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# An Economic Analysis of Production and Market Conditions of TABLE GRAPES

Lebanon and the International Situations

SECTION OF ECONOMIC STUDIES
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# An Economic Analysis of Production and Market Conditions of TABLE GRAPES

Lebanon and the International Situations

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# INTRODUCTION

Economic studies on present and future market and price conditions for the crops that might be grown on the land developed by the "Green Plan" are of major importance to any evaluation of the best land use pattern and to the success of the project. These studies must be completed before economically sound and practical recommendations can be made to farmers to guide their long run production investments. Price analysis and projected production-consumption balance studies are needed for each of the important agricultural products to be considered for the areas being developed.

This overall analysis can be divided logically into three major categories:-

1.- An analysis of the domestic situation (Lebanon) for all crops under consideration.

2 - An analysis of the Near East countries for crops that are exported, or are likely to be exported to these countries.

3 - A study of the European or other potential market areas for the crops that would likely be exported to those more distant markets.

This preliminary study deals with one of the crops under consideration, namely table grapes. The analysis is made from data available in the local and international literature. A great deal of the data needed for a complete analysis is lacking, while some of the available data is inadequate. The needed information and the information that is lacking are pointed out all along the discussion.

GENERAL GLOBAL SITUATION

The world total grapes production in 1963/64 amounted to about 45 million metric tons and it is expected to expand further mainly as a result of extensive new plantings in Eastern Europe. In Western Europe and the United States, however, long-standing disposal problems continue to involve considerable regulation of output and marketing, with varying degrees of success. Wine remains the principal outlet for the harvest, notwithstanding compaigns to promote juice consump ion, while only some 2½ million tons of fruit are dried.

Table - 1

World Regional Total Grapes Production and Table Grapes Production. Annual Average- 1961/62-1963/64 (in 1000, metric tons)

| Region | Total Grapes Production | Table Grapes Production | Percent of Table Grapes from total grapes |
|---|---|---|---|
| Europe | 29,747 | 3,589 | 12.1 |
| North America | 3,100 | 465 | 15.0 |
| Latin America | 3,863 | 79 | 2.1 |
| Near East | 4,130 | 303 | 7.3 |
| Far East | 212 | - | - |
| Africa | 3,070 | 206 | 6.7 |
| Oceania | 597 | 20 | 3.4 |
| TOTAL | 44,719 | 4,663 | 10.4 |

SOURCES:

1. FAO Production Yearbook 1964
2. G. Coda - Nunziante, Market outlets in Europe for Selected Fruits and vegetables, FAO Near East Regional Conference on Marketing and refrigeration of perishable produce (Beirut, Lebanon, Sept. 1965).

World production of table grapes can be estimated only approximately because of the incomplete breakdown in the statistics of producing countries. Moreover, table varieties can also be crushed for wine or juice or dried and raisin varieties are commonly eaten fresh. Although statistics

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are therefore uncertain, it is estimated that the production of table grapes represents only about 10 percent of all grapes supplies (see table-1) and it is thought that this proportion will increase in the future.

Table - 1 shows the annual average world regional total grapes production and the average regional table grapes production during 1961/62-1963/64. Europe with a production of tòtal grapes of over 29½ million tons was by far the largest producer followed by the Near East Latin America and North America with productions of 4,130,000 3,863,000 3,100,000 metric tons respectively. Table grapes production constitutes a small proportion of the total production of grapes. During 1961-1964, as indicated by table-1, this proportion ranged from 15.0 percent in North America to only 2.1 percent in Latin America. In Europe and the Near East regions the proportion was 12.1 percent and 7.3 percent respectively.

The world production of table grapes has almost doubled since 1952. Excluding Turkey, which produces almost entirely raisin grapes and the Soviet Union which is a large importer, the largest increases have taken place in Bulgaria, Italy, Spain, Greece and South Africa, all major exporters. In the Near East region, Syria, Jordan and Lebanon are important producers but only minor exporters to other countries of the region.

The main marketing season for table grapes is concentrated in the months of August through November, eventhough small quantities enter the market in the latter half of July. South Africa is the only major supplier in the first half of the year (February through April) but there are also small quantities of hot house grapes available from Belgium and the Netherlands.

## DOMESTIC SITUATION (LEBANON)

Grapes in Lebanon could be grouped into three categories according to the purpose for which they are intended. These three categories are table grapes, grapes dried for raisin and grapes used for industrial and distillation purposes like wines, araks, vinegar, mollasses and other preparations. In an unpublished study by the Industry Institute in 1959 and as indicated by table-2, table grape varieties constituted 53 percent of all varieties of grapes in Lebanon.

Table - 2

Breakdown of Available Varieties of Grapes in Lebanon in 19[illegible]

| Kind of Grapes | Percen of total |
|---|---|
| 1. Table grapes | 53.0 |
| 2. Currant making grapes (Raisin sec) | 3.0 |
| 3. Grapes used for industrial purposes and distillation (wines, araks, vinegar, mollasses and other preparations) | 44.0 |
| Total | 100.0 |

SOURCE: From an unpublished report by the Industry Institute

First choice varieties of grapes are reserved for table use while the less satisfactory ones are used for industrial and curing purposes. Some of the first class varieties of grapes are commonly known under the following names: Toufayfihy, Baytamouny, Bayyady, and Obaydy.

### A. PRODUCTION

Accurate statistics on grapes production in Lebanon are not available. According to rough estimates reported by the Ministry of Agriculture the total grape production amounted to about 100,000 metric tons in 1964. No estimate for the production of table grapes alone is given. Considering the study of the Industry Institute referred to earlier and the estimate of

IRFED (table grapes constitute about 60% of total grapes production) the production of table grapes in 1964 is estimated to have been 57,000 tons (57% of total). It is however believed that sizable quantities of the inferior quality grapes are consumed fresh.

Data in table - 3 show estimates of areas production and average yields of total grapes from 1955 - 1964 as reported by the ministry of agriculture. To even out annual variations and to analyse the data in table-3,

Table - 3

Areas, Production and Yield of Total Grapes

Lebanon - 1955 - 1964

| Year | Areas(hectares) | Production (metric tons) | Yield (M. tons/ha) |
|---|---|---|---|
| 1955 | 21,000 | 75,000 | 3.57 |
| 1956 | 22,000 | 80,000 | 3.64 |
| 1957 | 22,200 | 75,000 | 3.38 |
| 1958 | 22,500 | 80,000 | 3.56 |
| 1959 | 23,000 | 85,000 | 3.70 |
| 1960 | 24,000 | 70,000 | 2.92 |
| 1961 | 24,200 | 90,000 | 3.72 |
| 1962 | 24,500 | 85,000 | 3.47 |
| 1963 (1) | 25,000 | 90,000 | 3.60 |
| 1964 | 25,000 | 100,000 | 4.00 |

(1) Data for this year are obtained from FAO production yearbook-1964

SOURCES:
1. Bulletins of Agricultural Statistics No. 1, Ministry of Agriculture (Beirut, 1963)
2. Ministry of Agriculture, Department of Statistics, Unpublished reports.

3-years annual averages for the two periods 1955 - 1957 and 1962 - 64 were computed and an index was calculated. The results are presented in table - 4. Thus, the area under grapes during the period 1962 - 64 was 14 percent higher than during the period 1955 - 57. During the same interval the production of total grapes increased by 15 percent which indicates that the yield rose only very slightly.

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Data in table - 5 is analysed further in table - 6 where annual variations are evened out and an index of increase computed. The annual average imports of total grapes decreased from 6,633 tons during 1955-57 to 2,762 tons during 1962-64, a decline of about 60 percent. The annual average exports, on the other hand, increased from 96 tons during 1955-57 to 1,236, tons during 1962-64, an increase of more than 10 times. As a result of these two opposing changes, the net imports declined by about 80 percent during the same interval of time. It should be noted that duting 1955-57 the exports constituted a very small proportion of the imports whereas during 1962-64 this proportion rose to about 45 percent. Between the two periods indicated the annual average consumption increased from about 83,000 tons to about 93,000 tons, an increase of only 12 percent.

Table - 5

Production, Imports, Exports, Net Imports and Consumption of Total Grapes - Lebanon, 1955-64 (im metric tons)

| Year | Production | Imports | Export | Net Imports | Consumption |
|---|---|---|---|---|---|
| 1955 | 75,000 | 6,600 | 81 | 6,519 | 81,519 |
| 1956 | 80,000 | 6,500 | 92 | 6,408 | 86,408 |
| 1957 | 75,000 | 6,800 | 114 | 6,686 | 81,686 |
| 1958 | 80,000 | 480 | 135 | 345 | 80,345 |
| 1959 | 85,000 | 5,088 | 413 | 4,675 | 89,675 |
| 1960 | 70,000 | 4,236 | 502 | 3,734 | 73,734 |
| 1961 | 90,000 | 2,307 | 484 | 1,828 | 91,823 |
| 1962 | 85,000 | 2,317 | 880 | 1,437 | 86,437 |
| 1963 | 90,000 | 3,141 | 1,279 | 1,862 | 91,862 |
| 1964 | 100,000 | 2,829 | 1,551 | 1,278 | 101,278 |

SOURCES:

1. Bulleting of Agricultural Statistics No. 1 Ministry of Agriculture (Beirut, 1963),
2. Ministry of Agriculture. Department of Statistics; Unpublished Report.
3. Statistique du Commerce Exterieur, Annee = 1955 - 63; Conseil Superieur des Douanes, Republique Libanaise.
4. Ministry of Planning, Bureau of Central Statistics, Unpublished Report.

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Table - 7

Breakdown by Country of Imports and Exports of Total Grapes in Lebanon in 1964 (in metric tons)

| Country | Imports | Percent of total | Exports | Percent of total |
|---|---|---|---|---|
| Syria | 2826.7 | 99.9 | 248.2 | 16.0 |
| Jordan | 1.9 | 0.1 | 262.1 | 16.9 |
| Saudi-Arabia | - | - | 582.1 | 37.5 |
| Katar | - | - | 0.3 | neg. |
| Kuwait | - | - | 80.8 | 5.2 |
| UAR | - | - | 2.2 | 0.1 |
| Sudan | - | - | 120.4 | 7.8 |
| Other Arab countries | - | - | 26.8 | 1.7 |
| Total Arab countries | - | - | 1322.9 | 85.2 |
| Ghana | - | - | 12.1 | 0.8 |
| Other countries | - | - | 216.4 | 14.0 |
| Total all countries | 2828.6 | 100.0 | 1551.4 | 100.0 |

SOURCES:

From unpublished data from Conseil Superieur des Douanes, Republique Libanaise

C. PRICES

Monthly and annual average wholesale prices of table grapes, as a group, for the years 1955 through 1964 are given in table - 8 as reported by the Ministry of Agriculture. It should be pointed out that prices of different varieties of table grapes differ in varying degrees at different times during the marketing season. Such information however is not available. Also data on farm-gate prices or prices at the nearest points of sales are completely lacking.

To show the trend in prices over the past ten years, the annual average wholesale prices, are presented graphically in figure-1 which indicates two distinct trends. Between 1955 and 1959 the trend in the wholesale prices was downward, whereas from 1959 onwards the trend has been towards higher

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prices. Not only were the prices rising after 1959, but also were at a higher level than they were prior to 1959. Thus during 1960 - 64, taking the average of the five years, the prices were 12 percent higher than during 1955 - 1959.



To determine the seasonal variation in prices, monthly averages were computed for the five years 1960 - 64. An index of seasonal variation was obtained by considering the annual average for the period 1960 - 64 as the base. The results are presented in table - 9 and in figure - 2. This analysis shows that prices are highest during July, November and December and lowest during the bulk of the harvest, namely during August September and October. Thus in July, November and December pricds are respectively 26, 11 and 46 percent higher than the annual base average, whereas in August, September and October prices are, respectively, 11, 31, and 20 percent lower.

Table - 8

Monthly and Annual Average Wholesale Prices of Table Grapes in Lebanon - 1955 - 1964 (L. Pts per Kg.)

| Year | July | August | September | October | November | December | Annual Average |
|---|---|---|---|---|---|---|---|
| 1955 | - | 80 | - | 25 | 43 | 60 | 52 |
| 1956 | 60 | 42 | 36 | 43 | 57 | - | 48 |
| 1957 | 68 | 42 | 25 | 29 | 33 | 44 | 45 |
| 1958 | 37 | 34 | 25 | 39 | 51 | 60 | 41 |
| 1959 | 50 | 25 | 21 | 22 | 36 | 45 | 33 |
| 1960 | 53 | 33 | 27 | 40 | 75 | 90 | 53 |
| 1961 | - | 32 | 39 | 43 | 54 | 50 | 44 |
| 1962 | - | 39 | 40 | 52 | 70 | 103 | 61 |
| 1963 | 83 | 55 | 43 | 41 | 51 | 64 | 56 |
| 1964 | - | 80 | - | 41 | 48 | 87 | 64 |

SOURCE:

From unpublished data given by the Agricultural Economics Department at the Ministry of Agriculture

Table - 9

Monthly Average Wholesale Prices of Table Grapes in Lebanon For The Years 1960 - 64 and an Index of Seasonal Variation

| Month | Monthly Ave. 1960 - 64 | Index (Annual ave.1960-64= 100) |
|---|---|---|
| July | 68 | 126 |
| August | 48 | 89 |
| September | 37 | 69 |
| October | 43 | 80 |
| November | 60 | 111 |
| December | 79 | 146 |

SOURCE:

Derived from table - 8.

Figure - 1 - Trend in the Annual Average Wholesale Prices of Table Grapes in Lebanon - 1955 - 1964

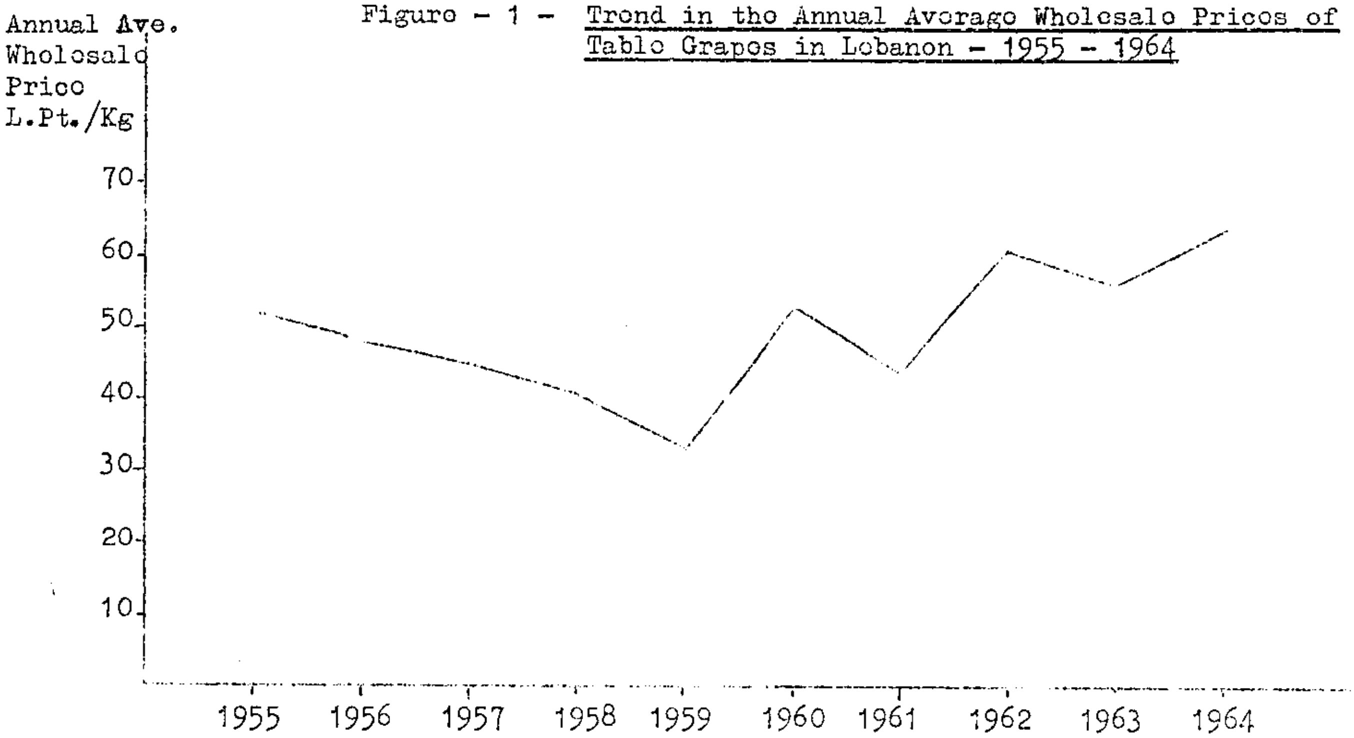
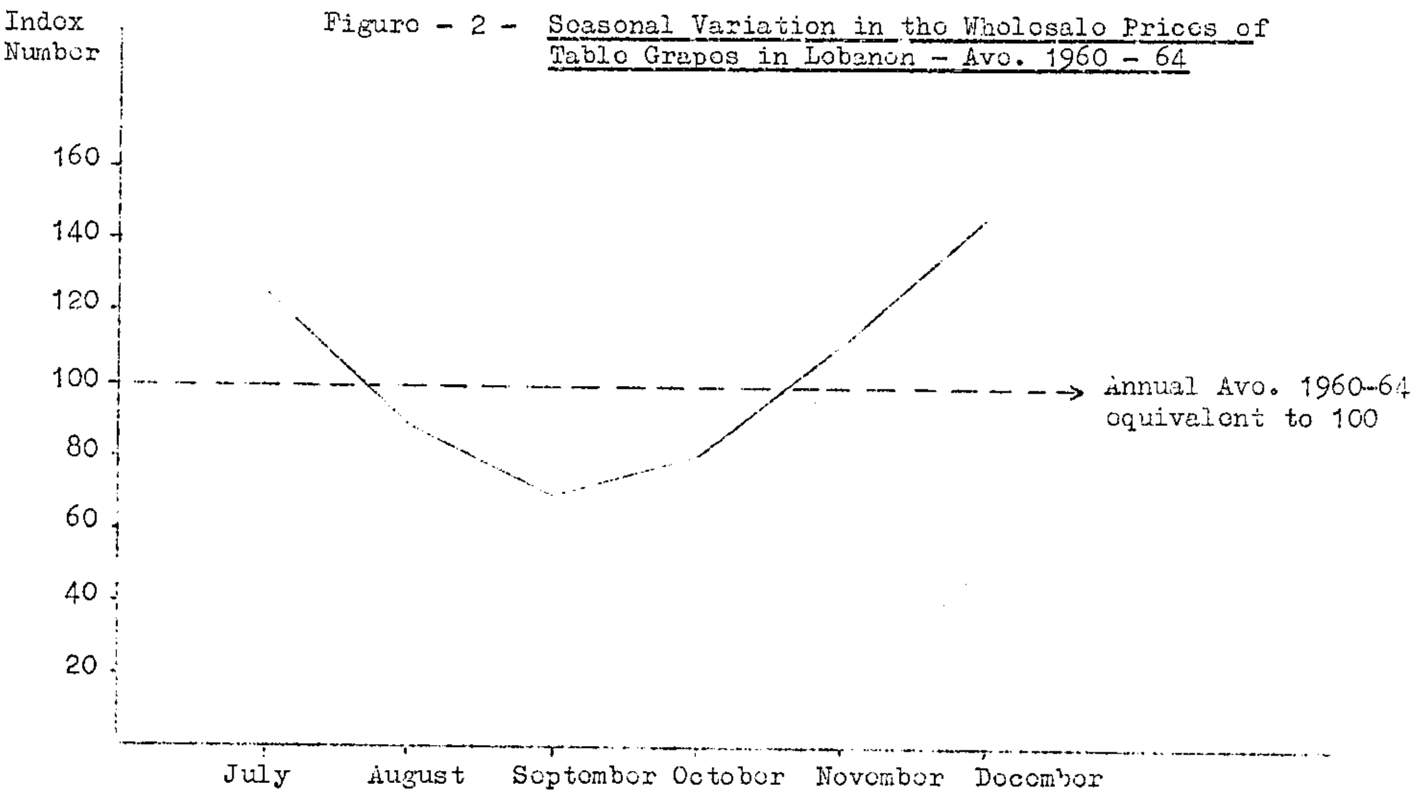



Figure - 2 - Seasonal Variation in the Wholesale Prices of Table Grapes in Lebanon - Ave. 1960 - 64



D. <u>FUTURE OUTLOOK</u>

In making projections and forecasts for the future one should always keep in mind the accuracy, the limitations and the shortcomings of the data and methods that are available to him. It should be stressed at the start that the available data on production and consumption of table grapes in Lebanon are not very accurate. Moreover, and as far as consumption is concerned, the following necessary data are not at all available:-

1. Present population and projected population growth
2. Present and projected per capita disposable income
3. Present per capita consumption by variety and method of preservation.
4. Income elasticities - i.e. - the responsiveness of consumption to variation in income. It is worth noting here that when the IRFED people made their estimates of future consumption of fruits in Lebanon, they used elasticities of other countries. I do not believe that this method is reliable. Conditions here are completely different especially from the standpoints of consumer tastes and preferences the level of income and the availability of different fruit substitutes, Moreover, any slight error in the elasticity exaggerates or under estimates the results to a great extent.

Imports do not concern us here because we only import grapes that are used by the local industries for wine and arak. Exports data are fairly accurate since they are obtained from actual customs records.

Another complication in making future estimates for supply and demand of table grapes is the lack of breakdown of total grapes statistics into table grapes and other kinds of grapes. The proportion of table grapes from total grapes is estimated, as cited earlier, at 57 percent considering the findings of the Industry Institute and the IRFED mission. This proportion however, is expected to increase in the future since the majority of the new plantings of grape vines is believed to be in table grapes. It would therefore be a fair estimate to consider that table grapes production would constitue about 70 percent of total grapes production. The same proportion is believed appropriate for consumption. This proportion will be used in this study in making the estimates for the future.

It should also be borne in mind that in making projections for the future, it is implicity assumed that the present conditions of market structure and organization as well as the political framework, will not change in the future.

Despite all these limitations and difficulties projections and forecasts are still worthwhile to make. They are good guides to better allocation of resources and to better planning eventhough they are just estimates.

The method that will be used here for determining the secular trends is the simple least squares trend extrapolation. This method makes it possible to fit a curve into data of time series with minimum deviation. Inspite of its shortcomings, trend extrapolation remains one of the most commonly used devices in forecasting.

Table - 10 summarises the findings on the secular trends and forecasts. It shows the secular trend functions of production, consumption and exports of total grapes and the respective estimates of total grapes and table grapes for 1975. Exports are all table grapes. The production of table grapes in 1975 is estimated at about 82,000 metric tons, while local consumption and exports are estimated at about 77,500 and 7,600 metric tons respectively. The estimate of IRFED of total grapes consumption of 150,000 metric tons in 1975, and that of table grapes of 90,000 tons (60% of total) is in my opinion very high.

There are indications therefore, that the demand for table grapes, represented by local consumption plus exports (77,500 + 7,600 = 85,100 tons) would in the future probably slightly exceed the supply, represented by production plus imports (82,000 + 0 = 82,000 tons), at constant prices. Consequently prices of table grapes in Lebanon are not expected to have a declining trend. The rising trend of the actual wholesale prices since 1959, as illustrated in figure-1, is a good support of this conclusion.

From the above information we can determine the optimum additional area needed to produce the quantity of table grapes that will both be likely consumed locally and will be likely exported. By optimum area is meant the are that would produce the necessary quantities at constant prices, or in other words, without resulting in excess of supply over demand and consequently a decline in prices and losses to the farmers.

The annual consumption and exports of table grapes at the present (in 1965) are estimated at about 70,000 tons. In 1975 the estimate for consumption plus exports at constant prices is 85,000 tons. To produce this annual excess in consumption and exports of 15,000 tons (85,000 less 70,000) we would need an additional area of about 3, 334 hectares, assuming a yield of 4.5 tons per ha. According to the rate of increase in area in table grapes for the past ten years, it is estimated that there are at the present about 800 ha. of non-bearing vines of table grapes. This leaves us with an area of 2534 (3,334 less 800). It must be made clear that this additional arda in table grapes must be in production by 1975 and therefore its planting must be completed by 1971. Consequently starting 1966 and until 1971 (1971 included) an additional maximum area of about 420 ha. can be planted with table grapes every year.

Table - 10

Secular Trend Function for Production, Consumption and Exports of Total Grapes in Lebanon and Estimates of the Respective Total Grapes and Table Grapes Quantities in 1975

| Item | Secular Trend Functions of the method of least squares | Projected quantity of total grapes in 1975 in metric tons | Projected quantity of table grapes in 1975--in metric tons (70% of total grapes for production and consumption). |
|---|---|---|---|
| Production | Y = 83,000 + 1100 x (1) | 117,100 | 81,970 |
| Consumption | Y = 86,500 + 780 x (1) | 110,670 | 77,469 |
| Exports | Y = 1332 + 251 x (2) | 7,607 | 7,607 |

(1) Y unit - in metric tons
X unit = half a year
Origin - between 1959 and 1960

(2) Y unit - in metric tons
X unit = half a year
Origin — between 1962 and 1963

## SITUATION IN THE NEAR EAST AND NORTH AFRICA[1]

Our concern to study the foreign market stems from two aspects. One aspect deals with the competitive position of Lebanon vis-a-vis other exporting countries and the other deals with the import potential in the importing countries. Information that is needed to study these two aspects in various countries , and for table grapes or any other crop that will be under consideration , is as follows :

1. On Production
   (a) Present land used for production.
   (b) Present age and number of trees by variety (at least by broad categories.)
   (c) Season of harvest and feasible storage duration by variety.
   (d) Present yield and production.
   (e) Information on the above items for the past ten years.
   (f) Projected future yield and production.

2. On Consumption
   (a) Present population and projected population growth.
   (b) Present and projected per capita disposable income.
   (c) Present and projected per capita consumption by variety and method of preservation.
   (d) Income-consumption elasticities
   (e) Present and projected estimates of imports from Lebanon under various alternative sets of political and economic assumptions.

3. On Prices
   (a) Secular trends in prices by variety
   (b) Seasonal variation in prices by variety
   (c) Present prices at various points of sales by variety

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(1) The Near East in this study refers to the region that comprises the following countries:-Libya, Sudan, United Arab Republic (UAR), Jordan, Syria, Lebanon, Kuwait, Saudi Arabia, Qatar, Bahrein, Iraq, Turkey, Iran, Cyprus, Israel.

North Africa refers to the following countries:-Algeria, Tunisia and Morocco.

The above information is either obtained from basic data or is derived from it. Unfortunately, a great deal of the needed basic data is lacking while some of the available ones is inadequate.

Production , trade and consumption of table grapes can be estimated only approximately because of the incomplete breakdown in the statistics of the reporting countries.Moreover , and as mentioned earlier , table varieties can also be crushed for wine or juice or dried , while raisin and wine varieties are commonly eaten fresh.When data on table grapes were not available , they were estimated , where possible, by subtracting the quantities of wine grapes and raisin grapes from the quantity of total grapes.

A. PRODUCTION

The annual average production of total grapes in the Near East during 1961-1963 amounted to more than four million tons as indicated in table -1. Of this total the average production of table grapes amounted to 303,000 tons or a proportion of only 7.3 percent.In North Africa(1)(in Algeria,Tunisia and Morocco) , and as can be derived from table -11 , the annual average production during the same period was 2,395,000 tons , of which 149,666 tons were table grapes or a proportion of only 6.2 percent.

Data in Table -11 show the production of total grapes , grapes for wine , table grapes and raisins in producing countries of the Near East and North Africa.Among the North African countries , Algeria is by far the largest producer of wine grapes , but only a minor producer of table grapes.In 1963 , Algeria produced 1,622,000 tons of total grapes of which 1,597,000 tons were grapes for wine while only 25,000 tons were table grapes.Morocco is the principal producer of table grapes in North Africa ; in the same year it produced 91,000 tons or 22 percent of its total production.

In the Near East Turkey is by far the largest producer of total grapes, producing in 1963 2,693,000 tons. Data on the breakdown of this total into the various kinds of grapes are not available. However, it is known that the great majority is intended for raisins. The principal producing countries of table grapes are Syria, Lebanon and Jordan. In 1963 Syria produced 260,000 tons of all kinds of grapes the majority of which was believed to be table grapes. In the same year Jordan and Lebanon produced 57,000 tons and 51,000 tons of table grapes respectively.

(1) The UAR and Libya are included under the Near East.

Data in Table - 12 show the annual average production of table grapes in the producing countries of the Near East and North Africa during 1948-52 and during 1961-63 and the index of change between these two periods. Excluding the UAR, Syria Iran and Turkey for which data are not available, the production of table grapes in the Near East and North Africa has increased by more than two and a half times in eleven years, as is indicated by the totals in the table. The largest relative in rease took place in Morocco and Israel where it amouted to more than 12 times in the former and more than 9 times in the latter. Important relative increases also took place in Tunisia and Jordan where they amounted to almost four and three times respectively. In Lebanon the relative increase was only nine percent.

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## TABLE 11

## PRODUCTION OF TOTAL GRAPES , GRAPES FOR WINE, TABLE GRAPES AND RAISINS IN THE PRODUCING COUNTRIES OF THE NEAR EAST AND NORTH AFRICA (in 1,000 m.tons)

| Country and kind of Grapes | Annual Ave. 1948- 952 | 1961 | 1962 | 1963 |
|---|---|---|---|---|
| U.A.R.-(1) Total grapes | 79 | 106 | 120 | 105 |
| (2) Grapes for wine | ---- | ---- | ---- | ---- |
| (3) Table Grapes [a] | ---- | ---- | ---- | ---- |
| (4) Raisins [b] | ---- | ---- | ---- | ---- |
| Libya-(1) | 5 | 5 | 6 | ---- |
| (2) | 4 | 4 | 5 | ---- |
| (3) | 1 | 1 | 1 | ---- |
| (4) | - | - | - | ---- |
| Tunisia-(1) | 105 | 247 | 306 | 298 |
| (2) | 96 | 215 | 270 | 263 |
| (3) | 9 | 32 | 36 | 35 |
| (4) | 0.1 | 0.1 | 0.1 | 0.1 |
| Algeria-(1) | 1738 | 2014 | 1584 | 1622 |
| (2) | 1714 | 1985 | 1559 | 1597 |
| (3) | 24 | 29 | 25 | 25 |
| (4) | - | - | - | - |
| Morocco-(1) | 92 | 368 | 329 | 417 |
| (2) | 84 | 268 | 223 | 311 |
| (3) | 7 | 85 | 91 | 91 |
| (4) | 0.1 | 1.5 | 1.5 | 1.5 |
| Syria- (1) | 172 | 243 | 255 | 260 |
| (2) | ---- | ---- | ---- | ---- |
| (3) | ---- | ---- | ---- | ---- |
| (4) | 7.6 | 11.4 | 10.4 | 16.3 |

(Cont'd on next page)

Table - 11 (Cont'd)

| Country and Kind of Grapes | Annual Ave. 1948-52 | 1961 | 1962 | 1963 |
|---|---|---|---|---|
| Jordan-(1) | 27 | 78 | 79 | 59 |
| (2) | - | - | - | - |
| (3) | 25 | 76 | 77 | 57 |
| (4) | 0.4 | 0.5 | 0.8 | 0.4 |
| Lebanon-(1) | 81 | 90 | 85 | 90 |
| (2) | 30 | 37 | 34 | 37 |
| (3) | 46 | 51 | 49 | 51 |
| (4) | 0.9 | 0.4 | 0.4 | 0.3 |
| Cyprus- (1) | 59 | 127 | 130 | 75 |
| (2) | 22 | ---- | ---- | ---- |
| (3) | 3 | 7 | 12 | 18 |
| (4) | 5.0 | 10.7 | 6.5 | 6.5 |
| Iran - (1) | 254 | ---- | ---- | ---- |
| (2) | 1 | ---- | ---- | ---- |
| (3) | ---- | ---- | ---- | ---- |
| (4) | 40.9 | 61.7 | 49.9 | 59.0 |
| Turkey- (1) | 1500 | 3189 | 3382 | 2693 |
| (2) | ---- | ---- | ---- | ---- |
| (3) | ---- | ---- | ---- | ---- |
| (4) | 125.5 | 310.0 | 266.5 | ---- |
| Israel-(1) | 15 | 63 | 72 | 59 |
| (2) | 7 | 33 | 41 | 30 |
| (3) | 3 | 28 | 29 | 28 |
| (4) | 1.0 | 0.4 | 0.4 | 0.2 |

Footnotes on Table-11



(----) Not available. (-) none or in negligible quantities

(a) - When figures for table grapes were not available, they were estimated by substracting from total grapes, grapes for wine and grapes for raisins.

(b) - Quantities are raisins quantities - "raisins secs" and not grapes used for raisins.

(Cont'd on next page)

SOURCES FOR TABLE - 11

1 - FAO Production Yearbooks, years - 1963 and 1964

2 - Commonwealth Economic Committee - FRUIT, a Review of Production and trade relating to fresh, canned, frozen and dried fruit, fruit juices and wine (her Majesty's Stationery Office, London, Years - 1961 - 1964)

3 - Bulletin of Agricultural Statistics - No. 1, Ministry of Agriculture, (Beirut, 1963).

4 - G. Coda - Nunziate, Market outlets in Europe for Selected Fruits and Vegetables, FAO Near East Regional Conference on Marketing and Refrigeration of Perishable Produce (Beirut, Lebanon, Sept. 1965).

5 - The Hashemite Kingdom of Jordan, Ministry of Agriculture, Agricultural Statistics Division, Annual Report for 1963.

6 - The Hashemite Kingdom of Jordan, Department of Statistics, Statistical Yearbook - 1964. (Department of Statistics Press-Amman.)

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Tablo - 12

Annual Avorage Production of Tablo Grapes in the Producing Countries of the Near East and North Africa - 1948 - 1952 and 1961 - 1963 -(in m. tons)

| Country | Annual Avo. 1948 - 1952 | Annual Avo. 1961 - 1963 | Index (1948-52 = 100) |
|---|---|---|---|
| U.A.R.* | ---- (1) | ---- | ---- |
| Libya | 1,000 | 1,000 (2) | 100 |
| Tunisia | 9,000 | 34,333 | 381 |
| Algeria | 24,000 | 26,333 | 10[illegible] |
| Morocco | 7,000 | 89,000 | 1,271 |
| Syria* | ---- | ---- | ---- |
| Jordan | 25,000 | 70,000 | 280 |
| Lebanon | 46,000 | 50,333 | 109 |
| Cyprus | 3,000 | 12,333 | 411 |
| Iran* | ---- | ---- | ---- |
| Turkey* | ---- | ---- | ---- |
| Israel | 3,000 | 28,333 | 944 |
| TOTAL | 118,000 | 311,665 | 264 |

(1) Not available

(2) Two years avo. 1961-1962

(*) Not included in the total

SOURCE: Derived from table - 11

## B. TRADE AND CONSUMPTION

There is no breakdown in the trade statistics of total grapes into table grapes and other kinds of grapes so that trade in table grapes alone is not possible to obtain and can only be estimated approximately. During the period 1961-63 (see table - 15) the annual average quantity of imports of all kind of grapes in all the importing countries of the Near East and North Africa was only about 5,540 tons of which about 3000 tons are estimated to have been table grapes (the imports of Lebanon of 2588 tons were all wine grapes). The annual average exports during the same period were only 22,224 tons of which about 12,000 are estimated to have been table grapes. (Exports of Algeria, Syria and Turkey are believed to have been mostly of the other kinds of grapes).

Trade in table grapes in this region therefore is not important since the quantity traded is very small and constitutes only a very small proportion of the quantity produced. During 1961-1963 the negligible quantity of annual average imports of 3000 tons constituted a proportion of less than one percent from the annual average production of table grapes, while the quantity of exports of 12,000 amounted to only about two percent of the production. The excess of exports over imports of about 9,000 tons of table grapes (12,000 less 3,000) were exported to the United Kingdom and Europe mainly from Cyprus and Turkey.

Tables 13 and 14 show, respectively, the exports and imports of all kinds of grapes in the various countries of the Near East and North Africal from 1959 to 1963. Not only is trade unimportant for the region as a whole, but also, as these tables indicate, it is minor for all the countries considered separately. Exports of Cyprus, Lebanon and Jordan are all believed to be table grapes, while those of Syria and Turkey are believed to be mostly of the other kinds.

The none producing countries of grapes like Saudi Arabia, Kuwait, other Pusian Gulf countries and Sudan import only small quantities and therefore have a very low per capita consumption. This is mainly due to, on the one hand, the high prices caused by the high transportation costs to these distant markets, and tto the low per capita disposable income on the other. The high perishability of grapes which makes them difficult to transport by cheap means like ordinary trucks and non refrigerated ships is another factor to be considered. The producing countries of grapes in this region seem to be more or less self sufficient. Their production therefore is a good indicator of their consumption.

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Table - 13

Exports of Grapes in the Exporting Countries of the Near East and North Africa 1959 -- 1963 (in m. tons )

| Country | 1959 | 1960 | 1961 | 1962 | 1963 |
|---|---|---|---|---|---|
| U.A.R. | 62 | 149 | 70 | 47 | 150 |
| Tunisia | 25 | 9 | 17 | 146 | 19 |
| Algeria | 3,894 | 2,040 | 3,100 | 1,200 | 500 |
| Morocco | 828 | 808 | 721 | 493 | 255 |
| Syria | 5,900 | 5,026 | 3,811 | 4,068 | 6,636 |
| Jordan | 966 | 753 | 1,137 | 1,027 | 776 |
| Lebanon | 413 | 502 | 484 | 880 | 1,277 |
| Cyprus | 4,295 | 4,694 | 4,664 | 6,709 | 5,364 |
| Turkey | 2,036 | 806 | 4,226 | 6,258 | 6,415 |
| Iran | 1,668 | 1,511 | 2,379 | 1,100 | ---- (1) |
| Israel | 447 | 625 | 253 | 340 | 407 |

(1) Not available

SOURCES:

1. FAO Trade Yearbook, 1963
2. Commonwealth Economic Committee - Fruits, a review of production and Trade relating to fresh, canned, frozen and dried fruit, fruit juices and wine (her Majesty's Stationery Office, London, years 1961 - 64)
3. The Hashemite Kingdom of Jordan, Ministry of Agriculture, Agricultural Statistics Division, Annual Report for 1963

Table - 14

Imports of Grapes in the Importing Countries of the Near East and North Africa - 1959 - 1963 (in m tons)

| Country | 1959 | 1960 | 1961 | 1962 | 1963 |
|---|---|---|---|---|---|
| Sudan | 24 | 85 | 114 | 145 | 92 |
| Algeria | 447 | 142 | 32 | ----(1) | ---- |
| Jordan | 966 | 614 | 537 | 1,443 | 3,540 |
| Syria | 411 | ---- (2) | ---- | 164 | 207 |
| Lebanon | 5,088 | 4,236 | 2,307 | 2,317 | 3,141 |
| Saudi Arabia | 869 | 768 | 870 | 724 | ---- |
| Kuwait | ---- | ---- | ---- | ---- | ---- |

(1) (-----) Not available

(2) (-----) None or in negligible quantities

SOURCES:

1. FAO Trade Yearbook, 1963
2. Commonwealth Economic Committee - FRUIT, a review of production and trade relating to fresh, canned, frozen and dried fruit, fruit juices and wine (her Majesty's Stationery Office, London, Years, 1961-64)
3. The Hashemite Kingdom of Jordan, Ministry of Agriculture, Agricultural Statistics Division, Annual Report for 1963

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Table - 15

Imports and Exports of Grapes in the Near East and North Africa - Annual Average 1961-63 (in m. tons)

| Country | Imports | Exports |
|---|---|---|
| U.A.R. | (1) —— | 89 |
| Tunisia | | 61 |
| Algeria | (2) ---- | 1600 |
| Morocco | 8 | 490 |
| Sudan | 117 | - |
| Syria | (a) 186 | 4838 |
| Jordan | 1840 | 980 |
| Lebanon | 2588 | 881 |
| Saudi Arabia | 800 | - |
| Kuwait | --- | - |
| Cyprus | - | 5579 |
| Iran | - | (a) 1740 |
| Turkey | - | 5633 |
| Israel | - | 333 |
| TOTAL | 5539 | 22224 |

(1) (——) None or in negligible quantities

(2) (----) Not available

(a) Two years average

SOURCE: Derived from tables 12 and 13.

## SITUATION IN EUROPE[1]

Excluding the Soviet Union which is a large importer, the largest increases in the production of table grapes in Europe have occurred in Bulgaria, Italy, Spain, Greece and South Africa which are all major exporters. Yugoslav production has risen very substantially but exports remain relatively insignificant.

Many varieties of table grapes are grown in Europe though efforts have been made to reduce their number and to develop early and late grapes to prolong the marketing season. In Italy the Regina remains the principal variety accounting for one third of output and an even higher proportion of exports; Chasselas and many hybrids are also important. In France the Chasselas and the Gros Vert are the principal varieties, eventhough other varieties are increasing in volume. Muscat still accounts for a large part of production in Spain while others of importance include Ohanes, Aledo, and Rasaki; new varieties introduced from California are also being tried and seedless varieties are being planted to meet the needs of Spanish canners of fruit cocktail. In Greece the Rasaki grape is widely grown. Supplies in Yugoslavia consist largely of Smedorovka, a dual purpose grape, and Bolgar; this last one is of great importance in Bulgaria , while in Hungary the Chasselas is the main variety. Other grapes produced in volume in a number of countries include Muscat de Hambourg , Alphonso Lavalle , Dattier , Ideal , Frankenthal and Muscat d'Alexandrie (or Zibibbo)[2].

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(1) Most of the information in this section is taken from the paper, Market outlets in Europe for Selected Fruits and Vegetables. Table Grapes by Prof. G. Coda-Nunziante. This paper was presented at the FAO Near East Regional Conference on Marketing and Refrigeration of Perishable produce held in Beirut between 20 - 28 September, 1965.

(2) Information on varieties taken from: Fruit, a Review of Production and Trade Relating to Fresh, Frozen and Dried Fruit, Fruit Juices and Wine, Commonwealth Economic Committee, PP. 67, 68.

A. SUPPLYING COUNTRIES OF THE EUROPEAN MARKET

Of the countries supplying the European market, Italy traditionally occupies first place although in recent years has been closely rivalled by Bulgaria in total volume of table grapes shipped. Italian exports to Western European countries have doubled since the late fifties and in 1963 exceeded 200,000 tons (20 percent of total production). In 1963, Bulgarian exports also exceeded 200,000 tons compared with about 90.000 in the late fifties. However, a much higher proportion of Bulgarian production is exported (from 65 to 70 percent in recent years). From 80 to 85 percent of Bulgarian exports go to the Soviet Union and Eastern Europe while the remainder goes to the Federal Republic of Germany and Austria.

Spanish exports have more than doubled since the early fifties but they tend to fluctuate. They are currently in the neighborhood of 70,000 tons and the major markets are the Federal Republic of Germany, the United Kingdom and the Scandinavian countries. Exports from France, mainly to the Federal Republic of Germany and Switzerland, have fluctuated considerably in line with production but have been as high as 65,000 tons in the record year of 1962. Romania is another supplier whose exports tend to fluctuate but around a rising trend. In 1962 and 1963 shipments exceeded 50,000 tons, all of which went to the Soviet Union and Eastern Europe.

Greek exports normally amount to 10 to 15 percent of production and are destined mainly for the Federal Republic of Germany, the United Kingdom and the Scandinavian countries. Under the convention of Association with the EEC (ratified on November 1, 1962), Greece was given the full benefit of internal tarrif reductions on an initial quota of 15,000 tons to be increased by 20 percent annually up to the end of 1967. Trade has been helped also by liberalization measures applied to extra quality fruit since the end of July of 1962 and to Grade I produce since the beginning of 1964.

The chief export market for the Republic of South Africa has been traditionally the United Kingdom. Exports have risen gradually in recent years to about 30,000 tons.

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B. IMPORTING COUNTRIES OF EUROPE

Table - 16 shows the annual average net imports of table grapes during 1952-54 and 1961-63 in the various importing countries of Europe. The Federal Republic of Germany is by far the largest importer its imports accounting for more than 30 percent of total European intake in recent years. This market is followed in order of magnitude by the Sovied Union, the United Kingdom and Czechoslovakia which take 15 percent, 7 percent and 5 percent respectively of the total imports. Countries with relatively high imports are, Poland, Switzerland, and Austria. Imports into Scandinavian countries have risen sharply in recent years.

Table - 16

Annual Average Net Imports of Table Grapes into the Various Importing Countries of Europe - 1952 - 54 and 1961- - 1963 (in m. tons)

| Country | 1952 - 54 | 1961 - 63 | Index of Change (1952-54 = 100) |
|---|---|---|---|
| Germany, Fed. Rep. | 81,689 | 214,548 | 263 |
| USSR | ---- | 84,067 | ---- |
| United Kingdom | 30,740 | 53,987 | 176 |
| Czechoslovakia | ---- | 34,038 | ---- |
| Poland | 4,775 (1) | 24,457 | 512 |
| Switzerland | 14,570 | 26,831 | 184 |
| Germany, Eastern | 24,690 (1) | 26,248 | 106 |
| Austria | 7,016 | 25,832 | 368 |
| Denmark | 1,200 | 6,774 | 565 |
| Finland | 675 | 9,778 | 1,449 |
| Norway | 1,397 | 10,934 | 783 |
| Sweden | 9,916 | 21,148 | 213 |

(1) Average 1951 - 1955

SOURCE: G. Coda - Nunziante, Market Outlets in Europe for Selected Fruits and Vegetables. Table Grapes. FAO Near East Regional Conference on Marketing and Refrigeration of Perishable Produce, Beirut, Lebanon, 20-28 September, 1965.

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During 1961-63, the West German imports have exceeded 200,000 tons per annum. They more than doubled during the mid-fifties but since then the rate of increase has been more gradual. The principal sources of supply are Italy, Spain, Greece and Bulgaria. The rate of increase in imports into the Soviet Union has been remarkable. Total imports rose from less than 40,000 tons in the late fifties to more than 100,000 tons in 1963. The great majority of this increase has been drawn from Bulgaria. Equally remarkable increases have been recorded in Czechoslovakia and Poland where the imports have been drawn from Bulgaria and to a lesser extent from Romania. Eastern Germany is also a major importer taking annually more than 26,000 tons during 1961-63, mainly from Bulgaria. However imports have been at this level since the early fifties.

## C. DEMAND OUTLOOK

In order to indicate the potential demand outlook for table grapes, both extrapolation of per caput consumption trends, and estimates based on income elasticities were used. The results of these two methods averaged out, are presented in table 17 for western European countries. The largest increases are expected in the Federal Republic of Germany where consumption in 1970 could be more than 50 percent above that of 1960-63. The projected rate of increase in Sweden and Austria is also higher than the 37 percent overall average, while a lower rate of growth seems likely for France, Switzerland, the United Kingdom and the Netherlands.

Table - 17

Consumption Estimates for 1970 in Western European Countries
Average of Extrapolation of Per Caput Consumption and Estimates
Based on Income Elasticities (in 1000m.tons)

| Country | Projected 1970 Total Consumption | Index of Increase (1960 - 1963=100) |
|---|---|---|
| Germany, Fed.Rep. | 318 | 154 |
| United Kingdom | 67 | 126 |
| Switzerland | 40 | 133 |
| Austria | 36 | 144 |
| France | 271 | 124 |
| Belgium-Luxemburg | 22 | 137 |
| Netherlands | 13 | 130 |
| Sweden | 28 | 140 |
| TOTAL OR AVERAGE | 795 | 137 |

SOURCE: G. Coda-Nunziante, Market outlets in Europe for Selected Fruits and Vegetables Table Grapes. FAO Near East Regional Conference on Marketing and Refrigeration of Perishable Produce, Beirut, Lebanon 20-28 September 1965.

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It is extremely difficult to project import demand in the Soviet Union and the other centrally planned economies of Eastern Europe because a great deal depends on political rather than purely economics factors. Nevertheless, the rate of increase since the mid-fifties has been very large and further gains can be anticipated. It would certainly not be unrealistic to expect an increase in net import demand by 1970 of the magnitue of 100,000 to 150,000 tons over the 1960-63 level of about 200,000 tons per annum.

In order to estimate the future imports of table grapes for the various importing countries of Western Europe, domestic production has to be estimated in order that the net import demand can be calculated. In the case of France, by far the most important domestic producer, a 1970 production of 350,000 tons was taken. This estimate was recently submitted to the OECD Working Party of Fruits and Vegetables. For the other countries, simple graphic estrapolations of production were made. The resulting projections of production and net import demand in 1970 are presented in table - 18 As can be seen, when comparing the results in tables 17 and 18 the imports into the eight Western European countries seem likely to increase roughly in line with total consumption. Therefore, in spite of the large expansion of French exports of table grapes, which in 1970 could be some 2.5 times as large as in 1960-63, it appears that the degree of self-sufficiency of the major importing countries of Western Europe will not increase. In 1960-63 these countries imported 53 percent of their requirements and in 1970 imports could still account for more than 50 percent of consumption.

Table - 18

Import Demand in 1970 in the Various Importing Countries of Western Europe (in 1000 m. tons)

| Country | Ave. Net Import 1960 - 63 | Projected Domestic production in 1970 | Projected import Demand in 1970 | Import Percentage Change over 1960 - 63 |
|---|---|---|---|---|
| Germany, Fed Rep | 207 | 3 | 315 | + 52 |
| United Kingdom | 53 | - | 67 | + 26 |
| Switzerland | 26 | 10 | 30 | + 15 |
| Austria | 25 | 1 | 35 | + 40 |
| France | - (30) | 350 | -( 79 ) | - (163) |
| Belgium Luxembourg | 4 | 12 | 10 | + 150 |
| Netherlands | 1 | 10 | 3 | + 200 |
| Sweden | 20 | - | 28 | + 40 |
| TOTAL OR AVE. | 306 | | 409 | + 34 |

SOURCE:

G. Coda - Nunziante, Market outlets in Europe for Selected Fruits and Vegetables. Table Grapes. FAO Near East Regional Conference on Marketing and Refrigeration of Perishable Produce, Beirut, Lebanon 20 - 28 September, 1965

D. EXPORT POTENTIAL OF TRADITIONAL SUPPLIERS

Having made an assessment of potential import demand, it is necessary to look at the other side of the coin, namely supply. It may be useful to consider first whether the potential demand can be fully met by traditional suppliers. French export availabilities have already been considered, and production and export estimates for 1970 are available for Italy and Spain. For the remaining most import European suppliers, graphic extrapolations have been made to estimate the 1970 production. It must be noted that for Eastern European exporting countries a range is given. This is because year to year fluctuations are large and precise forecast difficult, For Bulgaria, Rumania, Greece and Yugoslavia, the proportion of exports from total production in recent years has been 70, 35, 15 and 5 percent respectively. In projecting export availabilities it has been assumed that these proportions will be approximately maintained. Projected export availabilities for six of the major supplying countries are presented in table - 19.

Table - 19

Projected Export Availability in Major Exporting Countries of Europe for 1970 (in 1000 m. tons)

| Country | Ave. Production 1960 - 63 | Ave. Exports 1960 - 63 | Projected 1970 Production | Projected 1970 Exports Availability | Exports percent Increase |
|---|---|---|---|---|---|
| Italy | 654 | 155 | 1,250 | 325 | 110 |
| Spain | 266 | 70 | 370 | 150 | 114 |
| Bulgaria | 195 | 142 | 300-350 | 210-245 | 49-73 |
| Rumania | 115 | 42 | 150-170 | 55 | 30 |
| Greece | 123 | 17 | 180 | 27 | 59 |
| Yugoslavia | 206 | 10 | 290-300 | 15 | 50 |
| TOTAL or Ave. | 1,559 | 436 | 2540-2620 | 782-817 | 79-87 |

SOURCE: G. Coda-Nunziante, Market Outlet in Europe for Selected Fruits and Vegetables. Table Grapes. FAO Near East Regional Conference on Marketing and Refrigeration of Perishable produce, Beirut, Lebanon, 20 - 28 September, 1965.

As can be seen export availabilities in 1970 could be some 350,000 - 380,000 tons higher than in 1960-63, compared with an estimated increase in import demand of some 250,000 tons from both Western and Eastern Europe. This is a first indication of an unbalanced increase of supply over demand at constant prices. However, it is interesting to look at the projected import-export picture for the two European regions separately.

It can be realistically assumed that the Eastern European block will continue to derive its supplies mainly from countries within its economic sphere. Since the export potential of Bulgaria, Rumania and Yugoslavia is projected to increase by some 100,000 tons, and considering that other minor suppliers such as Hungary could also increase their exports, it seems that the resulting increase in supplies from this area could be absorbed by the projected increase in demand of some 100,000-150,000 tons

The same cannot be said for Western Europe. Comapred with the projected increase in import demand of 100,000 tons (derived from table-18), export availabilities could well rise by some 260,000 tons. Italian export availabilities alone are projected to increase by 170,000 tons.

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# CONCLUSION

The various data on table grapes can be estimated only approximately owing to the incomplete breakdown in the statistics of reporting countries. Moreover, in many cases some of the table varieties is in fact used for drying or crushed for wine, while marginal quantities of raisin and wine grapes are frequently marketed fresh.

In Lebanon, a great deal of the data needed for a complete economic analysis to determine the future market and price conditions of table grapes is lacking, while some of the available data, especially on production is inadequate and not very accurate.

Based on the available data and according to the analysis made in this study, starting 1966 and until 1971 (1971 included), an additional maximum area of about 420 ha. can be planted in Lebanon with table grapes every year to meet the internal and export demands in 1975. Since the consumption of table grapes was obtained by adding net imports to production, then it would be over-estimated or under-estimated depending on the estimate of production. Consequently, this estimate for future demand would be high or low depending on whether the estimate on production (as reported by the Ministry of Agriculture.) was exaggerated or under estimated.

The Near East and North Africa are more or less self sufficient in table grapes. The producing countries when considered separately are also self sufficient, while the non-producing ones import very small quantities and therefore have a very low per capita consumption.

Import potential in this region therefore is rather limited and competition with Lebanon is expected from Syria and Jordan where, especially in the latter country, the production of table grapes is increasing at a sizeable rate.

The market outlook for table grapes in Western Europe does not seem to be promising especially for prospective new comers. It may also be further assumed that if supply surpluses appear, EEC producers will press

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for more intensive application of the protective devices allowed under the common policy regulations for fruits and vegetables.

Prospects for table grapes in Eastern Europe are rather more favorable and some opportunities for new comers may exist. However, much will depend on political decisions rather than economic ones and these are not possible to forecast.

The following facts about the Lebanese table grape varieties help develop market outlets in Europe:

1. Tfayfihy is a firm purple dessert variety maturing at a relatively very late date and available to local consumers as late as February. The fact that it would be available for export in December, January and February when European demand would be greatest makes this variety particularly valuable.

2. Baytamouny is a white dessert grape that matures somewhat earlier than Tfayfihy but nevertheless late enough to be available as late as January. European consumers would thus have a choice of white as well as purple Lebanese grapes.

Grapes are very perishable . Measures, therefore, to prolong their marketing season are necessary to increase domestic consumption and exports. This can be accomplished by proper refrigeration which needs to be improved to a great extent in Lebanon.