MARKETING OF LEBANESE CITRUS FRUITS

RAJA A. NAJJAR
MARKETING OF LEBANESE CITRUS FRUITS

BY

Raja A. Najjar

Submitted in partial fulfilment for the requirements of the degree of Master of Business Administration in the Business Administration Department of the American University of Beirut, Beirut - Lebanon 1964.
ACKNOWLEDGMENT

The writer wishes to express his sincere gratitude to his advisor Dr. S. E. Elia.
Thanks are also due to Professor Rex Call and to Professor Ibrahim Ombargi.
In his field research the writer is under special obligation to many persons from the Lebanese Fruit Office and the Ministry of Agriculture, who have been understanding and cooperative. Finally the writer wishes to extend his gratitude to all those who have helped in writing this thesis.
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<td>3.</td>
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CHAPTER I

INTRODUCTION.

It is discomforting to note that whereas in 1960 half the population was employed in the Lebanese Agricultural sector, yet it was able to derive only one sixth of national income from its employment.

In a program prepared for the ministry of National Economy by Dr. Raymond Delprat, an expert in economic growth, it appears that at an average 4.3% rate of growth for the whole economy, the agricultural sector shall have to expand by 5.5% annually if the sector is to produce 29.7% of the 1975 national income. This, by all means is a necessary first step to be taken to insure a more even distribution of economic resources and a more rational basis for economic development.

Another anomaly in the Lebanese Economy is that it has continuously been incurring a deficit in the balance of trade from the time trade figures were first compiled. True, the balance of payments has generally shown a surplus due to inflows of various funds. Oil producing countries have almost uninterruptedl

---

deposited their savings in local banks; emigrants have regularly remitted funds to their relatives; and tourists have increasingly shown interest in the country, thus helping to overcome the trade deficit.

It was rightly stressed in the I.R.F.E.D. report that such sources of income, though sizeable, are vulnerable in nature and should not therefore be counted too heavily on. Among the many suggestions that were formulated for an adequate economic growth, agricultural development stands among the most important.

By exerting more effort on the agricultural sector in Lebanon, the major socio-economic problems that the country has been facing can be reduced. Modern agricultural methods such as ploughing, would not only require less manpower but would also increase and improve total production. Thus, people who at present earn less than the average income of the Lebanese population would find themselves better off upon the application of modern methods.

1 IRFED: Institute International de Recherche et de Formation en Vue du Developpement Integral et Harmonise. A Report was prepared by that institute about the economic conditions of Lebanon 1961. The report was published in 1963.
Too fast an increase in agricultural production may of course create demand problems: indeed the Lebanese population growth is approximately 2.3% annually\(^1\) as compared to the desired rate of agricultural growth of 5.5% mentioned earlier. With an expanded volume of agricultural production, prices are expected to drop, resulting in an increase in per capita consumption, other things remaining equal. The demand for agricultural goods by the local population is, however, relatively inelastic and in the long run, the sector in question may have to face surplus production.

Increasing export of agricultural products is the obvious solution. Not only will it do away with surpluses, but it will also alleviate the problem of the deficit in the balance of trade. Some locally produced products such as tomatoes are in short supply, others, such as legumes, are unsuited for export. Still other products for example, apples and citrus fruits, are being exported and possibly could be exploited even further.

The most important agricultural commodities that are produced in Lebanon are listed in Table (1).

\(^1\) Ibid.,
TABLE I
AGRICULTURAL PRODUCTS PRODUCED IN LEBANON 1961.

<table>
<thead>
<tr>
<th>Products</th>
<th>Value</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>134</td>
<td>43</td>
</tr>
<tr>
<td>Cereals and other Grains</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>Industrial Crops</td>
<td>57</td>
<td>17</td>
</tr>
<tr>
<td>Vegetables and Legumes</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>Livestock and By-Products</td>
<td>60</td>
<td>18</td>
</tr>
</tbody>
</table>

330  100


Of these, the only two products that are exported at present are fruits and vegetables. The remaining items, though produced, locally, are not sufficient for local consumption and thus, are supplemented with imports.

Vegetables do not constitute an important export item on account of their perishability. Nevertheless some of it is exported to neighbouring countries.

Fruits seem to be the major Export possibility. Lebanon is well suited for fruit production which account for 43% of total agricultural output. In addition, Lebanese fruits form an acceptable export
item as they are of a relatively good and durable quality.

Not all fruits are good export items, because of the perishable nature of some such as apricots and grapes. Below is Table (2) which discloses that in 1962, citrus fruits ranked first in export, accounting for 55% of the total fruit products exported from Lebanon.

TABLE (2)
TOTAL EXPORT OF FRUITS IN METRIC TONS
(1962)

<table>
<thead>
<tr>
<th>Products</th>
<th>Tons</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrus</td>
<td>115374</td>
<td>55</td>
</tr>
<tr>
<td>Apples</td>
<td>70837</td>
<td>33</td>
</tr>
<tr>
<td>Bananas</td>
<td>15850</td>
<td>7</td>
</tr>
<tr>
<td>Other Fruits</td>
<td>10708</td>
<td>5</td>
</tr>
</tbody>
</table>

212769  100

To relieve the economy from the problems previously indicated, efforts should be mainly directed to improving the production and marketing of citrus fruits.
The method in which this should be done will be studied in this paper. One of the objectives of this presentation is the laying of foundations for more extensive research and studies. As no comprehensive survey of current figures, techniques and procedures has been written, as yet, it is the ambition of this thesis to fill this gap.

The present work is by necessity more descriptive than analytical. It aims at depicting the marketing of citrus fruits, from the production stage to final consumption. Chapter II briefly situates the sub-sector in question in its geographic and historical context. It also points out the most important technical problems currently faced by entrepreneurs in the fruit business. In Chapter III, the distribution facilities of citrus fruits in Lebanon are analysed in so far as local consumption and industrial markets are concerned.

The fourth chapter describes the marketing of citrus fruits in the export market, pointing out the export problems, limitations and regulations. Chapter V, analyses recent marketing developments, with special references to the Lebanese Fruit Office.
(whose efforts should not be under-estimated) and to processing plants that are becoming increasingly wide-spread.

In Chapter VI, the major problems from previous chapters are briefly summarized and recommendations are given in a general form.
CHAPTER II

DEVELOPMENT OF CITRUS PRODUCTION IN LEBANON

A - History of Citrus Fruits:

The origin of citrus fruits is not well known. It has been said by some that orange trees were originally planted in East and South Asia; others say that citrus fruits were first planted in China from where they were taken to different parts of the world. Lemons were planted first in India and were afterwards introduced to Syria, North Africa and Spain by Arabs. In the eleventh century, crusaders introduced lemons to Italy and orchards were later planted in Sicily.

Historical documents point out that citrus fruit was found in the Middle East at the end of the ninth century, and it is said that Jews introduced oranges into Palestine at the beginning of the eleventh century B.C. Travellers at different intervals of time mentioned oranges and lemons, and in 1191, British crusaders headed by Richard the Lion Hearted used to have their tents between Orange trees.

El Massoudi, in one of his books said that the orange tree was brought from India around 900 A.D.
to Ouman, and was transported by nomad caravans to Irak and Syria. Cultivation expanded afterwards to coastal regions such as Tripoli, Saida and Jaffa, depending on the concentration of inhabitants, on irrigation facilities, trade and transportation means. Other details about quality were also mentioned - Jaffa oranges were usually dry with a thick and hard skin, while Saida oranges were juicy with a thinner and more tender skin. Quality depended on Climatic conditions.¹

Mandarins were introduced only recently to Lebanon, in the second half of the eighteenth century. Grapefruits were introduced very recently, at the beginning of the twentieth century.

Ibn Battouta², in one of his travels, describes Lebanese fruits in the following:

---


²Ibn Battuta, *Arab Traveller*, Tanger 1304 – Fes 1377 went on pilgrimage to Mecca and came back to Fes 14 years later after having visited many countries.
Then I went on from there to the town of Saida (Sidon) which is on the coast a pleasant place and rich in fruits; figs, raisins, and olive oil are exported from it to the cities of Egypt. 1

Not only fruits are mentioned here, but other products of the country as well. The important aspect of the quotation is the one that shows that fruits and other products were exported to Egypt, and probably to other countries.

B - Area Cultivated:

Orchards are situated along the coastal region of the country which is a suitable cultivable zone for citrus fruits. In some places the littoral zone is wider than in others but in general width is conditioned by the width of the plain itself. The widest regions are around Tripoli and Saida, and the main orchards are concentrated in the regions described below.

In the northern part of the country orchards occupy the coastal regions around Tripoli and reach the Syrian borders at Arida, while east of

Tripoli orchards are found also along the sides of the Abou-Ali river where oranges are planted on terraces and on adjacent hills. In other parts of the northern region, orchards are found in the neighbourhood of towns such as Batroun, Jbeil and Jounieh.

Around Beirut and in some neighbouring towns orchards are very dense and the highest concentration is at Antelias. The most important plantations are found mainly in the East and South-East of the city. Damour constitutes a relatively small center where orchards spread from the sea to the first hills where terraces have been made.

In Saida the cultivated area is larger; orchards are numerous in the southern part of the city and continue along the way to Sour which is a citrus center. Orchards begin 15 Kms north of Sour and go about 8 Kms to the south.

Table (3) shows the distribution of orchards in the cultivable regions of Lebanon, namely, the North, Mount Lebanon and the South. It also shows the size of orchards and the number in each category.
### Table 3

**DISTRIBUTION OF ORCHARDS IN LEBANON**

**According to Categories - 1963.**

*(Numbers and Dunums)*

<table>
<thead>
<tr>
<th>Category</th>
<th>Area from 1 to 5 Dms</th>
<th>Area from 6 to 10 Dms</th>
<th>Area from 11 to 20 Dms</th>
<th>Area from 21 to 50 Dms</th>
<th>Area from 51 to 100 Dms</th>
<th>Area from 101 above</th>
<th>Total Area (Dunums)</th>
<th>Total Number of Orchards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>North Lebanon</td>
<td>Mount Lebanon</td>
<td>South Lebanon</td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 6</td>
<td>5820</td>
<td>2830.5</td>
<td>902.5</td>
<td>9553</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1789</td>
<td>1070</td>
<td>272</td>
<td>3131</td>
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<td></td>
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<tr>
<td>Category 5</td>
<td>7355</td>
<td>2445.5</td>
<td>1865.5</td>
<td>11666</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>910</td>
<td>319</td>
<td>238</td>
<td>1467</td>
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<tr>
<td>Category 4</td>
<td>7532.5</td>
<td>2837.5</td>
<td>3990</td>
<td>14360</td>
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<td>493</td>
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<td>3169.5</td>
<td>11133</td>
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<td></td>
<td>215</td>
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<td>337</td>
<td>652</td>
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<td>Category 2</td>
<td>2890.5</td>
<td>1280</td>
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<td>Category 1</td>
<td>3548</td>
<td>490</td>
<td>20527</td>
<td>24565</td>
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<td>96</td>
<td>117</td>
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<td>33752.5</td>
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<td>49619.5</td>
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<td>6528</td>
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**Source:** The Lebanese Fruit Office - Mr. Said Baidas.

1 One Dunum is the equivalent of one thousand square meters.
<table>
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<th>Area Owned</th>
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<td></td>
<td>Number</td>
<td>% of Total</td>
<td>Dunums</td>
<td>% of Total</td>
</tr>
<tr>
<td>From 1 to 5 dunums</td>
<td>3131</td>
<td>48%</td>
<td>9553</td>
<td>10%</td>
</tr>
<tr>
<td>From 6 to 10 Dunums</td>
<td>1467</td>
<td>22%</td>
<td>11666</td>
<td>12%</td>
</tr>
<tr>
<td>From 11 to 20 Dms.</td>
<td>949</td>
<td>15%</td>
<td>14260</td>
<td>15%</td>
</tr>
<tr>
<td>From 21 to 50 Dms.</td>
<td>652</td>
<td>10%</td>
<td>20909</td>
<td>22%</td>
</tr>
<tr>
<td>From 51 to 100 Dms.</td>
<td>212</td>
<td>3%</td>
<td>15372</td>
<td>16%</td>
</tr>
<tr>
<td>From 101 and above</td>
<td>117</td>
<td>2%</td>
<td>24565</td>
<td>25%</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>6528</td>
<td>100%</td>
<td>96425</td>
<td>100%</td>
</tr>
</tbody>
</table>

**SOURCE:** The Lebanese Fruit Office - Mr. Said Baidas.

1 The above figures were made available in 1963 by the Lebanese Fruit Office for the first time, as a result of an extensive survey.
From Table No. 3 it is revealed that 35% of Lebanon's orchards are in Northern Lebanon, 13% in Mount Lebanon, and the greater share - 51% - are in South Lebanon.

With respect to the number of orchards of any size, the northern part has 3463 orchards representing 53%. Mount Lebanon has 1702 orchards representing 26% while the Southern part has only 1363 orchards representing 21% of the total 6528. This indicates that in general, orchards are largest in South Lebanon and smallest in Mount Lebanon.

Table No. (4) introduces new elements into the picture, namely, the number of owners in relation to the size of orchards and to the total cultivable area. In Category 6 where orchards measure between 1 and 5 dunums, 48% of the total number of owners own only 10% of the cultivable land, whereas in category 1 where orchards are above 100 dunums, 2% of the total number of owners own 25% of the total cultivable area. Moreover, 15% of the total number of owners included in categories 1, 2 and 3, own 63% of the total cultivated area.
C - Production:

Until today no agricultural census has been made in Lebanon. Instead, official and semi-official institutions have assessed the areas cultivated as well as total production, using no scientific methods.

Among these bodies the figures made available at the Ministry of Agriculture concerning the production of citrus fruits in Lebanon show a wide discrepancy as compared to those of the Lebanese Fruit Office. In Table (5) are the figures of the Ministry of Agriculture, revealing a 15% increase in cultivated area in 1963 as compared to 1956 and more than 100% increase in total production over the same period. It is necessary to point out that the time necessary for a citrus tree to bear fruits is around seven years, which makes a correlation between the area cultivated and total production in one and the same year irrelevant.
### TABLE (5)

**PRODUCTION AND CULTIVATED AREA OF CITRUS FRUITS IN LEBANON - 1956-1963**

(Tons and Dunums)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cultivated Area (Dunums)</th>
<th>Oranges (Tons)</th>
<th>Lemons (Tons)</th>
<th>Others (Tons)</th>
<th>Total Products (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956</td>
<td>78,000</td>
<td>82,500</td>
<td>21,000</td>
<td>5,000</td>
<td>108,500</td>
</tr>
<tr>
<td>1957</td>
<td>79,000</td>
<td>85,000</td>
<td>25,000</td>
<td>6,000</td>
<td>116,000</td>
</tr>
<tr>
<td>1958</td>
<td>79,500</td>
<td>93,000</td>
<td>30,000</td>
<td>8,000</td>
<td>131,000</td>
</tr>
<tr>
<td>1959</td>
<td>80,000</td>
<td>115,000</td>
<td>35,000</td>
<td>10,000</td>
<td>160,000</td>
</tr>
<tr>
<td>1960</td>
<td>82,000</td>
<td>100,000</td>
<td>40,000</td>
<td>15,000</td>
<td>155,000</td>
</tr>
<tr>
<td>1961</td>
<td>84,800</td>
<td>127,000</td>
<td>57,000</td>
<td>16,000</td>
<td>200,000</td>
</tr>
<tr>
<td>1962</td>
<td>85,000</td>
<td>133,000</td>
<td>55,000</td>
<td>12,000</td>
<td>200,000</td>
</tr>
<tr>
<td>1963(1)</td>
<td>90,000</td>
<td>150,000</td>
<td>60,000</td>
<td>15,000</td>
<td>225,000</td>
</tr>
</tbody>
</table>

**SOURCE:** Ministry of Agriculture, Mr. E. Baz, Statistics Department.

*(1)* These figures are not final.
Table (6) reveals estimates made available at the L.F.O. L.F.O. will refer hereafter to Lebanon Fruit Office. Although the estimated area cultivated in 1963 differs from that of the Ministry of Agriculture by only 7%, the assessed production in the same year shows a difference of 30% with approximately 60 thousand tons being estimated by the Ministry of Agriculture in excess of the assessment made by the L.F.O.

If the volume of citrus export is added to the estimated volume of citrus consumption, the total would amount to total production in any one year. The volume of consumption in recent years is put at 40 to 50 thousand tons per annum. By adding the export figure of around 120 thousand tons in 1963 to an average of 45 thousand tons consumed locally during the same period, total production, using this method, would amount to approximately 165 thousand tons, a figure which is half way between the above discussed estimates.
<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Farmers</th>
<th>Area Cultivated (Dms.)</th>
<th>Total Production (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Lebanon</td>
<td>3220</td>
<td>3463</td>
<td>+ 7.5</td>
</tr>
<tr>
<td>Mount Lebanon</td>
<td>1503</td>
<td>1702</td>
<td>+13.2</td>
</tr>
<tr>
<td>South Lebanon</td>
<td>1295</td>
<td>1363</td>
<td>+ 5.2</td>
</tr>
<tr>
<td>Total:</td>
<td>5018</td>
<td>6528</td>
<td>+ 8.4</td>
</tr>
<tr>
<td>Unproductive Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Productive Area:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Lebanese Fruit Office, Mr. Said Baidas.
### TABLE (6)


<table>
<thead>
<tr>
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</tr>
<tr>
<td><strong>Total:</strong></td>
<td>6018</td>
<td>6528</td>
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<tr>
<td>Unproductive Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Productive Area:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOURCE:** Lebanese Fruit Office, Mr. Said Baidas.
D - Cultivated Varieties:

Refer to Appendix p. 127

Below is a table showing the production distribution of citrus fruits according to varieties and areas cultivated. The area cultivated figures for each variety were made available for the first time, by the L.F.O. in 1963.
<table>
<thead>
<tr>
<th>Types</th>
<th>Production/Tons</th>
<th>Area/Dms</th>
<th>Production/Tons</th>
<th>Area/Dms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shammouti</td>
<td>41,383</td>
<td>-</td>
<td>38,949</td>
<td>24,444</td>
</tr>
<tr>
<td>Baladi</td>
<td>30,534</td>
<td>-</td>
<td>28,686</td>
<td>16,268</td>
</tr>
<tr>
<td>Moghrabi</td>
<td>7,237</td>
<td>-</td>
<td>8,684</td>
<td>5,528</td>
</tr>
<tr>
<td>Valencia</td>
<td>5,933</td>
<td>-</td>
<td>8,449</td>
<td>6,945</td>
</tr>
<tr>
<td>Grape Fruits</td>
<td>1,964</td>
<td>-</td>
<td>2,169</td>
<td>1,266</td>
</tr>
<tr>
<td>Blood Oranges</td>
<td>181</td>
<td>-</td>
<td>6,079</td>
<td>2,646</td>
</tr>
<tr>
<td>Mandarins</td>
<td>5,937</td>
<td>-</td>
<td>7,312</td>
<td>5,641</td>
</tr>
<tr>
<td>Lemons</td>
<td>35,393</td>
<td>-</td>
<td>38,434</td>
<td>18,565</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>128,562</strong></td>
<td><strong>93,540</strong></td>
<td><strong>140,497</strong></td>
<td><strong>96,425</strong></td>
</tr>
</tbody>
</table>

**SOURCE:** Lebanese Fruit Office - Mr. Said Baidas.
E - Cost of Production:

Figures about the cost of production of citrus fruits in Lebanon, were made available for the first time in 1963. It is of interest to know the cost of production as it is an important item determining the final price of citrus products.

Most farmers do not keep records of either costs or returns; the few who do, visualize cost in terms of cash outlays only. Actual costs of production including fixed costs such as interest on land, depreciation and variable costs or growing costs which occur each year and which vary with the quantity of production, are the following:

In Damour region with different yields of 2900 Kgs/Dunum, 3400 Kgs./Dunum, 3900 Kgs/Dunum, cost of production is respectively: 33.6 P.L./Kg., 28.9 P.L./Kg., and 25.3 P.L./Kg.

In the Saida - Sour region with different yields of 2600 Kgs/Dunum, 3100 Kgs/dunum, 3600 Kgs/Dunum, cost of production is respectively: 29.7 P.L./Kgs., 25.2 P.L./Kg., and 21.8 P.L./Kg.
It can be seen from the above two paragraphs, that cost of production is higher on the whole in the Damour region as compared to that in Saida-Sour. This is due to the fact that the first region is more developed both economically and culturally than the latter, a phenomenon that makes manpower more expensive. In the south, illiteracy prevails among workers employed in relatively large estates which makes the owners enjoy lower payroll bills as well as economies of large scale.

For further details about cost of production figures refer to Appendix p. 131
CHAPTER III
MARKETING OF CITRUS FRUITS IN THE LOCAL MARKET.

A-Introduction:

The phase of economic development in which most of the developed countries are now is referred to as the "Age of Distribution" or even the "Age of Marketing".

In Lebanon, economic development can be assisted with an improvement in the channels of distribution, especially in so far as agricultural products are concerned. Adequate methods of marketing have to be devised in order to serve an increasing population whose tastes are rapidly changing together with a rise in the level of culture. Another reason why the name "Age of Marketing" is justified is the fact that marketing costs are high in relation to the final cost of a product: "In other words, it costs nearly as much to market as to make goods: of each dollar spent for goods, 51.9 cents went for production and 48.1 cents for marketing." 1

The present chapter will discuss the marketing of citrus fruits in the local market, in relation to the channels of distribution, the price structure and

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consumption. It is a greater problem to market goods properly than to produce them, and this is the main problem facing the citrus industry in Lebanon, both in local and export markets.

Farmers in Lebanon ignore usually all other functions, besides production, that affect the channeling of their products to the ultimate consumer. Later it will be shown that marketing costs are high, and that increased returns to the farmers will not come about as long as efficient marketing as defined in the following quotation is not performed:

"... that minimum input of various economic resources which will result in the satisfaction in goods and services which the consumer desires... Thus, anything which reduces the costs of marketing while maintaining or increasing the desired levels of consumer's satisfaction would then meet the requirements of increasing marketing efficiency."

B-Characteristics of Citrus Fruits Affecting Marketing:

Citrus products, unlike other products, have certain special characteristics of their own that affect marketing with respect to transportation,

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storage and channels of distribution. Some farm products are ready for the ultimate consumer when they leave the farm; others are used as industrial goods and need some processing. In Lebanon, citrus fruits are used for both direct consumption and the industrial field.

The main characteristics of citrus products are:

1. Variation in Quantity and Quality.

Due to changing weather conditions quality and quantity are affected. During unfavorable weather conditions the volume of production is reduced. Moreover, improper technical care affects quality thus leading to a reduction in income. As a result of the seasonality of agricultural products, the operations of marketing institutions is thus jeopardized.

2. Perishability.

Perishability is a characteristic of citrus fruits which needs special care as far as transportation and storage are concerned. Perishability necessitates conditioning for preservation and refrigeration. As a result marketing costs are
increased appreciably. Moreover, farmers are usually far away from markets, and lack enough knowledge of the necessary conditions for successful marketing.

Thus the marketing of agricultural commodities depends greatly on the nature of such products and the pattern of their consumption. Besides production problems, farmers are faced with marketing problems that necessitate the use of indirect methods of sales which are "those methods of marketing which involve the use of middlemen, as opposed to those in which sales are made directly to final users by producers or manufacturers. In the case of agricultural consumers' goods, the term is used frequently, perhaps, in referring to the use of wholesale middlemen, as contrasted with sales directly to the retailers or to consumers.¹

C. Lebanese Market Structure:
1. Local Consumer Market,
   a. The Leasor: There are different channels

¹Phillip & Duncan, op.cit., p.337.
of distribution that are used in marketing citrus fruits in Lebanon. Most farmers rely on these different channels, and their products reach the ultimate consumer after having passed through certain intermediaries. Thus, "a channel of distribution, also known as a "trade channel", consists of middlemen and any other buyers or sellers involved in the process of moving goods from producers to consumers."¹

Beginning with August and until early September of each year, citrus orchards are leased to people called regional brokers. These have knowledge about the market, know the conditions of orchards, the way the farmer is keeping up with its treatment, the varieties cultivated in different regions, and the quality of the crop. The leasor, referred to earlier as regional broker, gets in contact with the farmer in order to lease his orchard. An estimate of the production is made before an agreement is reached between the two parties.

The farmers has then either to accept the offer or bargain with the leasor for the price set or the quantity estimated.

¹ Ibid., P. 40.
In other cases there is a tender for the crop. All those who are interested to bid visit the orchard to estimate production, and assess quality. By the end of the bid, the farmer will lease his orchard to the person who has given the best overall conditions, of which price is the most important.

Leasors have to pay usually a down payment amounting in most cases to 1/3 of the agreed amount. The other 2/3 are paid later on, one payment around February and the second around the end of March. The leasor usually signs promissory notes for the two instalment payments.

Once the down-payment is made and the two promissory notes are given to the farmer, the leasor acquires a title to the crop. From that time on he has to look after the orchard, and pay all expenses related to guarding and supervision until harvest time. The farmer during that period has little to do besides the routine work such as ploughing and irrigating.

Harvesting costs and all marketing costs are from that stage on, incurred by the leasor.
The owner will cease to worry about marketing his produce. It becomes the leaser's job to pick, handle and market the fruits as he sees fit. The crop is usually estimated and a margin of 20 to 30% is deducted to cover the risk of possible losses that may be caused by natural factors during the growing season.

This safety margin becomes an additional source of revenue to the leaser when losses are below the margin allowed. Damaged fruits are considered as second class quality and are sold in local markets at reduced prices. In other cases, adverse climatic conditions or other destructive factors such as parasites, might eliminate the safety margin of 20 to 30% and even exceed it.

Leasors finance their operations from different sources. Usually the leaser makes available the down-payment from his own savings, or in most cases he manages to get the money from a wholesaler either in form of an advance for future deliveries of fruits or as part of the capital in case the two are partners. The second and third payments, for which promissory notes had been given, are financed in due course from the sale of the crop.
Some of the orchard's owners do not follow
the lease method, but prefer to sell directly a
definite quality to exporters. In this case prices
offered are higher than those paid for the local
market but it becomes the responsibility of the
farmer to take care of the orchard, and all expen-
ses relative to harvesting and handling are incurred
by him. The quantity agreed upon is received by
the buyer in the farm. In some cases, the buyer
shares in some of the expenses, depending on the
terms of the agreement.

As mentioned previously, once the leasor
acquires title to the crop, it becomes his respon-
sibility to market the goods, and all risks involved
are his own. He picks up all fruits which fall from
trees due to natural reasons and tries to sell them
in the nearest market so as to incur the least
possible expenses. Moreover, at the beginning of
the harvesting period the leasor picks-up fruits at
the "right" moment, according to his market expec-
tations and financial needs and enters the market.

Entry to the local market is through commis-
sion agents who are located in the "Beirut Fruit and
Vegetable Wholesale Market." The Leasor will also
send fruits on his own account to his agent in the
export market. The leasor supplies the market according to his estimates. He is not obliged to pick-up all fruits immediately. Thus the leasor will be supplying the local and export markets with different qualities of fruits.

b. The Beirut Fruit and Vegetable Wholesale Market:

In the Beirut Fruit and Vegetable Wholesale Market, another middleman enters into the picture, namely, the commission agent. Business is carried out during the early hours of the day when a number of trucks loaded with fruits and vegetables come to supply the wholesale market. The market area with its poor hygienic conditions houses a large number of commission agents who perform the function of selling on behalf of the owners of goods. The commission agent's shops are small, with a table and few chairs constituting the furniture, and an old dirty register showing the daily transactions that are recorded according to a customary procedure.

The commission agent has to sell the product, in the same day it is received. Sales are done through various procedures; sometimes auctionning
is practiced after different buyers have examined the goods. In other cases sale is done through negotiations between the two parties. 

The commission agent who is normally an experienced person determines the price he will ask according to the daily market conditions. Prices in the early morning are different from those of the mid-day, and prices during a day when shortage of fruits is felt are different from those during days when fruits are abundant. The commission agent is not responsible for the products he is handling, and whatever loss or damage is caused to the goods, is borne by the leasor or owner. 

After the sale, the commission agent deducts 5% from the returns and pays the remainder to the owner. If the owner of the goods is not present, money is usually sent with the driver of the truck who takes back empty boxes to the orchard. In most cases the commission agent sells on a cash basis, but sometimes he may sell on credit to trusted clients.

c. Clients of the Fruit & Vegetable Wholesale Market:

A large part of the country is supplied by the Fruit and Vegetable Market. The main clients
of that market range from the exporters to the car peddlers or even in some cases to the ultimate consumer.

1. Retailers buy fruits and vegetables from the market, and distribute from their retail outlets that are spread all over the city, or from the main fresh fruits and vegetables retailing market "that comprises around 1500 licenced retailers"¹ and is referred to as Souk-el-Nourieh. Retailers buy usually on a cash basis, but sometimes they get credit for few days if they are known to the commission agent. Merchandise is taken in the leasors' cases, and these should be returned by retailers the next day to the agent who in turn, returns them to the orchard. Retailers transport their goods by cars to different parts of the city, or with the help of porters, when merchandise is taken to Souk-el-Nourieh.

In general, retailers practice some kind of sorting and grading, before that is done by the consumer himself who inspects every unit when choosing the necessary quantity for his consumption. Prices are set for merchandise offered for sale, and when the two grades of fruits are displayed the retailer

¹ Interview with Mr. Abou-Abd-Doughan, President of the Fruits and Vegetables Merchants Union, May, 1964.
asks for two different prices, one for each grade. Besides the main retail market at Souk-el-Nourieh, other retail markets are located in different parts of the city. The most important are at Furn-el-Chebak and in the Nahr region. These markets are constituted in turn by a number of retailers and are supplied mainly by the wholesale market of Beirut.

Citrus fruits are found usually in every grocery, as the sales of fruits in Lebanon is not limited to special shops. Oranges and Lemons are found in certain stores where quality and hygienic conditions are of a higher standard. These are the General Stores and the Supermarkets, that are developing at a fast rate to meet the requirements of the consumer in terms of quality, grading and service. Supermarkets pay more attention to sanitary and hygienic conditions, and offer the consumer facilities such as the already packed and graded "kilogram" of oranges, and the home delivery service. Prices in Supermarkets are therefore usually higher than those of ordinary retail outlets.
Citrus fruits are also distributed through specialized outlets that concentrate on the sale of fruits and vegetables. These shops are supplied either from the wholesale market with first choice quality, or directly from orchards. Prices charged in such shops are higher than in usual retail outlets and sanitary conditions are more satisfactory.

2. The second type of client at the wholesale market is the wholesale merchant who buys fruits and vegetables and transports his merchandise to different parts of the country. He makes usually an assortment of fruits and takes his fully-loaded car to retailers who buy from him daily or every other day. Sales are made on a cash basis but credit for few days might be given. If the price of empty boxes is not paid, these should be returned the next day. Some merchants buy directly from orchards when this is possible, but the wholesale market is preferred, because of the regular availability of goods and because of quality and prices.

Certain retailers in Beirut rely on such merchants for their supply in fruits. Moreover, sales to these different retailers is done sometimes by orders placed by the latter with the
merchant who is supposed to serve his client daily. By estimating their sales, such retailers can place orders for different kinds of goods and save additional expenses that would have been incurred by moving to the wholesale market.

3. The third type of client is the car peddler. There are about 1580 car peddlers in Beirut, out of which 80 only are licenced. The authorities are lenient with those operating without a licence due to their poor financial condition. The peddler usually buys from the wholesale market, and sometimes directly from farmers. He usually settles transactions in cash, but is given credit for one day if he is known to the commission agent. The peddler sorts what he buys into two different grades which he resells at two different prices. In some cases the car peddler supplies retail outlets during his first round, using his cart as a transport means, and goes back to the wholesale market a second time to buy new quantities to supply consumers later during the day. He tries to sell the goods he has in the same day, asking higher prices in the morning as compared to those in the afternoon and evening.

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1 Municipality of Beirut, Mr. Kabbani, May, 1964.
2 Interview with Car Peddler, April, 1963, Beirut.
Car peddlers have recently adopted a new sales practice. Everyday they meet in different parts of the city and for few hours form a temporary market for fruits and vegetables. Each one specializes in one kind of product and a consumer will find all the varieties he needs at cheaper prices than those offered by retail outlets.

Quantities of citrus fruits distributed by car peddlers was estimated to be as follows:

<table>
<thead>
<tr>
<th>Interviewee</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>


The average number of cases sold by every car peddler as estimated in the above table amounts to 3.4 per day. Over a working period of 100 days a year, total sales amount to 340 cases per car peddler, or 537200 cases for all of the 1580 car peddlers. Each case on average weighing 20 Kgs., the channel
of distribution in question is responsible for approximately 10 thousand tons a year. This figure may be somewhat overstated since, if expressed as a percentage of total consumption in Lebanon which amounts to around 40 to 50 thousand tons a year as stated at the end of this chapter, it would amount to 20%. It is doubtful whether Beirut car peddlers alone can be responsible for such a high percentage of citrus fruits consumption in Lebanon as a whole.

4. Industrial buyers constitute the fourth category of clients. They usually come when the market is down (in terms of prices and quality) to buy whatever raw material is available for their use. In this category are all those who buy citrus fruits for further processing. Examples of these buyers are the orange juice companies, hotels and restaurants that use orange or lemon juice. The quality and size of fruits are not of great importance here; what matters most is the price. Furthermore, certain varieties containing more juice per unit are preferred by some buyers, if juice is the ultimate use. In certain cases, industrial buyers place orders with commission agents so as to secure the necessary amount of citrus fruits when needed and a continuity of supply.
5. The last clients of the wholesale market are exporters who try to get the necessary quantities for their agents in the Arab countries' market. Citrus fruits in the wholesale market are not graded, therefore not ordinarily allowed for export. But as certain export markets, such as the Syrian, accepts ungraded citrus fruits, supply from the wholesale market has become possible to some extent. Moreover, foreign buyers themselves are sometimes present to buy whatever quantities are required for their market. Buying in the Lebanese market provides them with a saving, namely, the commission of the Lebanese exporter who has been eliminated in this way from the channel of distribution.

d. Other Wholesale Fruit and Vegetable Markets:

Other Wholesale Fruit and Vegetable Markets are found in different cities of the country such as Sour, Saida and Tripoli. They supply retailers and car peddlers whenever these exist. In other towns of the country there is a main fruit and vegetable retail market which is usually located in the center of the town. Distribution is also made through few retail outlets. In villages, however, distribution of citrus fruits is made through retail outlets only.
e. Local Marketing Problems:

Some of the problems relative to marketing are caused by the farmer himself who thinks that his job is just limited to the growing of his product, ignoring marketing altogether. The reason for this is his lack of education and his relative weak position due to the small and insignificant size of his holding. (The distribution of land areas per farmer was shown in a previous section of this work).

There are no well organized marketing agencies and the pattern of small-scale production adds to the various problems in the marketing of citrus fruits. Indeed, the small farmer has little bargaining power, since he is not in a position to affect the market considerably. This fact, added to his ignorance, makes him often the prey of unscrupulous middlemen.

i. Grading and Standardization:

One of the most important features of the local market is the absence of grading and standardization. Since the time products are harvested, they are put into containers irrespective of size, quality and other characteristics, and are sent from orchards directly to the market, without being inspected. Oranges that are not suitable for export
and that are put aside in Grading houses, are sent also to the local market irrespective of quality and size. ¹

In order to give a good impression about the quality of a case, the top layers are usually of a good appearance and impressive size. The only grading that is made is at the retailer and the car peddler level, where fruits of a same case are arranged according to two or three grades, to be offered at different prices. The commission agent who sells on a net 5% commission is not concerned about grading, his main concern is to sell daily what he receives from his supplier. Furthermore, as far as the local market is concerned, and even for certain export markets such as Syria, there are no governmental regulations with respect to grading and standardization.

There are standard cases in which citrus fruits are brought into the market, but in many instances boxes are filled without any attention to patterns of arrangement inside the box. Quality standards are difficult to establish because of the many variations relating to quality. Citrus fruits may vary according to ripeness, color and taste.

¹ Interview and visit at the Zaatari Grading House - Saida - March 1964.
With respect to packing there are no serious problems involved as the nature of the fruits concerned is not very delicate except for Mandarins which are given more care because of their sensitive skin.

The lack of grading and the absence of regulations concerning packing gives rise to certain problems associated with the nature of agricultural products. To get a good product for a relatively fair price, middlemen and the final consumer have to bargain before the transaction is settled. Moreover, bargaining in most cases is accompanied by personal inspection which is done at a late stage when fruits are already in boxes, a practice which clearly is inefficient.

When products are graded, transactions could be made faster and at less expenses. A far-away buyer could order his daily requirements, just by calling his supplier and ordering a certain grade that is needed for his customer. Moreover, the lack of grading and of a proper packaging method, results in injured products which, if left for a time, may spoil other units of the container. Injured fruits average one kilogram per case.¹

¹ Interview with Retailers, March, 1964.
The percentage of spoiled citrus fruits is felt more among Mandarins and among all other varieties when over-ripe. Thus the time of harvesting should be properly determined and proper attention should be given to the degree of ripeness.

ii. Transportation and Handling:

'Transportation of citrus fruits to the Beirut wholesale market is handled by truck from the different producing regions of the country.' Cases are piled up one over another in such a way that the weight of filled-up containers is in certain cases the cause of damage and bruising to lower layers. Moreover, 'the handling which is sometimes careless and rough causes some damage.' 'Unloading at the market and the piling of cases in the commission agent's shop, due to the limited space available, is another factor adding to the deterioration of fruits.'

'To reach the final consumer, these perishable goods are moved many times, thus an appropriate packing and a suitable means of transportation is important.' Transport may be effected by hand, by pack-animal, or motor vehicle, railway or ship. In each case, the primary requirement is
that the product must stand up to the transport satisfactorily; secondly, that it can be moved as efficiently as possible.\footnote{1} 

In local distribution there is no time problem, for citrus fruits can be delivered to consumers within a short period of time since the location of orchards is relatively near the central market.

In conclusion, farmers should pay more attention to marketing and should think of production as being an integral part of distribution. Moreover, they should realize the necessity for better presentation of their products in the market, which would minimize the necessity of over manipulating the fruits, a fact that enhances their deterioration.

2. Local Industrial Market:

Besides the local consumer market, there is the industrial local market which absorbs part of citrus production. The industrial market is developing and at the present time one firm is operating, another has a plant under construction, and other entrepreneurs are studying the possibility of entering into that field.

a. La Frutta: 'La Frutta was the first juice company established in the country. It began operations in the season 1961/62 and is now in its third year. Full capacity of the plant is around 25,000 tons, but presently the plant is facing excess capacity because of the scarcity of raw materials at low prices. The plant works only during the season when citrus fruits are available from mid October until the end of April or a little later depending on the availability of raw material.'

In its first year of operation the plant processed 6000 tons of oranges, while in the second year only 3400 tons were converted to juice. "This year", says Mr. Joseph Tayar, the owner of the plant, "quantities of oranges for juice will reach 12,000 tons". Bearing in mind that certain varieties of oranges are better than others for juice, Mr. Tayar stressed the fact that he is ready to take any variety, provided prices are suitable, in order to satisfy the increasing demand for juice especially for the Arab and the East European export markets. Prices of oranges bought for juice are relatively high as a result of the high cost of production that

1 Interview with Mr. Joseph Tayar, Owner, at the plant in Chyah, March, 1964.
farmers are facing. Oranges for industry are sometimes bought directly from the orchards, or through lesers, or from packing plants that put aside the quality that does not meet the standards for export.

'La Frutta also produces Lemon Juice; the 1963-64 production will reach more than 100 tons, most of which shall be exported. A quantity of only around 20 tons might be consumed locally. The market for orange juice is not the local one, inspite of the regulations forbidding the entry of foreign competitor juices. "The Lebanese Consumer", says Mr. J. Tayar, "ignores the qualities that a fruit juice has and prefers to drink Coca Cola and other beverages." Quantities are prepared when the plant is in operation during six months and sales are made from the stored stocks. Export markets demand various types of juices, some sweet others lighter. In the first year of operation the local market was supplied with an unsweetened orange juice, but after many complains quality had to be changed and a sweet orange juice replaced the first.

b. The Lebanon Fruit Juice Company, S.A.L.: This second company has not yet begun operations, but, according to one of the founders and largest share-
holder, Mr. Alfred Tamraz, the Company is intending to go into production by the end of 1964, when construction of the plant and the installation of machines will be completed.

If all goes according to plans, the plant will be able to take a great part of the orange production. Working for 24 hours the plant can process 200 tons of oranges; 20 hours will be spent on the different stages of production and in the remaining 4 hours all machines will be washed and prepared for a new shift, thus over a period of five months, total production will amount to 30,000 tons.

Machines that will be used will be able to do automatically and simultaneously three different jobs - the first being the extraction of juice, the second the extraction of oils from the skin, and the third the channelling of skins into special machines to be processed into cattle feed. Production of concentrated frozen juices is also planned. In preserving such juices at a temperature of -20\(^\circ\) centigrade, quality will be preserved for a minimum of five years.

D. Price Structure:

1. Structure of Local Marketing Cost Items.

The aim of the present section is to compute the citrus fruits local marketing cost items, as a
percentage of the producers' selling price in order to show the increase over and above the farmers' price.

No published data exists in respect to marketing costs of citrus fruits; hence, a direct investigation was deemed necessary. Thus, producers, commission agents including leasors and wholesalers, and finally retailers, were interviewed.

Altogether their estimates varied, figures were reconciled as far as possible and averaged out. Judgment was used whenever necessary.

The cost of the average wooden box which is used to transport citrus fruits from the orchard to the market is LL1.75. Its life expectancy is six months, roughly one season, and makes the return trip once a week, carrying, on average, a 25 Kg. load. Amortized over the number of Kgs. transported over its useful life, the cost per Kg. amounts to L.P.0.29.

Other cost items are those of picking — including transportation in orchards, and transportation from orchards to market — including loading and unloading. These amount, on average, to L.P.2 for the former and L.P.1 for the latter per kilogram.
Expressed in absolute terms, the cost items discussed so far amount to L.P.3.29. If this figure is compared to the February orange-producers' price of L.P.22 (a month chosen for its being representative of a period in which producers prices are neither too high nor too low), the L.P.3.29 would amount to approximately 15%.

Thereon, the price of citrus fruits is increased at successive marketing stages by various commissions and markups, before the fruits are finally purchased by the ultimate consumer. First the lesor sells his produce to the wholesaler at a price leaving him on average with a net profit amounting to 10% of cost. The wholesaler in turn realizes an average gross profit of 5% on his selling price.

Retailers are usually in a position to dispose of the goods, marking them up by 30% over the wholesaler's price.

To determine the relative marketing costs, the producers price has been chosen as a base. Thus, total marketing costs will amount to:
1. Cost of lesar is considered to be 100%.

2. Expenses: Cost of empty case, of picking and transportation from Orchard to Market, per Kilogram 15%

3. Net Profit of Lesar: $115 \times \frac{110}{100} = 126\%$

4. Commission of Wholesaler: $126 \times \frac{100}{95} = 132.6\%$

5. Markup of Retailer: $132.6 \times \frac{130}{100} = 172.3\%$

Retailer's price become equal to $172.3 \times 22 = 37.9$ P.L.

Marketing Costs become therefore equal to $\frac{37.9}{22} = 72.2\%$
The total marketing costs sum up to 72.2% of the producer's price which means that the consumer has to pay the retailer close to twice the price at the producers' stage. The implications of the above determined percentage shall be discussed in the final chapter.

2. Retail and Wholesale Prices:

Below is Table (9) revealing the wholesale prices of citrus in Lebanon over the period extending from 1950 to 1963 inclusive.
<table>
<thead>
<tr>
<th>Year</th>
<th>Shamouti</th>
<th>Lemons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>16 - 20</td>
<td>24 - 28</td>
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<tr>
<td>1951</td>
<td>16 - 20</td>
<td>25 - 28</td>
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<td>1952</td>
<td>20 - 22</td>
<td>22 - 29</td>
</tr>
<tr>
<td>1953</td>
<td>20 - 24</td>
<td>24 - 28</td>
</tr>
<tr>
<td>1954</td>
<td>20 - 24</td>
<td>24 - 28</td>
</tr>
<tr>
<td>1955</td>
<td>18 - 22</td>
<td>20 - 22</td>
</tr>
<tr>
<td>1956</td>
<td>20 - 24</td>
<td>30 - 35</td>
</tr>
<tr>
<td>1957</td>
<td>23 - 27</td>
<td>25 - 35</td>
</tr>
<tr>
<td>1959</td>
<td>23 - 27</td>
<td>25 - 30</td>
</tr>
<tr>
<td>1960</td>
<td>20 - 25</td>
<td>17 - 22</td>
</tr>
<tr>
<td>1961</td>
<td>23 - 27</td>
<td>20 - 25</td>
</tr>
<tr>
<td>1962</td>
<td>24 - 27</td>
<td>18 - 24</td>
</tr>
<tr>
<td>1963</td>
<td>23 - 27</td>
<td>17 - 25</td>
</tr>
</tbody>
</table>

Source: Unpublished Document, made available at the L.F.O.

N.B. 1. The above Shamouti Orange prices are those of fruits destined for export. End of season prices that are usually
high, were excluded.

2. Lemons prices are those of fruits destined for export. Beginning of season prices, that are usually high, were excluded.

The above table shows the development of prices for shammouti oranges - that constitute the major export variety - and for lemons, that are next in importance. Shammouti prices show an increase over the last thirteen years, which is due mainly to the increase in demand - unmatched by a corresponding increase in supply - for this variety in both the local and export markets. Lemon prices on the other hand show a decrease over the same period due to the increased supply of the product and to the decreased export, especially to the West European market. Export of this item, as it will be shown in a later section, is mainly directed to the East-European countries with which there are trade agreements. Moreover, the Arab countries' market is not a great Lemon Consumer.

The wholesale and retail prices shown in the tables below are those of citrus fruits in the Beirut Market in 1963. Quantities sold for these different prices are not available and the computation
of any average wholesale or retail price would thus be meaningless. A minimum and a maximum price for transactions that took place are recorded, and the difference between the two prices quoted is due to the market conditions and more specifically, to the varying availability of goods during the month. The minimum price is reached during harvest when supply is appreciably increased over a relatively short period.

Lemon prices are quoted the whole year round, except in July, with a minimum in January and a maximum around September. The Valencia orange is a late variety that is available for a short period. Its prices are relatively high due to the lack of other varieties of oranges during that period of the year and to the good shipping qualities that make it a suitable export item.

The difference that exists between wholesale and retail prices for most of the varieties, is around 30% which amounts to, as mentioned in a previous section, the retailers' markup.

E. Local Consumption of Citrus Fruits:
No definite figures are available to reveal total consumption of citrus fruits in Lebanon.
FIGURE 1
ORANGES PRICES 1950-63 Beirut
(Min. & Max.)
ORANGE PRICES
FIGURE 2

LEMONS PRICES 1950-63 Beirut

(Min. & Max.)
ORANGES
FIGURE 3

ORANGES & LEMONS PRICES 1950-63 (Beirnt)
(Min. & Max.)
LEMONS
<table>
<thead>
<tr>
<th>Variety / Month</th>
<th>Shammouti</th>
<th>Miski</th>
<th>Maourdi</th>
<th>Helou</th>
<th>Valencia</th>
<th>Lemons</th>
<th>Mandarins</th>
<th>Grape-Fruits</th>
</tr>
</thead>
<tbody>
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<td>40-55</td>
<td>40-50</td>
<td>40-50</td>
<td>55-80</td>
<td>-</td>
<td>25-40</td>
<td>100-150</td>
<td>25-40</td>
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<td>May</td>
<td>43-60</td>
<td>42-50</td>
<td>47-56</td>
<td>60-90</td>
<td>-</td>
<td>27-39</td>
<td>-</td>
<td>41-51</td>
</tr>
<tr>
<td>June</td>
<td>49-62</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>75-97</td>
<td>-</td>
<td>-</td>
<td>23-61</td>
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<tr>
<td>July</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>August</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>90-100</td>
<td>46-60</td>
<td>-</td>
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<td>September</td>
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<td>-</td>
<td>-</td>
<td>51-71</td>
<td>-</td>
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<tr>
<td>October</td>
<td>29-49</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>39-58</td>
<td>30-50</td>
<td>31-39</td>
</tr>
</tbody>
</table>

**SOURCE:** L'Économie Rurale - 1963 - Issued by the L.F.O.
### TABLE (11)

**WHOLESALE PRICES OF CITRUS FRUITS IN BEIRUT 1963**

*(PL/Kg.)*

<table>
<thead>
<tr>
<th>Variety / Month</th>
<th>Shammouti</th>
<th>Miski</th>
<th>Maourdi</th>
<th>Helou</th>
<th>Valencia</th>
<th>Lemons</th>
<th>Mandarins</th>
<th>Grape-Fruits</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>15-31</td>
<td>18-26</td>
<td>18-29</td>
<td>35-50</td>
<td>-</td>
<td>12-18</td>
<td>38-84</td>
<td>17-21</td>
</tr>
<tr>
<td>February</td>
<td>18-35</td>
<td>20-27</td>
<td>21-32</td>
<td>33-50</td>
<td>-</td>
<td>13-20</td>
<td>54-90</td>
<td>18-23</td>
</tr>
<tr>
<td>March</td>
<td>24-38</td>
<td>26-32</td>
<td>27-36</td>
<td>33-49</td>
<td>-</td>
<td>17-25</td>
<td>72-108</td>
<td>24-29</td>
</tr>
<tr>
<td>April</td>
<td>30-44</td>
<td>28-34</td>
<td>30-36</td>
<td>38-62</td>
<td>-</td>
<td>18-27</td>
<td>77-117</td>
<td>29-34</td>
</tr>
<tr>
<td>May</td>
<td>32-46</td>
<td>31-36</td>
<td>35-41</td>
<td>40-72</td>
<td>-</td>
<td>21-29</td>
<td>-</td>
<td>30-35</td>
</tr>
<tr>
<td>June</td>
<td>35-45</td>
<td>-</td>
<td>-</td>
<td>50-77</td>
<td>-</td>
<td>21-30</td>
<td>-</td>
<td>36-41</td>
</tr>
<tr>
<td>July</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>August</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>70-75</td>
<td>31-51</td>
<td>-</td>
<td>-</td>
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<tr>
<td>September</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>38-58</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>October</td>
<td>22-34</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>30-47</td>
<td>20-35</td>
<td>22-29</td>
<td>-</td>
</tr>
<tr>
<td>December</td>
<td>22-30</td>
<td>22-30</td>
<td>-</td>
<td>29-51</td>
<td>-</td>
<td>18-33</td>
<td>30-75</td>
<td>17-25</td>
</tr>
</tbody>
</table>

**SOURCE:** L'Economie Rurale 1963 - Issued by the L.F.O.
Plans for the assessment of local consumption are being studied at the L.F.O. The execution of such plans, however, is not expected in the near future, due to the lack of staff and funds.

Nevertheless, in a recent study conducted by the IRFED mission local consumption was estimated at roughly 79,000 tons and projections for the year 1957 show that consumption is expected to reach 140,000 Tons. At present, annual consumption per capita is 49 Kg. and expected to reach 59.8 Kgs. in 1957.

However, in a study made by the F.A.O. and published in Rome in June, 1963, figures of citrus fruits local consumption were made available. Average consumption for the years 1957/58 - 1958/59 was estimated to be around 46,000 tons out of a conservative production figure of 102,000 tons, while projections for the years 1970-71 show that consumption will vary between 65,000 tons and 80,000 tons out of production figures ranging from 210,000 to 230,000 tons. From the above, it appears that estimates made by both institutions are far from one another. The only accurate figure that could be obtained on citrus fruits is the export figure, all
other figures being mere estimates. Moreover, during the last three years a new element entered the field of local consumption namely, industrial consumption. Citrus fruits to be used as a raw material by La Frutta, are expected to range during the current year 1964, between 10 and 12 thousand tons. In 1965, the second fruit juice company will start operating and will thus increase local consumption by a figure that is yet to be determined.

The above figures about yearly local per capita consumption of citrus fruits seem to be very high if compared to per capita consumption in other countries. In Table (12) production, export and consumption in several countries are revealed.
<table>
<thead>
<tr>
<th>Country</th>
<th>Production(^x)</th>
<th>Export(^x)</th>
<th>Consumption(^x)</th>
<th>Population(^z)</th>
<th>Per Capita Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>4,923</td>
<td>435</td>
<td>4,488</td>
<td>180,000</td>
<td>24.9</td>
</tr>
<tr>
<td>Algeria</td>
<td>351</td>
<td>220</td>
<td>131</td>
<td>10,930</td>
<td>11.8</td>
</tr>
<tr>
<td>Israel</td>
<td>450</td>
<td>362</td>
<td>94</td>
<td>2,061</td>
<td>45.6</td>
</tr>
<tr>
<td>Lebanon</td>
<td>102</td>
<td>56</td>
<td>46</td>
<td>1,605</td>
<td>28.6</td>
</tr>
<tr>
<td>Greece</td>
<td>195</td>
<td>25</td>
<td>170</td>
<td>8,258</td>
<td>20.6</td>
</tr>
<tr>
<td>Italy</td>
<td>802</td>
<td>241</td>
<td>561</td>
<td>49,052</td>
<td>10.6</td>
</tr>
<tr>
<td>Spain</td>
<td>1,317</td>
<td>884</td>
<td>433</td>
<td>29,894</td>
<td>14.4</td>
</tr>
</tbody>
</table>


\(^x\) - Production, Export, Consumption in Thousand Tons.
\(^z\) - Population in Thousand.
\(^+\) - Per Capita Consumption Kgs.
### TABLE 12

**Production, Export, Consumption of Citrus Fruits in Different Countries during Average Years**

**1957/58 - 1959/60**

<table>
<thead>
<tr>
<th>Country</th>
<th>Production^K</th>
<th>Export^K</th>
<th>Consumption^K</th>
<th>Population^Z</th>
<th>Per Capita Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>4,923</td>
<td>435</td>
<td>4,488</td>
<td>180,000</td>
<td>24.9</td>
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<tr>
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<td>351</td>
<td>220</td>
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<tr>
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<tr>
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<td>102</td>
<td>56</td>
<td>46</td>
<td>1,605</td>
<td>28.6</td>
</tr>
<tr>
<td>Greece</td>
<td>195</td>
<td>25</td>
<td>170</td>
<td>8,258</td>
<td>20.6</td>
</tr>
<tr>
<td>Italy</td>
<td>802</td>
<td>241</td>
<td>561</td>
<td>49,052</td>
<td>10.6</td>
</tr>
<tr>
<td>Spain</td>
<td>1,317</td>
<td>884</td>
<td>433</td>
<td>29,894</td>
<td>14.4</td>
</tr>
</tbody>
</table>


^K - Production, Export, Consumption in Thousand Tons.

^Z - Population in Thousand.

^+ - Per Capita Consumption Kgs.
Per capita consumption in Lebanon according to the F.A.O. is thus 28.6 Kg. for a population of 1.6 Million. In a recent publication of the National Center of Statistics in Lebanon, the population was estimated to be 2.5 Million out of which 200 thousand are foreign residents. Taking this figure as a base and assuming that every Lebanese consumes half an orange of 100 grammes daily for a season of 150 days, total consumption per capita during a year would come out to be 15 Kgs. The whole population will thus consume 40 to 50 thousand tons per annum.

Per capita consumption of 15 Kg. is a figure which seems to be more realistic if compared to the F.A.O. figure of 13.4 Kg. being the consumption of 46 thousand tons for a population of 2.5 million.
CHAPTER IV

MARKETING OF CITRUS FRUITS IN THE EXPORT MARKET.

A. Introduction:

Citrus Fruits constitute the major item of Lebanese Agricultural exports, and with the constant increase in output, new markets have to be found to keep up production and consequently increase the contribution to national income by the agricultural sector. Although Lebanese orange production represents 0.6% of the total world production that amounts to 10 million tons, and lemons account for only 1.4% of the world output which is close to 1 million tons annually¹, citrus fruits remain for Lebanon an important item that should be given much attention in view of the fact that more than half the production is exported. Many of the good qualities that are found in Lebanese citrus fruits, such as taste and abundance in juice, are not usually promoted by exporters who seem to be interested in realizing high profits, rather than establishing long term business ties with foreign importers. Especially on the European market, competing fruits have a better reputation than Lebanese fruits, due to the fact that these lack, very often, proper display qualities.

The individual Lebanese exporter who has been making all the export up till now on his own, is in a weak position, and finds it difficult to compete with public organized bodies in the foreign markets.

Export to the Arab Countries, as it will be shown in a later part of this chapter, has been regularly increasing but with little assistance by the authorities concerned. Such a trend should not be allowed to develop haphazardly. Indeed, other Arab fruit producing countries are becoming better equipped to compete with Lebanese fruits in those Arab countries where fruits are not grown. In addition, some Arab countries that once were fruit importers are becoming self-sufficient.

B. Problems Involved in the Export of Citrus Fruits.

1. Irresponsibility and Small Scale Operation of Exporters.

Exporters are not completely aware of the advantages that packing and grading have on channelling the fruit to its final stage, that of consumption. Moreover, the small scale operation of Lebanese exporters and the lack of organization, are the main obstacles that are preventing them from becoming efficient. They are unable to make contracts with foreign importers for large quantities of citrus fruits, as the capital which is required for such large operations is not generally available with individual exporters. In addition, large quantities are
difficult to secure, in view of the fact that producers are numerous, small and widespread.

The lack of a proper export organization coupled with the fact that cost is relatively high, force very often the importer in foreign countries to look for citrus fruits outside Lebanon where suppliers are capable of meeting the requirements in terms of quantities, regularity of supply and quality of fruits and packing.

2. High Prices.

The high cost involved in the production of citrus fruits in Lebanon is reflected in a high selling price in the European markets such as Paris or Geneva where "the price of one kilogram of Lebanese oranges is around 97 P.L. in comparison to the price of 75 P.L./Kilogram for the Italian and Spanish production".

In Table (4) that appeared earlier, it was revealed that around 95% of the total number of land owners, own 59% of the cultivated area in which the maximum size of each orchard is below 50 dunums, an area which is not large enough to permit economies of scale. Moreover, labor is becoming expensive in Lebanon, as a great part of the rural population is moving to the capital where life seems easier and where jobs look more attractive.

Ibid., P.174.
Nevertheless, as mechanized practices are not generalized because of the small size of orchards, labor remains indispensable. Thus expensive labor is another item that increases cost of production. Other factors such as the high profits that exporters try to realize in addition to the different marketing costs involved in export, tend to raise selling prices even more. Price quotations are volatile to the point that often a price inquiry by a foreign importer causes fluctuations in the market price. This is so because the exporter has to secure the volume of the order from various middlemen who insist on high prices in the first bargaining round. By the time bargaining ends the impatient importer will have already secured the products needed from organized markets in other countries where one body is in charge of export at pre-set prices and export standards. Thus the Lebanese exporter often looses sales opportunities and gives a bad impression to the foreign importer who hesitates to contact him another time.

3. Lack of Proper Transportation Means.

Being perishable by nature, citrus products require adequate transportation. Transportation of Lebanese citrus fruits to Arab countries, is made usually by trucks and does not suffer from many defects, due to the relatively short
journeys that are affected.

Nevertheless, trucks are not properly equipped and in case the passage through the borders is delayed due to formalities or political disturbances, the fruits are damaged.

Sea Transportation to European markets is far from satisfactory. Non specialized ships that happen to be in the Beirut Port, are called upon to render the service. Often, the ships are not even equipped with refrigerated storage place, and before the port of discharge is reached, they often call at various other scheduled ports, a fact that delays delivery and prejudices the merchandise.

Furthermore, citrus shipments are usually small as exporters prefer to work individually, fearing that their "secrets" may be revealed to competitors. This makes it difficult for them to improve their bargaining power and benefits thereof.

Inadequate transportation is thus another factor affecting adversely the smooth distribution of citrus fruits in the export markets.

4. Other Problems.

Often, Lebanese exporters compete among themselves in the export market. Citrus fruits of the same quality and volume, are offered for two different prices at the same date. Under such circumstances, buyers loose
confidence in their suppliers and often refrain from completing transactions. The looser is not only the exporter, but the whole Lebanese economy.

Finally, Lebanese Citrus Fruits are not properly advertised in the export markets, and the quality of fruits, no matter how good, does not very often offset all the inconveniences created by the Lebanese exporter.

Export being made on an individual basis, exporters cannot be expected to advertise for their country's product. Large public corporations and governmental agencies could afford to launch world-wide advertising campaigns, as is the case of some other fruit producing countries.

The above problems are those faced by citrus fruit exporters. Nevertheless, quantities exported have been increasing during the last few years, mainly as a result of the increase in demand by Arab Countries.

C. Regulations for Export

Regulations which govern the export of citrus fruits were decreed in order to improve the standards of fruits destined for export, as conditions of entry for fruits in importing markets, especially in Europe, became more severe.

Citrus export can be done during a period of time fixed
by law. Moreover, grading and packing should be performed according to standards accepted in foreign markets. Other regulations concerning the kind and measurement of wood to be used for boxes were stated. All the above mentioned regulations are stated in the Appendix p. 145

D. Quantities Exported

1. Importing Markets.

Lebanon is exporting more than half its total citrus production to different markets of the world. The varieties exported are mainly oranges, of which shammouti has the largest share, lemons and other varieties such as mandarins and grapefruits.

The tables below show the total exports of citrus fruits since 1957, to all foreign markets:-
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oranges</td>
<td>Lemons</td>
<td>Others</td>
<td>Oranges</td>
<td>Lemons</td>
<td>Others</td>
</tr>
<tr>
<td></td>
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<td>22146</td>
<td>1072</td>
<td>1496</td>
<td>41780</td>
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<td>1475</td>
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<td>Oranges</td>
<td>Lemons</td>
<td>Others</td>
<td>Oranges</td>
<td>Lemons</td>
<td>Others</td>
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<td></td>
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<tr>
<td>Saudi Arabia</td>
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<td>167</td>
<td>106</td>
<td>3601</td>
<td>338</td>
<td>279</td>
</tr>
<tr>
<td>Jordan</td>
<td>4734</td>
<td>948</td>
<td>221</td>
<td>10090</td>
<td>2483</td>
<td>514</td>
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<td>Kuwait</td>
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<td>149</td>
<td>213</td>
<td>3854</td>
<td>384</td>
<td>274</td>
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<td>26</td>
<td>8</td>
<td>396</td>
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<td>15</td>
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<td>Bahrain</td>
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<td>20</td>
<td>6</td>
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<td>37</td>
<td>6</td>
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<td>Sudan</td>
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<td></td>
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<td>6</td>
<td>808</td>
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<td>144</td>
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<td>39</td>
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<td>Russia</td>
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<td>1109</td>
<td>3091</td>
<td>2341</td>
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<td>49</td>
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<td>Poland</td>
<td>785</td>
<td>292</td>
<td>620</td>
<td>1080</td>
<td>1040</td>
<td>2100</td>
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<td>3035</td>
<td>1167</td>
<td>2166</td>
<td>1161</td>
<td>3769</td>
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<td>400</td>
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<td>Others</td>
<td>176</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>463</td>
<td>36</td>
</tr>
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<td>TOTAL</td>
<td>42976</td>
<td>10930</td>
<td>2133</td>
<td>66471</td>
<td>15251</td>
<td>2570</td>
</tr>
</tbody>
</table>

TABLE 13
LEBANESE CITRUS FRUITS EXPORT - 1957-1963
(In Tons)

71
<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>East Europe</th>
<th>West Europe</th>
<th>Others</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>1957-59</td>
<td>56,039</td>
<td>24,831</td>
<td>21,300</td>
<td>1,000</td>
<td>56,039</td>
</tr>
<tr>
<td>1958-59</td>
<td>84,291</td>
<td>28,941</td>
<td>25,361</td>
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<td>84,291</td>
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<tr>
<td>1959-60</td>
<td>92,115</td>
<td>30,491</td>
<td>27,661</td>
<td>2,000</td>
<td>92,115</td>
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<tr>
<td>1960-61</td>
<td>111,129</td>
<td>33,981</td>
<td>31,661</td>
<td>2,000</td>
<td>111,129</td>
</tr>
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<td>1961-62</td>
<td>122,929</td>
<td>35,981</td>
<td>32,661</td>
<td>2,000</td>
<td>122,929</td>
</tr>
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<td>1962-63</td>
<td>135,002</td>
<td>37,981</td>
<td>32,661</td>
<td>2,000</td>
<td>135,002</td>
</tr>
<tr>
<td>1963-64</td>
<td>124,395</td>
<td>35,981</td>
<td>32,661</td>
<td>2,000</td>
<td>124,395</td>
</tr>
<tr>
<td>1964-65</td>
<td>117,195</td>
<td>33,981</td>
<td>32,661</td>
<td>2,000</td>
<td>117,195</td>
</tr>
<tr>
<td>1965-66</td>
<td>110,995</td>
<td>31,981</td>
<td>32,661</td>
<td>2,000</td>
<td>110,995</td>
</tr>
<tr>
<td>1966-67</td>
<td>104,995</td>
<td>29,981</td>
<td>32,661</td>
<td>2,000</td>
<td>104,995</td>
</tr>
<tr>
<td>1967-68</td>
<td>99,995</td>
<td>27,981</td>
<td>32,661</td>
<td>2,000</td>
<td>99,995</td>
</tr>
<tr>
<td>1968-69</td>
<td>95,995</td>
<td>25,981</td>
<td>32,661</td>
<td>2,000</td>
<td>95,995</td>
</tr>
<tr>
<td>1969-70</td>
<td>91,995</td>
<td>23,981</td>
<td>32,661</td>
<td>2,000</td>
<td>91,995</td>
</tr>
<tr>
<td>1970-71</td>
<td>88,995</td>
<td>21,981</td>
<td>32,661</td>
<td>2,000</td>
<td>88,995</td>
</tr>
<tr>
<td>1971-72</td>
<td>86,995</td>
<td>19,981</td>
<td>32,661</td>
<td>2,000</td>
<td>86,995</td>
</tr>
<tr>
<td>1972-73</td>
<td>84,995</td>
<td>17,981</td>
<td>32,661</td>
<td>2,000</td>
<td>84,995</td>
</tr>
<tr>
<td>1973-74</td>
<td>82,995</td>
<td>15,981</td>
<td>32,661</td>
<td>2,000</td>
<td>82,995</td>
</tr>
<tr>
<td>1974-75</td>
<td>80,995</td>
<td>13,981</td>
<td>32,661</td>
<td>2,000</td>
<td>80,995</td>
</tr>
<tr>
<td>1975-76</td>
<td>78,995</td>
<td>11,981</td>
<td>32,661</td>
<td>2,000</td>
<td>78,995</td>
</tr>
<tr>
<td>1976-77</td>
<td>76,995</td>
<td>9,981</td>
<td>32,661</td>
<td>2,000</td>
<td>76,995</td>
</tr>
<tr>
<td>1977-78</td>
<td>74,995</td>
<td>7,981</td>
<td>32,661</td>
<td>2,000</td>
<td>74,995</td>
</tr>
<tr>
<td>1978-79</td>
<td>72,995</td>
<td>5,981</td>
<td>32,661</td>
<td>2,000</td>
<td>72,995</td>
</tr>
<tr>
<td>1979-80</td>
<td>70,995</td>
<td>3,981</td>
<td>32,661</td>
<td>2,000</td>
<td>70,995</td>
</tr>
</tbody>
</table>
The above tables show that the volume of exports and the number of markets have increased continuously. The total exports increased between 1958 and 1963 from 36,000 to 130,000 tons. In 1960-61, exports decreased due to natural factors that affected production during that year.

All varieties exported did not increase to the same extent. Export of oranges that amounted in 1957 to around 42,000 tons, reached approximately 87,000 tons in 1963, which represents an increase of more than 90%. In 1957, 11,000 tons of lemons were exported against 32,000 tons in 1963 representing a 290% increase. The export of other varieties including mandarins and grapefruits did not increase considerably because mandarins are relatively delicate agricultural products that do not have good shipping qualities. Grapefruits exports are promising to increase in the future when newly planted orchards become productive. During the 1962-63 season, grapefruit exports amounted to 1298 tons representing an increase of 343 tons or 31%, over the previous season.

The following table shows the percentage distribution of citrus exports according to groups of countries and to varieties.
### TABLE 15
PERCENTAGE DISTRIBUTION OF CITRUS EXPORT
ACCORDING TO GROUP OF COUNTRIES-1957/63.

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Arab Countries.</th>
<th>East Europe</th>
<th>West Europe</th>
<th>Others</th>
<th>Total Exp. of Prod.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%O</td>
<td>%L</td>
<td>%Oth</td>
<td>%TE</td>
<td>%O</td>
</tr>
<tr>
<td>57-58</td>
<td>116.000</td>
<td>85</td>
<td>9</td>
<td>6</td>
<td>65</td>
<td>68</td>
</tr>
<tr>
<td>58-59</td>
<td>131.000</td>
<td>84</td>
<td>12</td>
<td>4</td>
<td>85</td>
<td>46</td>
</tr>
<tr>
<td>59-60</td>
<td>160.000</td>
<td>82</td>
<td>13</td>
<td>5</td>
<td>80</td>
<td>59</td>
</tr>
<tr>
<td>60-61</td>
<td>155.000</td>
<td>77</td>
<td>13</td>
<td>4</td>
<td>80</td>
<td>14</td>
</tr>
<tr>
<td>61-62</td>
<td>200.000</td>
<td>84</td>
<td>12</td>
<td>3</td>
<td>89</td>
<td>0.01</td>
</tr>
<tr>
<td>62-63</td>
<td>200.000</td>
<td>83</td>
<td>14</td>
<td>30</td>
<td>83.8</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Note:**
- O = Oranges
- L = Lemons
- Oth = Others
- T.E = Total Export
From the above table, the main export markets that are consuming Lebanese citrus fruits are revealed. The Arab countries market is undoubtedly the most important.

A document made available at the L.F.O. revealed that total imports of citrus fruits by the Middle Eastern Arab countries in 1960, amounted to around 76,000 tons of which more than 65,000 tons were imported from Lebanon. Moreover, the share of the Arab countries from the Lebanese total exports has been fluctuating around 75% with a maximum of 89% in 1961-62. The largest market among Arab countries are in order of importance, Syria, Jordan, Saudi Arabia and Kuwait. Oranges constitute the main variety exported to these markets, followed by lemons.

Next in importance, comes the East European market. Total quantities exported to that market have over the last seven years fluctuated between 8.8 and 29% of total Lebanese citrus export. Quantities imported by such a market do not result from actual consumer's demand but rather from state decisions, a fact that explains the wide fluctuations in the export of Lebanese citrus fruits to the East European countries.

The third market is the West European that has been importing quantities not exceeding 6% of the total Lebanese citrus export. Varieties exported to this market have not maintained the same proportions due to reasons discussed earlier in the problems that face citrus export.
Other markets are not considerable in importance as their share of total Lebanese citrus exports for the time being is small. Such markets may present demand potentials in the future.

Total citrus exports represents an important part of production, ranging from 48% to 62% over the last seven years.

2. Trade Procedure.

Export of citrus fruits is done in general on an individual basis, unlike other competing countries where such an activity is carried out by organized bodies that act on behalf of all exporters who meet with the requirements asked for by the authorities.

Individual exporters try to enter in contact with foreign buyers to get sales contracts. In some cases an agent buys on behalf of the importer who can then rest assured that goods purchased do meet his requirements in relation to delivery, quality, size and packing.

Trade with the Arab countries market is done on an individual basis. Exporters and importers get in contact with each other and arrange the deal. Moreover, quantities allowed for export to these countries is not restricted by any quota. Syria and Jordan allow the entry of citrus fruits in bulk, whereas Kuwait and Saudi Arabia do not accept but packed citrus fruits. For all these countries, cleanliness is required, and not more than 5% of the remains of dirt is allowed.
Trade with West Europe is done also on an individual basis, but export restrictions to these markets are more severe. Furthermore, with the new development of the European Common Market, trade with its members seems to become more difficult and laws to abide by, are becoming complicated. Nevertheless, Lebanon's relations with that new bloc are discussed officially at the present time in Brussels, by an official delegation.

Trade with East-Europe is not performed in a similar manner. Lebanese exporters have to conclude agreements with the authorities in the importing countries or their representatives in Lebanon, before any shipment takes place. Citrus fruits constitute usually an important item in trade agreements with the Eastern block. Such trade agreements are being carried out at present. Russia had its latest trade agreement signed with Lebanon on the 30th of November 1963, for a total amount of U.S.$ 6.5 million, for different commodities among which are citrus fruits. Another peculiarity of trade with these countries, is that payment has to be effected through special clearing accounts at banks whose names are stated in the agreement, in order to ensure that goods exchanged amount to the same dollars value. The Bank de Syrie et
du Liban and the Russian Foreign Trade Bank, have been chosen to act on behalf of Lebanese and Russian interest respectively.

Czechoslovakia, in its last trade agreement signed on April 23, 1963, with Lebanon, is expected to import 8000 tons of citrus fruits. The Banque de Syrie et du Liban will be in charge together with the Statni Banka Ceskoslovenska of the clearing account.

The last agreement with Poland was signed on the 11th of April, 1963. Quantities of citrus fruits to be supplied over 5,500 tons, with the Banque de Syrie et du Liban in charge of the clearing account.

It is important to note that quantities stated in such trade agreements are often not respected.

3. Size of Exporters.

Many exporters are involved in citrus fruits trade. Their number appears in Table (16).

---

1 Information taken from a copy of the agreement.
2 Information taken from a copy of the agreement.
3 Information taken from a copy of the agreement.
* The Central Bank has taken over all the clearing activities since its establishment in April 1964.
### Table 16

**DISTRIBUTION OF CITRUS FRUITS EXPORTS ACCORDING TO SIZE OF EXPORTERS**

**1963**

<table>
<thead>
<tr>
<th>Range of Quantities/Tons</th>
<th>Number of Exporters</th>
<th>Percentage of Total Exporters</th>
<th>Quantities Exported/T.</th>
<th>Percentage of Total Quantity/T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 ton</td>
<td>104</td>
<td>20.5%</td>
<td>47</td>
<td>0.5%</td>
</tr>
<tr>
<td>From 1 to 10 tons</td>
<td>102</td>
<td>20.0%</td>
<td>452</td>
<td>-</td>
</tr>
<tr>
<td>From 10 to 20 tons</td>
<td>98</td>
<td>19.5%</td>
<td>1291</td>
<td>1 %</td>
</tr>
<tr>
<td>From 20 to 50 tons</td>
<td>68</td>
<td>13.0%</td>
<td>2098</td>
<td>1.5%</td>
</tr>
<tr>
<td>From 50 to 100 tons</td>
<td>29</td>
<td>6.0%</td>
<td>1955</td>
<td>1.5%</td>
</tr>
<tr>
<td>From 100 to 500 tons</td>
<td>57</td>
<td>11.5%</td>
<td>12627</td>
<td>10.0%</td>
</tr>
<tr>
<td>From 500 to 1000 tons</td>
<td>23</td>
<td>4.5%</td>
<td>15850</td>
<td>13.0%</td>
</tr>
<tr>
<td>From 1000 and above</td>
<td>26</td>
<td>5.0%</td>
<td>89508</td>
<td>72.5%</td>
</tr>
</tbody>
</table>

**TOTAL**

| 506 | 100% | 123828 | 100% |

**Source:** Document made available in the L.F.O.

In Table (16) the number of exporters and the respective quantities exported are negatively correlated. 72.5% of the total quantities exported are handled by 5% of the total number of exporters. Moreover, 0.5% of the quantity exported is handled by more than 40% of the total number of exporters. On the whole it seems
that exporters are numerous, but this does not mean that such persons are dealing only with citrus fruits: indeed, many handle other products and sometimes own a totally different business. Furthermore, these figures indicate that almost any person can become a citrus exporter in Lebanon, unlike other countries where a minimum quantity has to be exported by an individual before he becomes an authorized exporter.

4. Quantities Exported Through Various Control Points:

The table below shows the borders control points through which citrus exports passed in 1963:

**TABLE 17**

**CITRUS EXPORT THROUGH CONTROL POINTS 1963 - Tons.**

<table>
<thead>
<tr>
<th>Control Points</th>
<th>Oranges</th>
<th>Lemons</th>
<th>Mandarins</th>
<th>Grapefruits</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saida</td>
<td>31,563</td>
<td>5,596</td>
<td>503</td>
<td>278</td>
<td>37,940</td>
</tr>
<tr>
<td>Abboudieh</td>
<td>25,012</td>
<td>2,532</td>
<td>946</td>
<td>117</td>
<td>28,607</td>
</tr>
<tr>
<td>Beirut</td>
<td>3,120</td>
<td>17,521</td>
<td>36</td>
<td>519</td>
<td>21,196</td>
</tr>
<tr>
<td>Shtoura</td>
<td>15,090</td>
<td>4,198</td>
<td>514</td>
<td>273</td>
<td>20,075</td>
</tr>
<tr>
<td>Tripoli</td>
<td>5,503</td>
<td>1,508</td>
<td>301</td>
<td>4</td>
<td>7,316</td>
</tr>
<tr>
<td>Ka'a</td>
<td>4,465</td>
<td>989</td>
<td>36</td>
<td>92</td>
<td>5,582</td>
</tr>
<tr>
<td>Arida</td>
<td>2,660</td>
<td>316</td>
<td>10</td>
<td>3</td>
<td>2,989</td>
</tr>
<tr>
<td>Beirut Airport</td>
<td>71</td>
<td>28</td>
<td>12</td>
<td>12</td>
<td>123</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>87,484</td>
<td>32,688</td>
<td>2,358</td>
<td>1,298</td>
<td>123,828</td>
</tr>
</tbody>
</table>

Source: Documents made available at the L.F.O.
The above figures show the quantities of citrus fruits that have been exported in 1963 from different exist points.

'The most important point is Saida, capital of the South which is an important citrus producer. Next comes Abboudieh, Beirut and Shtoura.'

'Quantities exported through Beirut are mainly by sea. Air transport is used to Arab Countries, but the largest quantities are sent by land through Saida, Abboudieh, Shtoura, Tripoli, Ka'a, and Arida.'

Orange exports through Saida, Abboudieh, and Shtoura, accounted respectively to 36%, 28.5% and 17% of total exports in 1963.

Lemons were mainly exported through Beirut, Saida and Shtoura from which passed respectively 53%, 17% and 13% of total exports in 1963.

E. Price Structure.

1. Local Price of Citrus Fruits for Export.

The price of oranges for export is above that of fruits destined for the local market, because the quality is on the whole of a higher standard, and because picking fruits for export involves additional costs, as more care is needed.
Estimates of the price of oranges for export are rough in most cases ranging from 26 to 28 P.L./Kg. or P.L. 4 to 6Kg. higher than the wholesale price of oranges for the local market\(^1\).

However, one of the largest citrus exporters\(^2\), calculated his figures on a scientific basis. He considered that the average price of one kilogram of oranges on trees is 26 P.L. and that a margin of 7.5% per kilogram should be charged as a loss due to bad oranges and carelessness in handling. Consequently, the price per kilogram increases to:

$$26 \text{ P.L.} \times 1.075 = 27.95 \text{ P.L.}$$

To calculate the F.O.B. price of oranges, all marketing cost items relative to export, have to be considered. This is done in the next section.

2. Marketing Cost Items:

Marketing Cost Items of citrus fruits destined for export are different from marketing costs for the local market, as regulations for export involve costly requirements, discussed in the Appendix p. 145

Export Marketing costs per case are as follows:

\(^1\)From interviews with exporters, May, 1964.

\(^2\)Mr. Mohamad Bissat, Owner of the Safa, packing plant - April, 1963.
Cost of Case 135 P.L.

Cost of grading and packing
- Water, soap, etc... 40
- Labor 25
- Paper 20
- Nails 10
- Picking 40
- Transportation to P.H. 20
- Transportation to Port 10
- L.F.O. Fee. 6 171 P.L.

Commissions:
- Leaser & Exporter 15% 45.9

**Total Marketing Cost:** 351.9 / 20 Kgs.

Thus marketing costs per kilogram amount to:

\[ \frac{350}{20} = 17.5 \text{ P.L.} \]

Having now the cost per kilogram of oranges and the marketing cost that increases the cost per kilogram by around 62%, it becomes easy to calculate the F.O.B. price.

3. F.O.B. Prices:

F.O.B. prices of oranges are arrived at by different ways. Having the producer's price of oranges amounting to 27.96 P.L./Kg. as computed by Mr. Bissat referred to earlier, and all marketing cost items relative to export amounting to 17.5 P.L./Kg as computed above, the F.O.B. price becomes equal to:
27.95 + 17.5 = 45.45 P.L./Kg.

Moreover, another exporter\(^1\), gave the F.O.B. price as a lump sum amounting to 950 P.L. per case of 20 Kgs. which makes the price per kilogram:

\[
950 : 20 = 47.5 \text{ P.L./Kg.}
\]

Furthermore in a sales offer, made by the Tyr Cooperative\(^2\), the F.O.B. price was LL. 14.50 per case of 32 Kgs.:

\[
\text{Price per kilogram} = 14.50 : 32 = 45.3 \text{ P.L./Kg.}
\]

In the study referred to above, Mr. Bissat gave two F.O.B. prices, the first for a case of 20 Kgs. and the second for a case of 32 Kgs. These are as follows:

\[
15.46 : 32 = 48.3 \text{ P.L./Kg.}
\]
\[
9.10 : 20 = 45.5 \text{ P.L./Kg.}
\]

Marketing costs for the 32 Kgs case are higher than the 20 Kg. case, these are respectively 650 P.L./case and 350 P.L./case.

Different F.O.B. price from various sources are thus:

- First Computation 45.4 P.L./Kg.
- M.F. Hatoum 47.5 P.L./Kg.
- Tyre Cooperative 45.3 P.L./Kg.
- Mr. Bissat, M. (48.3 P.L./Kg. 45.5 P.L./Kg.)

\(^1\) Mr. Faris Hatoum, April 1963.

\(^2\) The Tyr Cooperative will be mentioned later.
Thus F.O.B. prices range from 45.3 P.L./Kg. to 48.3 P.L./Kg. the difference being due to several factors such as the cost per case, the quality of fruits and the packing procedure.

4. Citrus Fruits F.O.B. price in the World Market:

The following table shows the F.O.B. prices of citrus fruits in Israel, Italy and U.S.A.:

<table>
<thead>
<tr>
<th>Year</th>
<th>Israel</th>
<th>Italy</th>
<th>U.S.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>10.2</td>
<td>6.8</td>
<td>10.9</td>
</tr>
<tr>
<td>1951</td>
<td>11.1</td>
<td>9.2</td>
<td>9.3</td>
</tr>
<tr>
<td>1952</td>
<td>9.4</td>
<td>6.7</td>
<td>10.7</td>
</tr>
<tr>
<td>1953</td>
<td>11.0</td>
<td>7.2</td>
<td>11.4</td>
</tr>
<tr>
<td>1954</td>
<td>12.2</td>
<td>8.7</td>
<td>11.7</td>
</tr>
<tr>
<td>1955</td>
<td>12.7</td>
<td>7.4</td>
<td>12.6</td>
</tr>
<tr>
<td>1956</td>
<td>14.4</td>
<td>10.4</td>
<td>11.6</td>
</tr>
<tr>
<td>1957</td>
<td>15.6</td>
<td>9.0</td>
<td>13.7</td>
</tr>
<tr>
<td>1958</td>
<td>12.4</td>
<td>6.7</td>
<td>12.0</td>
</tr>
</tbody>
</table>

Source: F.A.O. Annual Reports.
From the above table it is revealed that world F.O.B. prices for oranges are cheaper than those in Lebanon.

In only one case the Israeli price of 1957 (15.6 x 310 = 48.3 P.L./Kg.) was greater than Lebanese prices.

5. Transportation Cost:

Transportation costs to the export market is another marketing cost that should be included over and above F.O.B. prices.

Transportation by sea is mainly effected from Beirut by vessels with hulls that are only ventilated. The safe period for export is from the 15th of November until around the 15th of March when the weather is still relatively cool. On the other hand, transportation to most Arab countries is done by trucks that have usually no adequate conditioning facilities to preserve fruits while crossing the desert. Nevertheless, damage to fruits is more pronounced when these are transported by sea.
<table>
<thead>
<tr>
<th>From Beirut to</th>
<th>By Sea</th>
<th>By Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marseilles</td>
<td>LL. 40</td>
<td></td>
</tr>
<tr>
<td>Trieste</td>
<td>LL. 40</td>
<td></td>
</tr>
<tr>
<td>Genoa</td>
<td>LL. 40</td>
<td></td>
</tr>
<tr>
<td>Le Havre</td>
<td>$ 19</td>
<td></td>
</tr>
<tr>
<td>U.K.</td>
<td>£ 10</td>
<td></td>
</tr>
<tr>
<td>Scandinavian Countries</td>
<td>$ 29</td>
<td></td>
</tr>
<tr>
<td>Socialist Countries</td>
<td>Charters</td>
<td></td>
</tr>
<tr>
<td>Persian Gulf</td>
<td>£ 12</td>
<td></td>
</tr>
<tr>
<td>Syria</td>
<td></td>
<td>LL. 15</td>
</tr>
<tr>
<td>Jordan</td>
<td></td>
<td>LL. 25</td>
</tr>
<tr>
<td>Iraq</td>
<td></td>
<td>Dinar 10</td>
</tr>
<tr>
<td>Kuwait</td>
<td></td>
<td>Dinar 14</td>
</tr>
<tr>
<td>Saudi Arabia - Dammam</td>
<td></td>
<td>Dinar 15</td>
</tr>
<tr>
<td>Saudi Arabia - El-Riad</td>
<td></td>
<td>Dinar 17</td>
</tr>
</tbody>
</table>

Source: L.F.O.

1 Refrigirated Ships
F. **Competition and Prospects in the Export Market**

1. Arab Countries Markets.

The Arab countries market is the most important. In Table (15) it was pointed that total quantities exported ranged from 65% to 89% of the total export. Competition in these countries is not felt greatly, as these are the natural customers of Lebanon due to their geographic position.

Transportation cost incurred by other citrus producing countries is the main factor that hinders competition against Lebanese products. Nevertheless, Syria and Jordan began establishing citrus orchards few years ago.

Syria's citrus orchards are being established in the northern coastal regions of Lattakia. There are at present around 600 cultivated productive hectares, another 900 hectares in the process of cultivation. Syrian citrus production amounted in 1962-63 to around 6,000 tons while consumption was approximately 60,000 tons. Moreover, the Syrian government is planning to encourage the sector in question by granting long-term loans to farmers who establish citrus orchards. As a result of such plans, cultivated area is expected to reach 15,000 hectares yielding 400,000 tons per annum. Local consumption is forecast at 100,000 tons, leaving a surplus that will be destined for export.

---

1Taken from a report prepared by Mr. Said Baidas at the L.F.O.
Jordan is the second Arab country planning to cultivate citrus fruits on a large scale. The cultivated area in 1952, was 1929 dunums and reached 10,762 dunums in 1955, and 18,607 dunums in 1962. It is estimated that Jordanian citrus production will reach in 1970 28,500 tons, a fact that will constitute a threat to Lebanese exports, if the present estimates materialize.

The Gaza district which is at present under Egyptian control is a citrus producer. Area cultivated was around 6,500 dunums in 1948, and reached in 1962 around 40,000 dunums subject to further increase.

Although Iraq produces quantities that do not satisfy its consumption, it refrains from importing citrus fruits from Lebanon, due to a disease caused by Mediterranean fly. Talks with the Iraqi government were conducted by the Lebanese Fruit Office to explain that washing, waxing and grading of fruits eliminate all such diseases. Results were not successful as the Iraqi authorities prefer not to take any risk.

Mr. Fuad Najjar, the present Minister of Agriculture,

1 Ibid.,
2 Ibid.,
stated that a complete file concerning the problem with Iraq is being prepared with more convincing arguments. Asked for his opinion about export to the Arab countries, the Minister replied that stability and favorable transit regulations are the important factors determining a continuous increase of citrus export to these countries. Competition should not be feared of, as it is being offset by an increasing population and by a higher per capita consumption.

Other Arab countries, such as Kuwait, Saudi Arabia, Qatar and Bahrain, are expected to continue importing from Lebanon, as citrus production in these countries is impossible due to climatic conditions.

2. Other Markets:

competition in East European countries is not left to individual entrepreneurs. Export to socialist countries will depend on trade agreements, prepared by the Lebanese government and the governments of the said countries.

West European countries have imported from Lebanon quantities that have not exceeded 6% of total citrus export. Competition in this market is very rough as all citrus producing countries, such as Spain, Italy, Morocco, Algeria, Israel, South Africa and others, are supplying the market with a continuous stream at competing
prices, and with requirements meeting the desired standards. Lebanon's position in this market is weak due to its high prices and to the lack of export organization.

Other markets such as the Scandinavian and African are beginning to import citrus fruits from Lebanon. It is expected that export to these countries will increase, as Lebanese citrus fruits are becoming better known in these markets.
CHAPTER V
OTHER MARKETING FACILITIES

A. The Lebanese Fruit Office.

1. Aim and Organization.

The Lebanese Fruit Office was created by a decree-law No. 41 on March 25, 1959. It was modified on August 25, 1962, and was given the following prerogatives:

The Fruit Office is in charge of the control and promotion of Lebanese fruits exports. To do so, it is entitled to take the following measures.

1. Impose quality standards for fruits destined to exportation.

2. Contribute in collaboration with the Ministry of Agriculture to the improvement of fruits qualities in order to facilitate exportation.

3. Create and undertake the management of processing plants.

4. Control private processing plants.

5. Impose technical conditions to which industries complementary to those of fruits (refrigeration etc.) shall have to abide.
6. Impose standards for the manufacture of packing cases and set their prices.

7. Organize publicity campaigns for the promotion of the Lebanese fruits export and participate in fair and exhibitions.

8. Found agencies in foreign countries.

9. Open up new channels by exporting limited quantities of fruits to new markets.

10. Design a label for choice fruits.

11. Control all exported fruits and deliver origins and phytosanitary certificates. Exportation may be forbidden if it does not conform with the established norms.

12. Grant short term credit to production cooperatives.

13. Establish contracts with foreign importers after having secured the necessary commitment from local producers or exporters for the execution of such contracts.

14. Participate in the creation of mixt companies whose aim shall be trade, the preservation or transport of fruits. The participation of the Fruit Office shall not
exceed one third of the capital of each company, and its total share in all companies shall not exceed ten million Lebanese Pounds.

Such mixt companies shall be income tax exempt over a period of ten years as from their foundation dates.

As far as organization is concerned, the Lebanese Fruit Office is managed by a Board composed of a President, a Vice-President and five members chosen as follows:

1. The President, Vice-President and two members, appointed on recommendation by the Minister of Agriculture, having to be chosen among apple and citrus producers.

2. An Argonomist appointed as a member by the Ministry of Agriculture.

3. An expert in Finance, appointed as a member by the Minister of Finance.

4. An economist, appointed by the Ministry of National Economy.

The Board is appointed by decree, issued by the Council of Ministers. Its mandate is of three years and may be renewed.
Aside from the Board, the Lebanese Fruit Office is assisted with an Advisory Council composed of 30 members appointed by decree issued by the Council of Ministers on recommendation by the Minister of Agriculture.

15. Members have to be chosen among apple, Olive and Citrus Fruit producers, of whom the President and Vice-President.

5. Members have to be chosen among fruit exporters.

5. Members have to be chosen among owners of processing plants or plants complementary to fruit production and processing.

5. Members have to be expert agronomists.

The Advisory Council meets once every two months. Its role is to study all questions relative to production, conservation, processing, transport and exportation of fruits.

It submits its reports, suggestions etc., to the Board of Directors.

Finally an executive body whose achievements shall be discussed later in this chapter, constitutes the third and probably most important administrative branch
of the organization. Headed with a Director (at present Mr. Antoine Edde) it is formed by a managerial and financial department, by a technical department and finally by a commercial department.

The income of the Lebanese Fruit Office stems from four sources:

1. An annual contribution from the General Budget.

2. A tax on exports of fruits as follows:
   - 0.5 Lebanese Piasters per gross Kilogram of packed apples.
   - 0.3 Lebanese Piaster per gross kilogram of packed citrus.
   - 1.0 Lebanese Piaster per gross kilogram of bananas whether packed or not.
   - 0.5 Lebanese Piaster per gross kilogram for any other packed fruit.
   - 25.0 Lebanese Piasters per ton of unpacked apples and citrus fruits.
   - 100.0 Lebanese Piasters per ton of packed but unprocessed apples and citrus fruits.
   - 150.0 Lebanese Piasters per ton of all other unpacked fruits.
3. The donations given by private, public, national and international institutions, subject to acceptance by the Council of Ministers.

4. Fines.
### TABLE 20

INCOME OF THE LEBANESE FRUIT OFFICE

1962-3 (In L.L.)

<table>
<thead>
<tr>
<th>Items</th>
<th>1962</th>
<th>1963</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fees from Fruits Export.</td>
<td>797,185.00</td>
<td>766,861.90</td>
</tr>
<tr>
<td>Income From Processing Plants</td>
<td>190,000.00</td>
<td>190,000.00</td>
</tr>
<tr>
<td>Income from the Government</td>
<td>750,000.00</td>
<td>800,000.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,737,185.00</strong></td>
<td><strong>1,756,861.90</strong></td>
</tr>
</tbody>
</table>

SOURCE: Lebanese Fruit Office. Mr. Fares Jabr.
2 - Practices & Techniques:

In a report issued by the Lebanese Fruit Office at the end of 1963, the main activities of the organization as from the date of its foundation were summarized. So far the Lebanese Fruit Office has effectively fought fruit trees parasites, annihilating 70% of the red caterpillars that had invaded citrus fruits, tried preliminary tests against olive fleas and undertook ecological studies of the acarians. To do so, it had to call international experts to Lebanon and send its own staff to world congresses held for improvement of fruit production. In so far as standard are concerned, the Lebanese Fruit Office has already set:

1. Standards for various types of fruits.
2. Packing standards for exportation.
3. Mechanical processing standards for citrus fruits.

As a model to fruit producers, the Lebanese Fruit Office has already invested L.L.534,875 in plants for processing citrus fruits in both Beirut and Tripoli. This has induced many individuals to do likewise.

Moreover, it has collaborated with owners of processing plants in so far as control, training, maintenance and methods of work were concerned, the result being a drop in the percentage of deteriorated
fruits from 20 and 30% to 1%, a fact that enhanced the reputation of Lebanese Fruits and increased the demand for them.

In respect of refrigerating centers, the Lebanese Fruit Office has summoned international experts from the U.S.A., England and France to study the efficiency of present installations. It has encouraged the construction of new refrigerating centers, the storing capacity of which increased from 3,000,000 cases to 6,500,000.

To improve its knowledge of fruits in Lebanon the Lebanese Fruit Office has compiled information concerning trade, world and local output of fruits. It has kept weekly and monthly records on the exportation of Lebanese Fruits and has established daily reports on the fluctuations of both local and world fruit prices. The Lebanese Fruit Office has also undertaken a non-stop investigation to be constantly aware of the quantities of stored fruits in Lebanon.

It has, moreover, estimated the annual output of apples and citrus fruits and has followed the practice of publishing relevant information in a monthly magazine "L'Economie Rurale", a weekly publication "Les Nouvelles Fruitieres" and finally in dailies and on television.
In its endeavour to enhance the export market the Lebanese Fruit Office has initiated advertising campaigns and established agencies in foreign countries. It has also studied better transport means, controlled the flow of export, concluded trade agreements and encouraged the creation of cooperatives. These moves, shall constitute, the subject matter of the next section.

3. Sales Promotion to Foreign Countries:

In its first stage, the Lebanese Fruit Office's main pre-occupation was to increase the fruit output and improve on its quality. After having secured a reasonable success in these fields, the Lebanese Fruit Office has in its second stage increased its efforts towards an increase in Fruits exportation.

As far as transport is concerned, the Lebanese Fruit Office has already ordered ten refrigerated wagons that are expected to be delivered at the end of the 1964 summer.

It has also encouraged the formation of the Lebanese Navigation Company and has studied the possibility of putting into circulation refrigerated vans for the transport of fruits into neighbouring countries.
To enhance foreign acceptability of local fruits, the Lebanese Fruit Office has created a department to control exports and to deliver phytosanitary certificates as well as certificates of origin. The department in question has in turn been inspected by a separate body to make sure that processing and quality standards are strictly observed.

Many techniques for the lowering of costs of production have been devised by the Lebanese Fruit Office in order to enable producers to supply fruits in foreign markets at more competitive prices. For the purpose of the present section, the encouragement on the part of the Lebanese Fruit Office for the creation of cooperatives has to be mentioned, even briefly. Indeed, the Lebanese Fruit Office has contributed in the drafting of the law concerning cooperatives, the advantages of distribution cooperatives and finally has taken part in the making of a program for the education of cooperators. Among its achievements in the field is the Tyr cooperative which has proven to be a success.

The Lebanese Fruit Office has taken part in various meetings in which commercial agreements were reached. Aside from urging foreign countries to put orders for Lebanese fruits, the Lebanese Fruit Office
has endeavoured to decrease customs duties levied on Lebanese Fruits in importing countries. It also requested Arab countries to raise their duties on imported non-Lebanese Fruits. During 1963, the office offered 800 gifts amounting to 9500 Kgs. of various fruits, to official personalities transiting Lebanon, to foreign news reporters, to participants in various congresses held in Lebanon and to diplomatic missions.¹

B - Grading and Standardization Houses.

1. Introduction.

The Lebanese Fruit Office was established in 1959 to control and promote Lebanese Fruits exports. To do so it was entitled to take certain measures among which, the imposition of quality standards for fruits destined to exportation, the creation and management of Grading Houses, and the control of private processing houses.

In the past, most of the packing of citrus fruits used to be made by hand usually in the orchard or field. Recently, however, several mechanical packing plants have been built. These are now used grade, wax and pack citrus fruits and apples. The Lebanese

¹ Information secured from unpublished documents at the L.F.O.
Fruit Office, as mentioned earlier, decreed, that citrus fruits could not be exported by sea unless packed in one of the automatic packing plants, that are capable now of handling more than 30,000 boxes per day.

Packaging, grading and standardization, are no more functions to be ignored and kept outside the marketing field. This was clearly stated by the Fruit Office when it imposed regulations for citrus exports.

"Packaging - with which branding and labelling are closely associated is an element of merchandising policy related primarily to product identification and consumer choice. Though serving as a protective device and as a container for a product, as well as the vehicle which carries the brand and also the label, the package is becoming increasingly recognized as an effective device of sales promotion".  

The main purpose for packaging is the preservation of fruits as they are moved from one place to another. Packaging being a facilitating function of marketing has the following advantages:

1. When there is a best way of packaging, subsequent users no longer need bother about this point.

---

2. As standardization advances and the number of container types for the various products diminishes, fewer reserve containers are required. This reduces cost allowances for storage, administration and loss.

3. It is easier to meet the changing demands of the fruit and vegetable trade when a small number of standardized containers are used than where a great many are.

4. Production and distribution of containers can be organized on a more rational basis than when containers are not standardized.

5. Stocking, loading and unloading of standardized containers can be done more efficiently than unstandardized types.¹

¹Agricultural products vary widely in terms of uniformity, according to the area in which produced. It is practically impossible to turn out a uniform product even under the best growing conditions, due to natural factors, plant diseases or soil variations. Standardization and grading are closely related activities. "The sorting of the produce until each lot contains only fruits of the same weight and quality is called grading.

The complex mechanism of fruits and vegetables marketing offer much scope for waste, confusion and direct chicanery. To restrict it to a minimum is the prime purpose of standardization.\footnote{Ibid, p.63.}

Furthermore, grading and standardization serve many purposes and are important to ultimate consumers and industrial buyers, since both are interested in buying goods of uniform quality. Marketing can be done more smoothly and the costs of buying and selling are reduced because the need for inspection, bargaining and samples is reduced. The seller knowing what the buyer wants can supply him with the right quality. Costs of transportation and storage are reduced, because only the grades worth transporting and putting in storage are provided with such services. As a result, markets become broader since transactions could be settled, on the telephone or by correspondence. In addition, paying on the basis of grades will encourage producers to improve the quality of their crop. From the financing side, grading makes it easier and less expensive because banks are usually less reluctant to loan large amounts at low interest rates where the transactions involve commodities of definitely known grades.\footnote{Phillips and Duncan, \textit{op.cit.}, pp.28 & 344.}
2. Operation of the Lebanese Grading & Standardization Houses:

There are seven processing plants operating at present in Lebanese. These are located in the coastal region and usually the nearest possible to the concentration of orchards. In Tripoli there are two plants, one is operated by the Lebanese Fruit Office and the second owned by the firm Ouaida & Co. In Beirut, the Lebanese Fruit Office is operating one plant, a second is operated by the firm Hajj Brothers and a third by the owner of La Frutta - the fruit juice Company Mr. Joseph Tayar. The remaining two are in Saida.

Messrs. Zaataris Brothers are operating one plant, and Messrs. Bsat Brothers, the other under the commercial name "SAFA". ¹

Most of the operations in these plants are automatic. The Zaataris plant is constituted of a large hall in which there are all the necessary machinery for the different stages of operations. Fruits are brought to the plant from near-by orchards by trucks. The truck is first weighed and then cases are unloaded. A moving belt carries the cases and empties fruits on a second moving belt, beside which eight employees proceed to a first

¹ Interview with Mr. Joe Azar - L.F.O. March 1964.
selection of fruits. Bad oranges are taken out manually and good units continue their way to the washing machine. These fruits are washed during three minutes with water, soap, and other chemicals. Then in another machine fruits are brushed and hot raw water is applied to them. Subsequently cold water is used. Fruits are then dried with the help of hot air and ventilators. Next a second selection is made to put aside small units and allow the remaining ones to the waxing machines that covers them with a very thin layer for preservation purposes. The following step is that of drying with hot and cold air. Fruits are then selected and controlled for a third time, before they pass through a stamping machine that prints the name of the firm, or any other desired symbol. At that stage of operation, grading becomes possible with the help of a different machine that is capable of sorting eight different sizes. Fruits are then channeled to the last stage, that of wrapping and boxing. There are two functions that are done manually, usually by young girls, who perform this function with great rapidity and skill. Filled up boxes are then closed with nails manually, and then banded mechanically with an iron band.

All kinds of citrus fruits are processed in this plant and during an eight hours shift around 4000 cases
weighing an average of 100 tons are processed. The plant is in operation for a total period of four months between November and May of each year. The number of workers varies between 100 and 120 depending on the work load.

Operations in other processing plants are approximately similar with the exception of certain devices that are peculiar to certain machines.

All plants are controlled by the Lebanese Fruit Office.

3. Cost of Grading and Packing:

As mentioned previously each case of citrus fruits destined for export has to be graded and properly packed. As a result marketing costs items for the export market are increased by a new item namely the cost of packing.

To determine the cost of grading and packing, two plants were selected.

From an interview with the owners of the Zaatari Packing House\(^1\), the following cost elements were compiled:

\(^1\) Interview with Mr. Yussif Zaatari, Saida, April 1964.
2. Labour .................................................. 25 " "
3. Paper .................................................. 20 " "
4. Case .................................................. 135 " "
5. Nails and Band ........................................ 10 " "

**TOTAL:** 230 " "

6. Cost of Packing ................................. 20 " "
7. Cost of Transportation from Orchard to P.H. .... 20 " "
8. Miscellaneous ................................. 25 " "

\[ \text{TOTAL: } \ 295 \ " \ " \]

The cost shown above are those for a case of 20 Kgs. of citrus fruits. Some cost elements may change from one packing house to another. Cost of labor is greater in a plant situated close to Beirut, such as the La Frutta Plant where Labor cost is 40 P.L./Case, than in Hida or Tripoli where Labor is abundant and cheaper.

Moreover, the cost of the empty wooden case given above is for a small case, whereas a larger case costs around 175 P.L. Taking into consideration these differences, cost of packing at the La Frutta (Tayar) plant are:-
1) Cost of water, Soap, Wax, Electricity, and Depreciation .................. 40 P.L./Case

2) Labour ........................................ 40 " "

3) Paper ........................................... 33 " "

4) Box ............................................. 175 " "

5) Nails and Band ................................. 15 " "

**TOTAL:** 303 " "

6) Cost of Picking ................................. 80 " "

7) Cost of Transportation from Orchard to P.H. .... 30 " "

8) Miscellaneous ................................. 25 " "

**TOTAL:** 438 " "

The costs shown in this second computation are those of a 30 kgs. case. In computing the cost of packing per kilogram, and inspite of the differences in some cost items such as labor, cost amounts to 14.7 P.L./Kg. in the first case as compared to 14.6 P.L./Kg. in the second.

C. Cooperatives:

1. New Development:

Among the many projects devised by the Lebanese Fruit Office to improve both production and distribution of Lebanese Fruits, cooperatives seem to have gained acceptance among farmers who are expected to group themselves into such institutions in the coming years at a fast rate.
Aside from the methods of management inspired by the Lebanese Fruit Office to assist farmers into grouping themselves into well functioning units, the L.F.O. is also endeavouring to bring financial assistance to cooperatives. In a project law subject to enactment in the very near future, the L.F.O. puts for itself the following financial tasks:

It shall grant short term loans to cooperatives at rates of interest not exceeding 1% annually provided the following conditions are fulfilled:

1. Loans can only be given to cooperatives upon their requests.

2. Loans can only be granted to cooperatives that enforce their laws on their members who are expected to supply the organization with the total of their output before it is marketed.

3. A loan cannot exceed half the value of the expected production of cooperative members. An estimate of the crop value is to be made by agricultural experts in a report that has to be approved by the L.F.O.

4. Repayment of the loan has to be effected over a period not exceeding two months from the date of the sale of the crop.
5. The debtor has to provide the L.F.O. with a bank guarantee issued by an approved bank, the guarantee shall cover the amount of the loan plus interest.

6. The cooperative shall have the right to charge its members a 1% interest per annum on the loan it contracted on their behalf, over and above the 1% to be paid to the L.F.O.

2. Tyr Agricultural Cooperative for Citrus, Bananas, and Vegetables Producers:

The Tyr Cooperative was established by 31 Farmers on 17.5.63. It is the first Cooperative in Lebanon that deals with production and marketing of citrus fruits. Funds have so far accumulated to L.L.102,575, or approximately half the required amount. The Board of Directors is constituted by the following members:

Dr. Saadalah El-Khalil - President
Mr. Hussein Kawas - Secretary
Mr. Mohamad Shamout - Treasurer
Mr. Mounir Arab - Vice-President
Mr. Ali Shamout - Vice-President

The Board held twelve meetings during which various problems relative to production and marketing were discussed. As a result of these meetings, problems
that needed the help and advice of the Government were
summarized and submitted to the concerned authorities.
These dealt with various problems such as the increas-
ing labor cost that forced management to decrease the
number of workers, a fact that had adverse repercussion
on the optimum utilization of the cultivable land. The
Government, it was suggested should seek to reduce the
prices of agricultural machinery and fertilizers that
are essential to the development of orchards. Moreover,
it was pointed out that middlemen are taking a large
share of the profits that would normally belong to the
farmers. To avoid such an abuse, farmers should be
helped in marketing their products, and granted short
term loans to facilitate this operation. Another
increasingly expensive cost item is that of transpor-
tation. Indeed, diesel vehicles were prohibited and
the use of tractors was confined by law to the orchard;
tractors used to perform, in the past, part of the
transportation function, that of pulling a small loaded
wagon from the orchard to the storage place. The ser-
dices of the tractor, it was suggested, could be needed
to transport some agricultural materials within the
regions of the cooperative. Furthermore, a criticism
was directed to the Lebanese Fruit Office that imposes
a fee on exported products, whereas similar institutions
help farmers in other countries, often by granting them export subsidies - sources. It was recommended that interest on farmers' loans should not exceed 6% per annum. To deal with technical problems that face cooperatives it was suggested that agricultural advisors should extend their services.

A first sales offer by the cooperative was recently recorded at the Lebanese Fruit Office, acting as an intermediary:

15,000 Boxes of Oranges - 31 - 32 Kgs./Box - F.O.B. Beirut at 14.50 L.L./Box.

15,000 Boxes of Lemons - 32 - 33 Kgs./Box - F.O.B. Beirut at 15.50 L.L./Box.

8,000 Boxes of Grapefruits - 30 Kgs./Box - F.O.B. Beirut at 14.50 L.L./Box.

During its first year of operation the Tyre Cooperative Received a total of 6500 Tons of Citrus Fruits from its different members.¹

It is hoped that other cooperatives will be formed in the future in order to overcome problems related to production and marketing.

¹ Information secured at the L.F.O. and the Ministry of Agriculture.
D. The Mixed Company:

Aside from the assistance the Lebanese Fruit Office is giving for the promotion of cooperatives, the L.F.O. is endeavouring to establish, with the help of other governmental departments and the public, a mixed company, limited in liability, whose objects would be to perform any function related to the selling, transporting, storing, refrigerating, canning, etc., of fruits. Over the period necessary for the establishment of such a company, the L.F.O. shall be chairman of the Board and Managing Director.

The minimum capital required for the adequate functioning of this Company shall be 9 Million Lebanese Pounds, of which the L.F.O. shall subscribe for one third. Each share shall have a maximum par value of fifty L.L.

In the event demand for subscriptions exceed the number of shares offered, the founders may limit the number of shares that may be held by any subscriber, provided fruit producers are given priority over all others. The L.F.O. shall be forbidden to sell its shares and shall have to contribute to any capital increase, funds amounting to one third of such increase.

Cooperatives may ask the mixed Company to sell its produce on a consignment basis provided the mark-up
does not exceed 5%. The company shall accept only fruits with good export qualities, in conformity with the standards established by the L.F.O.

Where a minimum selling price of fruits is guaranteed by the Lebanese Fruit Office to producers, the Company shall be requested to perform the selling function against a commission not inferior to 3% and not exceeding 5%.
CHAPTER VI
CONCLUDING NOTE

The citrus fruits producer in Lebanon is incurring losses. Despite the fact that his cost is 25.3 P.L./Kg. (Kindly refer to p. 140) his selling price is on average only 22 P.L./Kg. Paradoxically, the producer has remained in business. One reason could be that he visualizes costs as cash disbursements which make him unaware of depreciation charges. However, since he has to pay for the replacement of his fixed assets in the long run, his total cost will remain higher than his revenue, irrespective of whether he does amortize his fixed assets or not. Clearly, the explanation of the paradox has to be found elsewhere.

Another possible explanation is that the producer must be financing his losses from past savings. Such a possibility could again be valid only over a short period since on the whole, the Lebanese producer does not own the necessary wealth to finance a deficit indefinitely, a fact which, sooner or later, would normally force him out of business.

A plausible explanation may be that among the cost items that are added up to determine actual
cost, interest is not included on average investment (Table 22) in land, terraces, farm roads, irrigation facilities, fences, windbreaks, hand tools and orchard development cost. Normally, such interest has to be taken into account in the determination of actual cost. However, as far as the farmer is concerned, such interest is very seldom physically incurred. Indeed, most of the assets he uses are either left over to him from past generations, or constructed by himself and members of his family at no other cost than the time and effort involved, subject to no monetary compensation. Very seldom is the farmer in a position to contract a loan on account of his relative poverty.

From Table 22 total interest on average investment amounts to L.L.489.50 and interest on operating capital to LL.10.10 per dönüm annually. On the assumption that L.L.400.00 represent imputed interest i.e. an amount which is not physically incurred by the farmer, his total cost would amount to:

<table>
<thead>
<tr>
<th>Fixed Costs:</th>
<th>L.L. 546.20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>400.00</td>
</tr>
<tr>
<td>Growing Costs:</td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>202.40</td>
</tr>
<tr>
<td>Labor</td>
<td>220.00</td>
</tr>
<tr>
<td>Total Cost:</td>
<td></td>
</tr>
</tbody>
</table>
With a yield of 3900 Kgs per dunum, the cost of producing one kilogram of citrus fruits would amount to approximately L.P.15, a value which excludes the imputed interest that the farmer does not incur in cash. Of course, this cost figure is not actual cost, but it leaves him on the average with a "surplus" of around L.P.7 that represent his accounting rather than economic profit. Had the producer been aware of the subtleties involved in the determination of true profit, he would probably have either tried to raise his selling price or channel his capital and effort into some more profitable alternative.

Supposing the farmer increases his selling price by L.P.7, would the retail price be affected? It is difficult to be categorical on this point but there are sufficient grounds to argue that the retail price would not increase by the full increase at the producer's level. Fruits not being of a primary necessity, the demand for them cannot be infinitely inelastic. The increase in the price at the producer's stage would act as a tax imposed on the wholesaler; it can be partly shifted forward, but not totally. In the export market, the above analysis does also apply, Lebanese citrus fruits being already too expensive as compared to competitors'.
Clearly, therefore, the price increase shall be absorbed beyond the producer's stage. Part of it shall be borne by middlemen in form of a decrease in their net profit and part by the ultimate consumer. Obviously, an increase in the producer's price would amount to a decrease in marketing costs.

If the producer is not advised as to what course of action he should take, he will most probably maintain the status quo, thus keep on incurring economic losses. The phenomenon in itself, is an economic evil as it clearly reveals an ill distribution of factors of production and therefore a waste of resources. What should be done to bring an adequate solution to the problem? Should the producer be advised to raise his selling price? Should the government step in and force marginal producers to close down or produce some other type of agricultural product in order to decrease supply and thus raise price to an economically acceptable level? Or are there still other courses of action that may be more profitable?

To begin with, it would neither help the producer nor the economy at large to advise the producer to raise his price. Indeed, a rise in price can be attained only by decreasing supply, Other things remaining equal. This would have two immediate effects aside from the
fact that consumer's standard of living shall fall: First, unemployment in the agricultural sector would result in the short run, a phenomenon that would probably increase migration to the already overpopulated cities. Second, in the export markets, Lebanese citrus fruits, would become even less competitive, putting the economy in a worse position as far as the balance of trade is concerned.

An alternative would be, instead of closing down completely some orchards, to make use of both capital and manpower by diverting them into the production of other agricultural products. However, the lands on which citrus fruits are grown, are suitable only for bananas and vegetables, both of which are plentiful in Lebanon and cannot easily be exported due to their relatively high degree of perishability.

What could therefore be done? Having rejected the possibilities that would make prices of citrus fruits higher, the feasibility of reducing producers' costs has to be examined. Indeed, if producers can be helped in decreasing their costs, they would not only be better off, but would also be performing a more useful economic function.
The Lebanese Fruit Office is trying its best to help reduce cost of production. More power should be given to that institution if tangible results are to be arrived at. Together with the appropriate ministries, the L.F.O. should undertake training programs on a large scale. It should supply the producer with scientific knowledge concerning his land and terrace development and provide him with time and motion studies for an optimum use of his tools. It should give him advice as to what sort of fertilizers are best suited for his land together with relative and absolute quantities to be used. It should make him more aware of fruit parasites and convince him of the necessity of using spray materials appropriately. It should guide him as to the frequency and methods of sanding and of the number of yearly irrigations. To sum up, the producer should be made aware of the best combination of factors of production to be used in order to arrive at the optimum where average cost is lowest.

Efforts should also be exerted to help the farmer financially. Loans at low interest rates should be granted and rewards given to him in lieu of an inducement that would encourage him to arrive at certain predetermined standards.
The above suggestions, if implemented, will almost certainly lower cost of production. For the benefit of the economy at large, a decrease in the cost of production is not sufficient. What is even more essentially needed is a reduction in selling prices that would not only raise the standard of living of the local consumer but would also increase export thus helping to cure a basic disequilibrium of the economy, i.e. the chronic deficit in the balance of trade.

The best recommendation that can be given is the creation of citrus fruits cooperatives that would at the same time reduce cost of production and selling price. Indeed, well organized cooperatives can enjoy better financial terms, greater bargaining power with their supplier and economies derived from scientific applications of agricultural techniques. On the selling side, cooperatives can eliminate unnecessary middlemen and enjoy the many benefits of a well managed firm, in fields such as communication, bargaining power and reliability.

Other recommendations concerning better methods of production and marketing have already been implicitly suggested in earlier chapters. No doubt, if enforced or applied, these methods cannot but offer advantages to
producers, local consumers and importers in foreign countries. Suggestions have covered the fields of standardization, packing and handling.

To blame the Lebanese government for all the short comings at a time when efforts are being exerted to solve the existing problems is unfair. Indeed, if the Government is in part responsible, both producers and marketing people are also to blame. In other contexts, individualism may be looked upon as a recommendable behavior. Here, it cannot but be adversely criticized. Indeed, cooperatives have so far not been as successful as expected mainly on account of producers' individualism that makes them reluctant to be part of an organization with present rules and regulations. Mergers that would have allowed producers to benefit from large scale economies have been prevented by individualism. Such an attitude has also prevented exporters from operating but on their own, refusing the cooperation of others and fearing government interference. True, a project for the creation of a mixed company is under study. It would be able to make contacts with foreign importers at definite prices. Such a company, grouping farmers, exporters and the L.F.O. would look at the interests of all parties concerned, preventing farmers and exporters from being at the mercy of one another.
This same company would be in a position to perform all marketing functions such as grading, packing, transportation, storage and promotion. The question that calls for an answer is: Would the individualism of producers, middlemen and exporters permit the company to operate smoothly? It is doubtful, judging from past experience, whether a positive answer could be given.

Ideally and as suggested by the Minister of Agriculture, the concept of cooperative societies should be developed in a first stage to be supplemented with the idea of mixed companies. In this way first production and then marketing systems can be improved. This may require some government interference which the individualism of some entrepreneurs in Lebanon have always rejected without being able to offer anything constructive instead. The individualism of Lebanese entrepreneurs in the citrus fruit industry has always been a handicap to adequate production and marketing. Although in other fields individualism may be looked upon as a positive attitude towards life, it cannot be recommended here. If Lebanon is to raise its standard of living and compete efficiently in world markets, a new outlook is necessary based on cooperation among and within the private and the public sector.

1 Interview with Mr. Fuad Najjar, Present Minister of Agriculture, April, 1964.
APPENDIX

A. CULTIVATED VARIETIES:

In Lebanon, there are about 13 varieties of citrus fruits which can be grouped into four main categories: Oranges, Lemons, Mandarins, and other varieties. Oranges constitute about 65% of the whole production, lemons about 25% and the rest is distributed among Mandarins and other varieties such as grapefruits.

a. The main varieties of Oranges are:

1. Shammouti Orange: which is called also Iffaoui and known in the European market as the Jaffa orange. This kind is cultivated in the East Mediterranean countries. It is sweet and juicy, juice constituting 46% of the weight of the fruit, it has an orange color, attractive aroma, and contains few seeds, an average of x 5 per fruit. It is a mid-season kind which is considered in rank of all characters from good to medium and account for the largest proportion of orange export.

2. Valencia Orange: The color is orange to deep orange, the aroma is mild with pleasant flavour. Juice constitutes 53% of the weight of the fruit, seeds are few, from 2 to 7 per unit.

It is a late to very late kind which has good shipping quality and is used mainly for export.
3. Baladi Orange: It has a spherical shape with a relatively thick skin. The fruit color is yellow to light orange, the surface is papillated, glossy and waxy. The Juice constitutes 55% of the total weight of the fruit, it is a mid-season fruit that has 12 to 14 seeds, with good shipping quality.

4. Blood Orange: which is called also Mawardi (Ma=water wardi=rose) has a deep orange color sometimes with red strips. Juice accounts for around 42% of the weight of fruit, the aroma is attractive with an excellent flavour, it has very few seeds average of 2 to 6 per fruit. It is a late to very late kind which has a medium shipping quality, it is therefore mainly used for domestic consumption.

5. Washington Naval: the fruit color is light green to light yellow, the surface is pitted, glossy with few ribs, juice accounts for 51% of the weight of the fruit, the aroma is weak to medium but it has a good flavour. It is a seedless fruit which is ripe early in the season, it has a good rank of all characters considered and is used mainly for shipping and dessert.

b. The Main Varieties of Lemons are:

6. Malti: has a light yellow and sometimes orange color, its surface is smooth, finely papillated and
waxy. Juice accounts for 40 to 50% of the weight. It has a strong attractive aroma and an excellent flavour, the fruit has one seed only, Malti trees unlike other varieties produce only one crop, during winter. The fruit is demanded for its juice, it has good shipping quality.

7. Assaly Lemons: the fruit color is yellow, the surface is smooth, finely papillated to papillated and waxy. Juice is 33 to 56% of the weight of the fruit which has an attractive aroma and a good flavour. Seeds per fruit range from 1 and 13. This kind produces a summer and winter crop, is used mainly for juice and has a good shipping quality.

8. Eureka Lemon: The fruit color is yellow, the surface is finely papillated and waxy, the aroma is strong and pleasant. Juice is 36% of the fruit weight, seeds are few and average to one per unit, it is a mid season kind used mainly for juice and has good shipping quality.

C. The Main Varieties of Mandarins are:

9. Yousef Afandi (Mediterranean Mandarin): The fruit color is yellow to light orange, the surface is
papillated, glossy and waxy, segments amount generally to 10 per fruit with slight adherence to each other. Juice is 38% of the fruit weight, there is a strong attractive aroma and a good flavour, seeds are 19 per unit. It is a mid season fruit with poor shipping quality, which is used mainly for dessert and sometimes to flavour orange juice and lemonades.

10. Clementine: fruit color light yellow flushed on side, the surface is coarsely pitted, glossy with no ribs and furrows, segments average to 9 ranging from 8 to 10 per fruit with slight adherence to each other. Juice is 53% of the weight of the fruit, which has an attractive aroma and a good flavour. Its seeds average to 9 per fruit. It comes early in the season and is used only for dessert.

11. Dancy Tangerine: This fruit has a uniform reddish color, with a surface which is papillated to coarsely papillated, or sometimes coarsely pitted, glossy and waxy. There are generally 10 segments per fruit with slight adherence to each other, Juice is 37% of the fruit weight, and seeds average to 7 per fruit. It is a mid-season kind used mainly for dessert, and has a poor shipping quality.
d. Other Varieties are:

12. Thompson Seedless Grape Fruit: The fruit color is uniformly yellow the surface is smooth sometimes finely pitted, glossy and slightly waxy. There is an average of 11 segments, ranging from 10 to 13 with slight adherence to each other. The Juice accounts for 45% of the weight.

B. COST OF PRODUCTION:

a. Objectives:

The study aims at determining the costs involved in the production of citrus fruits in Damour and South Lebanon, at comparing relative investments in orchard development, and relative growing cost in the two regions.

b. Methodology:

The research undertaken to find the relative costs and returns of citrus fruits in South Lebanon and Damour, was carried out by staff and students of

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1 Information, tables, and quotations, are taken from an unpublished mimeographed report, made available at the Ministry of Agriculture, prepared by Dr. E. Brough and Mr. J. Fuleihan.
the Division of Agricultural Economics and Sociology of the American University of Beirut, together with staff from the Bureau of Agricultural Economics of the Lebanese Ministry of Agriculture.

In the South, producers were interviewed to find out their costs. These were averaged for each item of cost as well as for total costs. In the selection of reliable and representative producers in the sample of farmers interviewed, judgement was used.

c. Analysis of Inputs and Outputs:

Cost items were divided into two categories, fixed costs and growing costs.

Fixed Costs:
Fixed costs were defined as "Costs that are incurred each year regardless of yield or changes in production prices". These are:

1. Interest on investment in land, buildings, irrigation facilities, machinery, fences, tools and fully developed orchard.

2. Depreciation on permanent items such as buildings, irrigation facilities, machinery, fences, tools, and the mature orchard.
3. Repairs on buildings, fences and terraces."

_Growing Costs:_

"Growing costs are those costs which occur each year and which vary with the quantity of production, such as fertilizer, water, spray, materials, and labor. These growing costs represent the average yearly costs expected over the life of the orchard after the development period. The growing costs of citrus refers to those annual costs of production of a mature citrus orchard, 8 years or more, from which all the banana trees interplanted during the period of developing the citrus orchard, have been completely removed."

Growing costs were divided into three categories: Materials, Labor and Interest on operating capital.

d. Cost Per Kilogram:

The determination of the cost per dunum is not very relevant for analytical purposes. A much more adequate costing would be that per unit of weight. Since the farmer sells his output on the basis of the kilogram, then the cost per kilogram should become the yardstick by which the farmer can judge whether he is making profit or not. A citrus producer may have a higher cost per dunum than another, yet the may
have a lower cost per kilogram. This is so if the higher cost per dunum is offset by an even higher yield per dunum. The cost per kilogram becomes smaller as yield increases because fixed costs, which are a set amount per year for each dunum are spread over a great number of kilogram.

Most farmers do not keep record of their costs and returns, and therefore, do not know whether they are making a net profit or not. Most of them think of cost in terms of cash expenditure only, they do not consider such costs items as family labor or depreciation and interest on investment.

The cost data presented in this study may be used as a guide to farmers who wish to determine their cost of production. For these cost items for which he does not have accurate data, such as orchard development costs, he may use the average cost for his region as shown in tables (22 & 23). After making the appropriate substitutions of his costs, the farmer will be able to make an estimate of his costs per dunum, which will help him calculate his cost per kilogram, knowing the yield of his area. The farmer can then compare each item of growing cost with that of the average for the
region. Thus, he may discover ways and means of reducing his cost.

The following is a table showing a comparison of average orchard development costs for citrus fruits in the south and Damour region. The study was done in 1963.
## TABLE (21)
**COMPARISON OF AVERAGE ORCHARD DEVELOPMENT COSTS FOR CITRUS IN SOUTH AND DAMOUR REGIONS**
**LEBANON-1963**
(In L.L.)

<table>
<thead>
<tr>
<th>Cost Items</th>
<th>1st year South</th>
<th>1st year Damour</th>
<th>2nd year South</th>
<th>2nd year Damour</th>
<th>3rd year South</th>
<th>3rd year Damour</th>
<th>4th year South</th>
<th>4th year Damour</th>
<th>5th year South</th>
<th>5th year Damour</th>
<th>6th year South</th>
<th>6th year Damour</th>
<th>7th year South</th>
<th>7th year Damour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Costs</td>
<td>270</td>
<td>399</td>
<td>270</td>
<td>399</td>
<td>270</td>
<td>399</td>
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<tr>
<td>Materials</td>
<td>311</td>
<td>351</td>
<td>333</td>
<td>341</td>
<td>294</td>
<td>323</td>
<td>297</td>
<td>326</td>
<td>300</td>
<td>325</td>
<td>293</td>
<td>302</td>
<td>299</td>
<td>304</td>
</tr>
<tr>
<td>Labor &amp; Machine Operating Costs</td>
<td>219</td>
<td>216</td>
<td>224</td>
<td>229</td>
<td>222</td>
<td>228</td>
<td>224</td>
<td>230</td>
<td>235</td>
<td>236</td>
<td>239</td>
<td>252</td>
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<td>Interest on This year's capital:</td>
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<td>15</td>
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<td>15</td>
<td>14</td>
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<td>14</td>
<td>14</td>
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<tr>
<td>Interest on all previous orchard development costs:</td>
<td>0</td>
<td>0</td>
<td>48</td>
<td>58</td>
<td>63</td>
<td>84</td>
<td>74</td>
<td>105</td>
<td>86</td>
<td>130</td>
<td>102</td>
<td>158</td>
<td>119</td>
<td>188</td>
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<tr>
<td>Total Cost for Year</td>
<td>814</td>
<td>918</td>
<td>890</td>
<td>1042</td>
<td>863</td>
<td>1048</td>
<td>879</td>
<td>1074</td>
<td>905</td>
<td>1104</td>
<td>918</td>
<td>1125</td>
<td>965</td>
<td>1185</td>
</tr>
<tr>
<td>Returns from Sale of Product</td>
<td>218</td>
<td>252</td>
<td>693</td>
<td>726</td>
<td>737</td>
<td>776</td>
<td>729</td>
<td>769</td>
<td>704</td>
<td>754</td>
<td>706</td>
<td>747</td>
<td>921</td>
<td>1000</td>
</tr>
<tr>
<td>Net Cost for year</td>
<td>596</td>
<td>729</td>
<td>197</td>
<td>316</td>
<td>126</td>
<td>272</td>
<td>150</td>
<td>305</td>
<td>201</td>
<td>250</td>
<td>212</td>
<td>378</td>
<td>44</td>
<td>185</td>
</tr>
</tbody>
</table>
From the above table the reader can see the different costs that are incurred in the establishment of a citrus orchard over the first seven development years. From the comparison one could see the difference in the development costs between the two regions. The total net orchard development costs in the South are L.L,1526 while in Damour they amounted to L.L,2535.

Following are two tables showing a summary of costs for citrus in the same two regions. Cost were divided also into fixed and growing. Growing costs were divided furthermore to materials and labor. At the end of each table, fixed cost, growing costs, and total all costs per kilogram, were given for different yields per dunum.
### TABLE 22

**SUMMARY OF COSTS FOR CITRUS IN THE DAMOUR REGION SEPTEMBER 1963**

<table>
<thead>
<tr>
<th>Fixed Costs:</th>
<th>Cost Per Dunum (L.L.)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest on Average Investment in: Developed Land, Terraces, and Farms Roads, L.L. 6427.00 at 6%</td>
<td>385.60</td>
<td>39.3</td>
</tr>
<tr>
<td>Irrigation Facilities, L.L. 50.00 at 8%</td>
<td>4.00</td>
<td>.4</td>
</tr>
<tr>
<td>Fences and Windbreaks, L.L. 18.00 at 8%</td>
<td>1.40</td>
<td>.2</td>
</tr>
<tr>
<td>Hand Tools, L.L. 4.00 at 8%</td>
<td>0.30</td>
<td>.2</td>
</tr>
<tr>
<td>Orchard Development Costs, L.L. 2455,00 at 8% (interest calculated on this original development cost through the 6th year)</td>
<td>98.20</td>
<td>10.0</td>
</tr>
<tr>
<td>Depreciation on Buildings, Irrigation Facilities, Fences and Tools</td>
<td>4.60</td>
<td>.5</td>
</tr>
<tr>
<td>Depreciation on Orchards, L.L. 245500 at 2% (assuming a 50 year life after full development)</td>
<td>49.10</td>
<td>5.0</td>
</tr>
<tr>
<td>Repairs on Buildings, Fences, Terraces, and Roads</td>
<td>3.00</td>
<td>.3</td>
</tr>
<tr>
<td><strong>Total Fixed Costs</strong></td>
<td><strong>546.20</strong></td>
<td><strong>55.7</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Growing Costs,</th>
<th>Cost (L.L.)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manure</td>
<td>L.L. 5.50</td>
<td>68.80</td>
</tr>
<tr>
<td>Chemical Fertilizer</td>
<td>2.5 Kgs. ammonium sulfate at 16 Ps., 1 1/2 Kgs. superphosphate at 11 Ps., 1 Kg. potassium chloride at L.L. 18 Ps.</td>
<td>37.50</td>
</tr>
<tr>
<td><strong>C/F:</strong></td>
<td><strong>106.30</strong></td>
<td></td>
</tr>
</tbody>
</table>
Spray Materials: 5/ av. 2 sprays sulfur/year at LL 7.50/ spray/dunum
av. 2 sprays org. phosphates at LL 15. 50/spray/dunum,
av. 1 spray oil at LL 15.00/spray/dunum

Sanding (LL 150.00/dunum every 10 years;
only two thirds of farmers use sand)

Water Cost
Harvesting Materials
Supports, average of 5 supports at 10 Ps/tree/3 years

Total Material Cost

Labor:
repairs on tools and Irrigation facilities
Cultivation and Weeding, 3 times, total of 10 men at LL 6.00/dunum
Pruning and Removing Branches, 2 men at LL 8.00/dunum
Fertilizing, 1 1/4 man-days at LL 6.00/Dunum
Irrigating, 10 times, 1 man at LL 6.00 for 5 dunums per irrigation
Spraying, 3 sprays at LL 6.00 per spraying
Proping, 1 man at LL 6.00 per dunum
Harvesting, for local market (includes hauling to the nearest road) at 1.33 Ps/Kg
Cleaning Irrigation Canals, 1 man at LL 6.00 for 3 dunums

C/F: 149.60
<table>
<thead>
<tr>
<th>Item</th>
<th>B/F</th>
<th>Cost per Dunum LL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance of Windbreaks</td>
<td></td>
<td>149.60</td>
<td></td>
</tr>
<tr>
<td>Guarding and Supervision</td>
<td>1.50</td>
<td>40.00</td>
<td>4.4</td>
</tr>
<tr>
<td>Miscellaneous Labor Costs</td>
<td>7.80</td>
<td></td>
<td>.8</td>
</tr>
<tr>
<td><strong>Total Labor Costs</strong></td>
<td></td>
<td><strong>220.00</strong></td>
<td>22.7</td>
</tr>
<tr>
<td>Interest on Operating Capital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(LL. 379,30 at 8% annually for average</td>
<td></td>
<td><strong>10.10</strong></td>
<td>1.0</td>
</tr>
<tr>
<td>period of 4 months)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Growing Costs</strong></td>
<td></td>
<td><strong>432.50</strong></td>
<td>44.34</td>
</tr>
<tr>
<td><strong>Total All Costs</strong></td>
<td></td>
<td><strong>978.70</strong></td>
<td></td>
</tr>
</tbody>
</table>

Fixed Costs Are 18.8 Ps/Kg. 16.1 Ps/Kg. 14.0 Ps/Kg.
Growing Costs Are 14.8 Ps/Kg. 12.0 Ps/Kg. 11.3 Ps/Kg.
**Total All Costs**
Are 33.6 Ps/Kg. 28.9 Ps/Kg. 25.3 Ps/Kg.

1/ Typical costs based on interviews with 12 farmers.
2/ This value is half the original investment. This assumes that on the average these items are half depreciated.
2'/ Less Than 0.1 of 1%.
3/ Development costs are greatly reduced as a result of income from bananas interplanted among young orange trees through the seventh year.
4/ Costs calculated on 50 as average number of orange trees per dunum.
5/ Includes the cost of transportation to the field.
6/ This is the cost of harvesting oranges for the local market. The harvesting cost is usually 2.7-3.2 Ps. per kilo for the export markets.
7/ Cost of oranges delivered to the nearest road in the buyer's boxes.
8/ Cost of harvesting adjusted for yield.
# TABLE 23
SUMMARY OF COSTS FOR CITRUS IN THE
SAIDA-SOUR REGION NOVEMBER 1963

<table>
<thead>
<tr>
<th>Cost Per Dunum</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL.</td>
<td></td>
</tr>
</tbody>
</table>

**Fixed Costs:**

Interest on Average Investment in:

- Developed Land, Terraces & Farm Roads, LL. 4090.00 at 6%  
  245.40  31.5
- Irrigation Facilities LL.75.00 at 8%  
  6.00  0.8
- Buildings, LL.39.00 at 8%  
  3.10  0.4
- Fences & Windbreaks, LL.21.00 at 8%  
  1.70  0.2
- Hand Tools, LL.4.00 at 8%  
  -0.30  -0.2
- Orchard Development Costs, LL.1591.00 at 8% (interest calculated on 1/3 this original development cost through the 6th year)  
  61.00  7.8
- Depreciation on Buildings, Irrigation Facilities, Fences and Tools  
  9.00  1.2
- Depreciation on Orchard, LL.1526.00 at 2% (assuming a 50 year life after full development)  
  30.50  3.9
- Repairs on Buildings, Fences, Terraces, and Roads  
  4.60  0.6

**Total Fixed Costs** 361.60  46.4

**Growing Costs:**

- Materials:
  - Manure 1/3 bag goat manure per tree annually, at LL. 5.50 per bag  
    73.20  9.4
  - Chemical Fertilizer 2 1/2 Kgs/tree ammonium sulfate at 18 Ps/Kg  
    1 1/2 Kgs/tree superphosphate at 11 Ps/Kg  
    1 1/2 Kgs/tree potassium chloride at 18 Ps/Kg  
    31.80  4.1

**C/F:**  105.00
Spray Materials  5/ av.3 sprays sulfur at LL.8.00/dunum/spray
av.2 sprays organic phosphates at LL.15.40/dunum/spray
av.1 spray oil at LL.18.00/dunum/spray

Sanding LL.150.00/dunum every 10 years; 4/5 of farmers use sand
Water Cost
Harvesting Materials
Supports, average of 5 supports at 10 ps/tree every 3 years

B/F 105.00

**Total Material Costs**

<table>
<thead>
<tr>
<th>Material Costs</th>
<th>LL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>213.30</td>
<td>27.3</td>
</tr>
</tbody>
</table>

**Labor:**

- Repairs on Tools and Irrigation Facilities 4.30 .5
- Cultivation, 2-3 times, total of 8½ mandays at LL.5.00/dunum 42.50 5.5
- Weeding, 4 woman-days at LL.2.50/dunum 10.00 1.3
- Pruning and Removing Branches, 1½ mandays at LL.7.00/dunum 10.50 1.3
- Fertilizing, 1½ man-days at LL.5.00/ dunum 6.60 .8
- Irrigation, 10 irrigations at LL.75/ irrigation 7.50 1.0
- Spraying, av. 4 sprays custom work at LL.5.00/dunum/spraying 20.00 2.6
- Propping, 3/4 man-days at LL.5.00/ dunum 3.80 .5
- Harvesting for local market (includes hauling to the nearest road) 1.25 Ps/Kg. 38.70 5.0
- Clearance Irrigation Canals, ½ man-days at LL.5.00/Dunum 2.50 .3
- Maintenance of Windbreaks ½ man-days at LL.5.00/dunum 2.50 .3
- Guarding and Supervision, 1 man at LL.150.00/month for 50 dunums 36.00 4.6

**C/F:** 184.90
B/F:

Miscellaneous Labor Costs

Cost per Dunum

<table>
<thead>
<tr>
<th>LL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>184.90</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Total Labor Costs

<table>
<thead>
<tr>
<th>LL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>194.90</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Interest on Operating Capital
(LL.369.50 at 8% annually for average period of 4 months)

<table>
<thead>
<tr>
<th>LL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.80</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Total Growing Costs 7/

<table>
<thead>
<tr>
<th>LL</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>418.00</td>
<td>53.6</td>
</tr>
</tbody>
</table>

Total All Costs 7/ (excluding management)

<table>
<thead>
<tr>
<th>LL</th>
</tr>
</thead>
<tbody>
<tr>
<td>779.60</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Yield is</th>
<th>Fixed Costs are</th>
<th>Growing Costs are</th>
</tr>
</thead>
<tbody>
<tr>
<td>2600 Kgs/du</td>
<td>13.9 Ps/Kg</td>
<td>15.8 Ps/kg 7/ 3/</td>
</tr>
<tr>
<td>3100 Kgs/du</td>
<td>11.7 Ps/Kg</td>
<td>13.5 Ps/kg</td>
</tr>
<tr>
<td>3600 Kgs/Du</td>
<td>10.0 Ps/Kg</td>
<td>11.8 Ps/kg</td>
</tr>
</tbody>
</table>

Total All Costs Are: 7/ 8/ 29.7 Ps/kg 25.2 Ps/Kg 21.8 Ps/Kg.

---

1/ Typical Cost Based on interviews with 50 Farmers

2/ This value is half the original investment. This assumes that, on the average, these items are half depreciated.

2'/ Less than one tenth of one per cent.

3/ Development costs are greatly reduced as a result of income from bananas interplanted among young orange trees through the 7th year.

4/ Costs calculated on 40 as average number of orange trees per dunum.

5/ Includes the cost of transportation to the field.

6/ This is the cost of harvesting oranges for the local market. The harvesting cost is usually 2.5-3.0 Ps/Kg. for the export markets.

7/ Cost of oranges delivered to the nearest road in the buyer's boxes.

8/ Costs of harvesting adjusted for yield.
### TABLE 24

**COMPARATIVE SUMMARY COSTS FOR CITRUS BETWEEN DAMOUR & THE SOUTH - 1963.**

(L.L. and %)

<table>
<thead>
<tr>
<th></th>
<th>Damour</th>
<th>Saida-Sour</th>
<th>Compare Damour with Saida-Sour. Excess in Cost at Damour over Saida</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Costs:</strong></td>
<td>546.20</td>
<td>361.60</td>
<td>+ 51%</td>
</tr>
<tr>
<td><strong>Growing Costs:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>202.40</td>
<td>213.30</td>
<td>- 5%</td>
</tr>
<tr>
<td>Labor</td>
<td>220.00</td>
<td>194.90</td>
<td>+ 12%</td>
</tr>
<tr>
<td><strong>Interest on Operating Capital</strong></td>
<td>10.10</td>
<td>9.80</td>
<td>+ 3%</td>
</tr>
<tr>
<td><strong>Total Growing Costs</strong></td>
<td>432.50</td>
<td>418.00</td>
<td>+ 3%</td>
</tr>
<tr>
<td><strong>TOTAL ALL COSTS</strong></td>
<td>978.70</td>
<td>779.60</td>
<td>+ 25%</td>
</tr>
</tbody>
</table>

The above table shows that total costs for citrus are greater in Damour region than in the south by around 25%. Other cost elements show the same tendency, with the exception of materials that are higher in the South.
C. REGULATIONS FOR EXPORT:¹

There are regulations which govern the technical conditions to be imposed upon citrus destined for export. These are the following:

ARTICLE 1:

Any exporter wishing to export Lebanese Citrus Fruits abroad should apply in writing to the Fruit Board giving the following information:

1) Name and Address of the Exporter.

2) Name and Address of the Importer and the Country to which final export is to be made.

3) Quantity to be exported. (Number of boxes and weight).

4) Packing centre in which the consignment was packed.

5) Date of arrival of carrying ship and date of its sailing. Name of the shipping agency responsible for the ship. (This item only applies if citrus fruits are to be exported by sea).

¹Taken from the Law regulating fruit export, made available at the L.f.o.
This written application for export should be sent to the appropriate department of the Fruit Board, at least five days before the date on which the shipping will start, so as to give the Board's Inspectors the necessary time needed to supervise the packing operations and to control the shipment.

**ARTICLE 2:**

Export is only allowed from the Ports of Beirut, Tripoli, Saida and Sour in case of export by sea, and from all customs centers in case of export by land, and air.

**ARTICLE 3:**

Citrus Fruits shall be classified as follows:

- Extra Choice
- First Choice or Standard
- Second Choice or Marketable
- Third Choice

Export of this last choice is only permitted to Arab Countries.

**ARTICLE 4:**

1) Export of Citrus Fruits is only authorized in such packing cases as referred to in decree No. 16597 dated July 17th, 1957, and such other
regulations as annexed to this decree.

2) Each box should be packed fully with Citrus Fruits, and no empty spaces should remain in the box. Moreover, it is recommended that the Citrus in the box should protrude slightly at the centre of the box in order to prevent the shaking of the fruits during long distance transport.

3) The fruits in each case should be of the same size and the same type, and they should be wrapped individually in thin paper on which it should be imprinted the mention "PRODUCE OF LEBANON" in Arabic characters whenever the Citrus Fruits are destined for Arab Countries, and in European characters whenever the fruits are destined for Europe, or in both characters at the same time.

Oranges mechanically waxed and according to the process approved by the TECHNICAL DEPARTMENT of the FRUIT OFFICE are allowed for export without wrapping in thin paper as mentioned hereabove, provided the exporter shall submit a certificate proving that the importer agrees to same, and provided he would mention on the box the kind of waxing that has been used.
4) The box should bear on both tops the following details (either stamped or imprinted on a strongly pasted label).

A - The mark of the exporter or his name and address.
B - "Produce of Lebanon".
C - Kind and type of fruits.
D - Type of classification (choice).
E - Number of fruits in each box.
F - Weight of the box, gross and empty.

Remarks: These details shall be written in Arabic, or in European characters if export is destined to a non-Arab country, or in both languages provided the height of the lettering characters and the numbers mentioned shall at least attain 2 cms. and could be easily read, provided the latter condition would be enforced beginning September first, 1960.

ARTICLE 5:

Export of Citrus Fruits is authorized whenever they agree with the following specifications:

1) Outer Aspect: The fruits must be safe with regard to their kind and type, they should be preserving their vitality and juice, be free from
any effects of humidity, be clean and safe from past diseases and insects, earth and dust, and their outer surface should not bear any marks of bruises, scratches or splittings and their peduncle should be out with a sharp tool up to the level of the outer surface of the fruit.

Valencia oranges shall be authorized for export after the appearance of a black spot under their peduncle resulting from storage in refrigerators, provided the exporter shall submit prior agreement to same from the importer approving the mentioned detail.

2) **Ripening:** The fruit must attain an adequate degree of ripening without any excess and all sides of the fruit must be of a yellowish or orange colour, free from green spots. The fruit shall not be presented for control before the date of export which will be officially fixed, provided the proportion of dry matters dissolvable in citric acid devoid from water shall not be less than seven in respect of orange and nine and a half in respect of Brix degree, and that the percentage of juice shall not be inferior to 25% of the total weight.
Fruits of lesser ripening - of any consignment - are subject to control and inspection.

**Exception:** Since the beginning of the export season up to November 15th, of each year, a quarter of the paring area of each fruit in the same box allowed to be of a greenish colour, instead of being of a completely yellow or orange colour as stated **hereabove.**

**ARTICLE 6:**

The following specifications shall be taken into consideration as regards the classification of fruits:

**Clause 1:**
The fruits must be dry and of the same size in any single box; nevertheless, difference in sizes is allowed provided it does not exceed 8% of the diameter of the fruit and that the outer aspect of the fruit conforms to the specific descriptions concerning the form and colour of each type of citrus fruit destined for export, and provided the fruit would be bearing its peduncle and be still preserving its vitality and juice.

**Clause 2:**
The fruits must be clean from dirt and remnants of chemical products and free from any superficial
scratches resulting from hail, branches or leaves rubbing, or otherwise these scratches should be completely dry and healed up and should not exceed an area of 2 cm² in each fruit.

**Clause 3:**
Citrus fruits must be free from outer defects resulting from insects or other diseases.

**Clause 4:**
Citrus fruits must be free from injuries or deep non-welded cuts caused by insects or extraneous elements, and free from rotting or deterioration.

**ARTICLE 7:**  **Classification:**

**Extra Choice:** Citrus fruits shall be classified as "EXTRA CHOICE" in case they conform with all the conditions stated in the specifications with some tolerance in the following proportions:

- In respect of Clause 1 - 3%
- " " 2 - 3%
- " " 3 - Null
- " " 4 - Null

provided the total of these tolerances does not exceed 3% of the quantity of fruits in a single box.
First Choice: Citrus Fruits shall be classified as First Choice in case they conform with all the conditions stated in the specifications with some tolerances in the following proportions:

In respect of Clause 1 - 7.5%
  "   "   2 - 5%
  "   "   3 - 2.5%
  "   "   4 - Null

Provided the total of these tolerances does not exceed 7.5% of the quantity of fruits in a single box.

Second Choice: Citrus Fruits shall be classified as Second Choice in case they conform with all the conditions stated in the specifications with some tolerances in the following proportions:

In respect of Clause 1 - 15%
  "   "   2 - 10%
  "   "   3 - 5%
  "   "   4 - 2%

Provided the total of these tolerances does not exceed 15% of the quantity of fruits in a single box.

Third Choice: Citrus Fruits that do not conform with the requirements of the Extra Choice as well
as those of the First and Second Choice, shall be classified as Third Choice:

<table>
<thead>
<tr>
<th>Number of Peel Insects Visibly seen on each Fruit</th>
<th>Extra Choice</th>
<th>First Choice</th>
<th>Second Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 5</td>
<td>null</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>5 -10</td>
<td>null</td>
<td>null</td>
<td>7, 5%</td>
</tr>
<tr>
<td>10 -20</td>
<td>null</td>
<td>null</td>
<td>5%</td>
</tr>
</tbody>
</table>

**ARTICLE 8:**

Export of lemons artificially turned yellow may be allowed upon a request of the importer supported by official proofs, provided the following specific conditions shall be taken into consideration:

1) That the fruits have attained a natural degree of ripening.
2) That the peel of the fruits be smooth.
3) That only Ethylene Gas has been used.
4) That the rate of the Ethylene Gas did not exceed the proportion of 1/5000 of the volume of the rooms used for artificial ripening.
5) The yellowish colour must cover 4/5th of the area of the fruit.
6) That it shall be stated on the box the sentence: "Artificially turned yellow" or any similar wording in foreign languages.
ARTICLE 9:

Export of Citrus Fruits is allowed each year only within the period fixed herebelow for each type:

A) "Baladi" oranges (with seeds) produces of the district of Tripoli, between November 1st and December 31st of each year.

B) "Shammouti" oranges, produces of all districts: between November 1st and March 15th of each year.

C) Citrus Lemons: From September 1st up to February 1st of each year. After February 1st, only green colour lemons (late crop) shall be allowed for export. Shall be exempted from the provisions of this Article orange fruits of the "Valencia" type and "Baladi" oranges produce of Saida district, and the lemons of the type "Saghasly"; the export of all these types shall not be fixed to any specific date or period.

Other Export Regulations, in virtue of the Decree No.48 dated October 27th, 1932, regulating the control over the export of fruits, and in virtue of the decree No.189 dated October 27th, 1952, regulating the conditions relative to the manufacture of boxes destined for the packing of fruits intended for export, and
according to the proposal of the Ministry of Agriculture, were also decreed. These are the following:—

**ARTICLE 1:** Boxes in which will be packed the fruits destined for export shall be made from white timber (deal), poplar or dry willow wood. The timber boards of these boxes must be dry and smooth and the tips of the Boards of the citrus fruit boxes and the covers of the fruit boxes should be bent instead of sharp. Different kinds of local or imported woods may be used for the manufacture of boxes reinforced with wire including beach wood and African timber — local pine wood excepted — provided that such timber be dry and odorless.

**ARTICLE 2:** The thickness of the boards of a usual box should be between 7 m/ms and 8 m/ms; the thickness of the sections of the two tops of the box as well as the medium section should be 16 m/ms and must be conform, from the interior, to the following measurements:

Provided that the box of orange shall be made of Sections of wood whose outer measurements, number and thickness are as follows:
<table>
<thead>
<tr>
<th>No. of Sections</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>34 cms</td>
<td>28 cms</td>
<td>16 m/ms</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>18</td>
<td>7.8</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>12</td>
<td>7.8</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>14</td>
<td>7.8</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>10</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Lemons: The same box designed for oranges may be used for lemons or any box of a smaller size having the following interior measurements:

- Length: 63 cms, width: 33 cms, depth: 27 cms,
- Net weight of the fruits: 30-32 kgs.
- Weight of the Empty Box: 4.5 Kgs.

Provided that the box shall be made of sections of wood whose interior measurements, number and thickness are as follows:

<table>
<thead>
<tr>
<th>No. of Sections</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>33 cms</td>
<td>27 cms</td>
<td>16 m/ms</td>
</tr>
<tr>
<td>2</td>
<td>66</td>
<td>13 cms</td>
<td>7.8</td>
</tr>
<tr>
<td>2</td>
<td>66</td>
<td>10</td>
<td>7.8</td>
</tr>
<tr>
<td>2</td>
<td>66</td>
<td>17</td>
<td>7.8</td>
</tr>
<tr>
<td>2</td>
<td>66</td>
<td>12</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Half size box (Nasba type) may be used for packing certain types of fruits and this according to the following interior measurements:
Length: 46.5 cms. - Width: 29 cms. - Depth: may vary according to the different types of fruits and according to the number of layers in each box (provided that this height exceeds 15 cms measured from the interior of the box).

The cover of this box may be made of the kind of wood specified in this decree or of paper, whether of strengthened paper (cardboard) or of smooth transparent paper.

And in this case, the box must have four wooden corners higher than the level of its height.

ARTICLE 3:

Citrus Fruits must be wrapped with thin, smooth paper, large enough to contain all the parts of the fruits well wrapped, and a portion of the paper should cover the higher part of the fruit as well as its lower part (top and bottom). The said paper used for wrapping the fruits should bear a print showing the origin of the Lebanese products, and the mark of the exporter, in Arabic characters in case the fruits are exported to Arab countries, and in European characters in case they are exported to foreign countries. The fruits must be sorted into different sizes, and fruits of
similar sizes should be packed together, and the box must be lined on its top size with a steel wire which thickness should not be less than one m/m. It may be substituted by a wooden chamfron on both tops and on the middle part of the orange box as well as the lemon box, only.

**ARTICLE 4:**

Reinforced cardboxes or wooden boxes reinforced with wire may be used without many measure specifications for fruits, destined for export by means of air transport, whether the cardboxes are holed on their sides or not, on condition that necessary ventilation is secured. Reinforced cartons or wooden boxes strengthened with wire may be used without any measure specifications for fruits, destined for export by means of land and sea, provided that the said export be carried out at the responsibility of the consignee.

**ARTICLE 5:**

shall be exempted from the provisions of Articles 1 - 2 and 3, oranges, lemons, destined for export to Syria and Jordan, such export is authorized in bulk.
ARTICLE 6:

The use of any kind of local pine wood - whether forest pine wood or fruit bearing pine wood - is strictly prohibited for the purpose of manufacturing ordinary boxes or boxes reinforced with steel wire and destined for packing fruits for export purposes. However, the Minister of Agriculture has the right to allow, in case of urgent necessity, the import of ready made boxes made of dry sea pine wood for the purpose of export of fruits, on condition that both tops of the box would be stamped with the brand of the exporting plant. These boxes are subject to the conditions laid down by this decree.

ARTICLE 7:

Export of fruits packed in boxes that do not conform with the conditions laid down by this decree shall be prohibited.
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Mr. Suheil Ramadan - Statistics Manager, March-April 1964
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