14.70	6173	20.56	3926	14.25	5061	16.99
Aegean	6001	27.94	6572	21.89	5079	18.43	8122	27.26
Mediterranean	12313	57.33	17270	57.53	18508	67.18	16548	55.55
Others	6	0.03	4	0.01	39	0.14	60	0.20
Total Production	21478	100.00	30019	99.99	27552	100.00	29791	100.00

TABLE 18:

MANDARIN PRODUCTION BY REGIONS

REGIONS	1960 Tons	1960 %	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
Black Sea	4898	17.02	7580	22.29	4732	17.24	5339	12.78
Aegean	8006	27.82	9373	29.03	17040	25.64	17430	41.32
Mediterranean	15852	55.07	16523	48.59	15672	57.09	19359	45.89
Others	27	0.09	32	0.09	8	0.03	4	0.01
Total Production	28783	100.00	34008	100.00	27452	100.00	42132	100.00

	Average of %
Black Sea	19.96
Aegean	23.76
Mediterranean	56.21
Others	0.06
Total Production	99.99

TABLE 19:
MELON PRODUCTION BY REGIONS

REGIONS	1948 Tons	1948 %	1949 Tons	1949 %	1950 Tons	1950 %	1951 Tons	1951 %
Black Sea	12	0.08	16	0.16	1	0.01	2	0.01
Aegean	329	2.29	385	3.95	311	4.03	517	3.07
Mediterranean	14028	97.63	9347	95.89	7401	95.95	16333	96.92
Others	-	-	-	-	-	-	-	-
Total Production	14369	100.00	9743	100.00	7713	99.99	16852	100.00

	1952 Tons	1952 %	1953 Tons	1953 %	1954 Tons	1954 %	1955 Tons	1955 %
Black Sea	9	0.04	8	0.04	10	0.03	20	0.07
Aegean	471	2.34	744	3.96	655	2.17	757	2.84
Mediterranean	19631	97.61	18054	96.00	29546	97.80	25906	97.08
Others	1	-	1	-	1	-	1	-
Total Production	20112	99.99	18807	100.00	30212	100.00	26684	99.99

	1956 Tons	1956 %	1957 Tons	1957 %	1958 Tons	1958 %	1959 Tons	1959 %
Black Sea	19	0.05	28	0.04	29	0.04	29	0.04
Aegean	703	2.05	1230	1.77	1438	2.05	1042	1.54
Mediterranean	33634	97.90	68240	98.19	68735	97.91	66373	98.41
Others	1	-	1	-	1	-	1	-
Total Production	34357	100.01	69499	100.00	70203	100.00	67445	99.99

TABLE 19:

MELON PRODUCTION BY REGIONS

REGIONS	1960 Tons	1960 %	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
Black Sea	34	0.05	84	0.12	49	0.07	220	0.28
Aegean	1036	1.45	824	1.17	529	0.71	946	1.20
Mediterranean	70444	98.50	69539	98.71	73837	99.22	77718	98.52
Others	-	-	-	-	-	-	-	-
Total Production	71514	100.00	70447	100.00	74415	100.00	78884	100.00

	Average of %
Black Sea	0.07
Aegean	2.29
Mediterranean	97.64
Others	-
Total Production	100.00

TABLE 20:

GRAPEFRUIT PRODUCTION BY REGIONS

REGIONS	1948 Tons	1948 %	1949 Tons	1949 %	1950 Tons	1950 %	1951 Tons	1951 %
Aegean	-	-	-	-	-	-	-	-
Mediterranean	-	-	-	-	-	-	-	-
Total Production	-	-	-	-	-	-	-	-

	1952 Tons	1952 %	1953 Tons	1953 %	1954 Tons	1954 %	1955 Tons	1955 %
Aegean	40	4.53	71	6.56	68	2.71	102	3.69
Mediterranean	843	95.47	1012	93.44	2440	97.29	2660	96.31
Total Production	863	100.00	1083	100.00	2508	100.00	2762	100.00

	1956 Tons	1956 %	1957 Tons	1957 %	1958 Tons	1958 %	1959 Tons	1959 %
Aegean	171	6.27	193	6.25	212	8.45	280	12.01
Mediterranean	2557	93.73	2895	93.75	2298	91.55	2051	87.99
Total Production	2728	100.00	3088	100.00	2510	100.00	2331	100.00

	1960 Tons	1960 %	1961 Tons	1961 %	1962 Tons	1962 %	1963 Tons	1963 %
Aegean	253	9.93	261	10.10	187	6.90	238	8.73
Mediterranean	2296	90.07	2324	89.90	2522	93.10	2489	91.27
Total Production	2549	100.00	2585	100.00	2709	100.00	2727	100.00

	Average of %
Aegean	7.18
Mediterranean	92.82
Total Production	100.00

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