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CYPRUS

AN ECONOMIC STUDY
OF THE
CYPRUS POTATO INDUSTRY
(May, 1963)

BY

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A N
E C O N O M I C S T U D Y
O F T H E
C Y P R U S P O T A T O I N D U S T R Y

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PREFACE

In the past twenty years the potato industry has experienced a rapid increase. Many of us remember the early 1940's when potatoes were grown mainly for the local market and exports were very limited.

The growing and selling of potatoes abroad, throws into bold relief the difficulties of balancing supply and demand when both production and demand vary from year to year. The market for Cyprus potatoes is one of widely fluctuating supply, demand and prices, both from year to year and within each year.

If we add to this the additional facts that production in Cyprus is in the hands of numerous and small producers and that supplies from other countries with lower cost of production are likely to be more easily available in the future, it is clear that potato growing and especially marketing must look forward to a period of considerable change in order to increase productivity and efficiency.

This paper tries to study the dynamic situation in the potato industry. It was drafted in May 1963 and formed the basis of a survey undertaken at that time by the marketing section of the Institute. The findings of this survey will be available in due course.

The writer wishes to extend his gratitude to his colleagues for all the help and assistance granted to him and his thanks to the secretaries without whose help and patience this paper could not have been produced.

Special acknowledgment is made to Lr.Hartmans, Project Manager, whose advice, assistance and detailed comments have enabled the writer to make many improvements regarding the content and presentation of this paper.

The writer, of course, alone is responsible for any errors and for the opinions expressed.

A.A.Savvides

AN ECONOMIC STUDY OF THE POTATO INDUSTRY

INTRODUCTION

The potato crop is one of the most significant crops of Cyprus. Its economic importance is apparent. It occupies the second place in agricultural exports following citrus. In recent years the foreign exchange from potato exports is around £1,000,000 per year. In 1962 it surpassed that of citrus (£2,425,000) and reached the figure of £3,300,000. This was due to special reasons - the abnormal demand for Cyprus potatoes from U.K., because of the big deficiency in the U.K. markets. It is rather unlikely that it will be repeated often. Therefore that year should be considered as an exception.

The rapid expansion of potato industry in the recent years and especially the very high prices secured by producers for the 1962 spring crop might have given the impression that the potato crop is an extremely profitable one and without any problems. However, the real picture of the potato industry is different. The potato crop is one of the most precarious crops for the farmer. It is characterised by the big variability in yields and the unpredictability of demand from U.K. The farmer's output from the potato crop varies considerably from year to year with great economic effects on his income, which affects adversely the efficient management.

May and June are the most important months for potato exports. Every year during these months, a number of meetings take place between the exporters and the potato growers representatives. In the past few years these meetings took place under the chairmanship of the Minister of Commerce and Industry in order to facilitate the solution of the arising problems. This indicates that the potato crop presents many problems to all concerned which have to be studied and analyzed in order to be solved successfully.

The problems of the potato industry are going to be examined in the coming pages. For practical purposes the whole subject is going to be divided into four parts.

In the first part the Patterns of Production are going to be examined.

In the second part the Utilization of Production would be examined and the problems of disposing potatoes would be studied.

In the third part reference is made to some aspects of Farm Management.

In the fourth part the above would be summarized and some conclusions would be drawn.

I. PATTERNS OF PRODUCTION:

Potatoes are cultivated twice per year in Cyprus. The Spring Crop (planted in January) and the Fall Crop (planted in August). The production is in the hands of a great number of farmers with small holdings. In the last years an increase in the number of farmers, who devote themselves in cultivating potatoes, was observed. A degree of concentration of the potato crop in certain areas of Cyprus was noticed also.

The total production of Cyprus (or the total production per farmer) depends on two factors. Firstly on the acreage and secondly on the yields. Consequently, in order to study comprehensively the patterns of production, it is proposed to examine the trends in acreage and yield, as well as their combined effect.

Acreage: The acreage of potatoes shows an increasing trend (See Table and Diagram 1). It reached its maximum in 1962 when 65,000 donums were planted. In 1963 the acreage is going to be greater. The acreage of the spring crop alone is around 65-70,000 donums. This continuous expansion of potato acreage is due mainly to the increase of demand for potatoes from U.K., especially during the months of May and June and secondly to the demand from other countries, (Syria, Lebanon, Saudi Arabia, etc). The question which arises is whether this expansion of acreage reflects the increase in effective demand (or is it disproportionate to the demand, when a lot of problems of disposing the production at numerative prices arise). So far such a great acreage (with average yields) has created serious disposal problems.

The acreage of potatoes shows some variations which are more acute in the recent years. These variations are probably due, among other, to the following reasons:

a) The acreage that the Cypriot farmer (like most farmers all over the world) is planting depends on his expectations which are based mainly on the level of prices of the previous season. Since the prices of potatoes show great fluctuations so the acreage follows with analogous fluctuations. It seems that the acreage of potatoes is affected more by the prices of the previous corresponding crop than from other factors. An indication of this assumption is the example of the 1963 spring crop. The potato seed which was imported in 1962-63 is by 50% greater than that of 1961-62 and therefore the acreage too. This is due mainly to the very high prices which were secured by the producers for the spring crop of 1962. So the acreage of the 1963 spring crop exceeds by 50% that one of 1962. Also the farmers' decisions regarding acreage of the following crop are based at a lesser degree on the prices of the last harvested crop.

TABLE 1.

Acreage, Production, Yields

Year	Acreage th. donums	Production million okes	Yield Okes
1925-29	20	12	600
1930-34	16	15	940
1935-39	20	20	1,000
1940-44	23	18	780
1945-49	32	29	910
1950	32	35	1,100
1951	40	39	980
1952	43	40	930
1953	41	58	1,410
1954	39	57	1,460
1955	38	44	1,160
1956	39	38	980
1957	35	37	1,060
1958	37	41	1,100
1959	54	64	1,190
1960	40	60	1,500
1961	52	64	1,230
1962	65	92	1,420
Average 1958-62	50	64	1,290

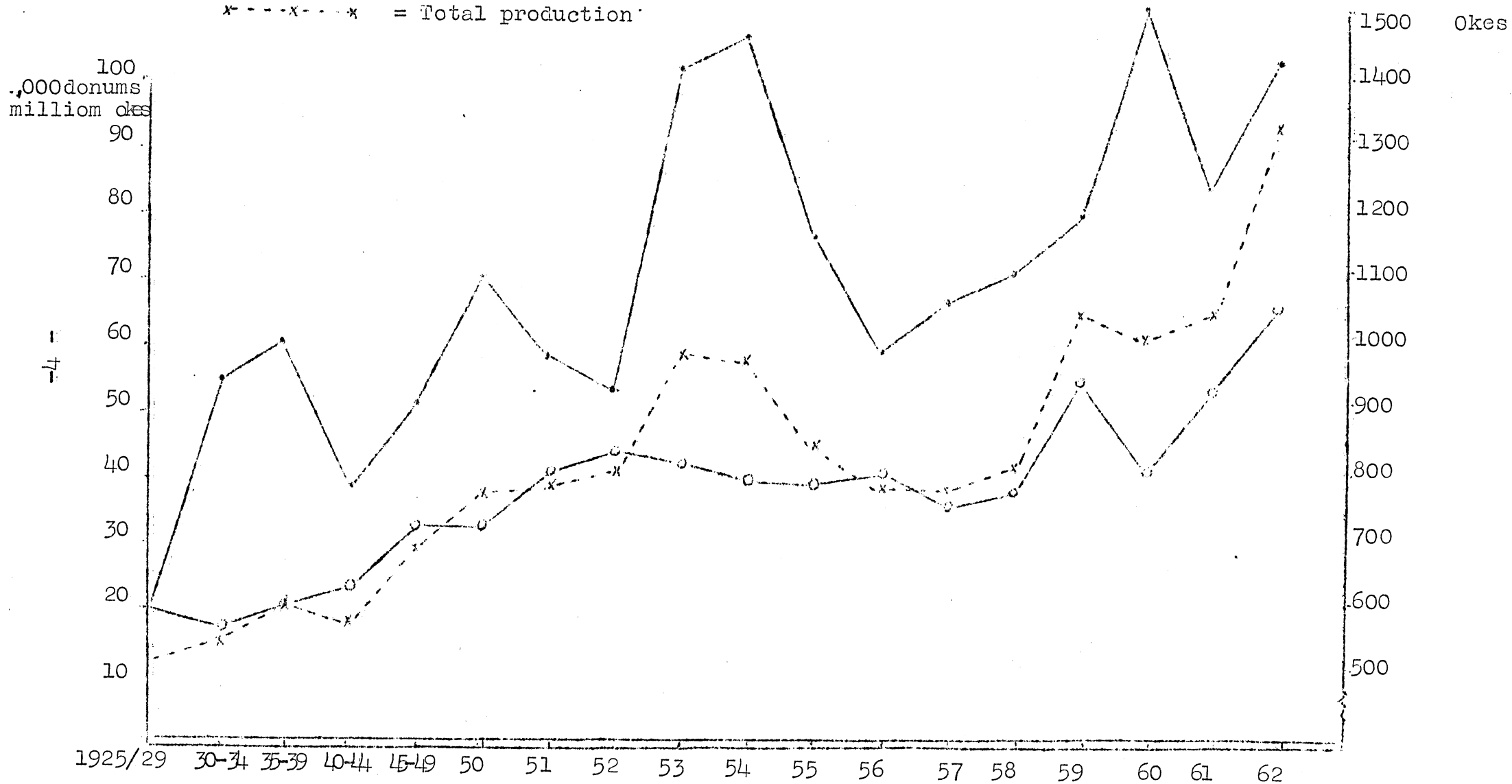
b) Some potato producers, but mainly not farmers plant potatoes casually in accordance to their expectations which are based also on the same factors as the regular producers. There is no data available which is the percentage of these casual potato producers but the general opinion is that it has been increasing in the last years. Especially the exporters or others who have no direct relation with farming devote themselves in recent years to potato cultivation. The latter affects adversely the permanent potato producers.

c) Other reasons like available quantity of potato seed, weather conditions during planting, available quantity of water, etc., affect acreage.

Yields: The average yield is considered to be around 2,000 okes per donum. This figure is generally used in the estimating of farmers' income from potatoes. A glance through table and Diagram 1 will give another picture regarding yields. Assuming that the figures given in Table 1 for acreage and total production are approximately the correct ones, it can be seen from this, that the average yield per donum does not exceed 1500 okes. As a matter of fact in most years it is lower than 1500. The average of the

DIAGRAM 1

○—○—○ = Total acreage
 ●—●—● = Yield
 x---x---x = Total production



last five years is 1290 okes per donum. (The figures for yields are obtained by dividing total production by total acreage). The most probable reasons why the average yield per donum is so low (if the above mentioned statistics are considered to be accurate) are the following:

- a) The unpredictable weather conditions like, for example, frost, hail or other weather hazards during the growing period, might destroy part or even the whole production of certain areas.
- b) The effects of pests and diseases. The economic importance of plant diseases and especially that of blight can not be over-emphasized. In the recent years the damages from blight are estimated to be several hundred thousand of pounds. This is very detrimental to farmers, as well as to the national economy of Cyprus.
- c) The cultivation of potatoes on marginal land regarding potatoes. The very low yields of these lands affect the aggregate average.
- d) Poor cultural practices, poor stands and other reasons like deficiency of water during the growing period, improper fertilization, etc.

The most important characteristic of yields is their big variability (Diagram 1). These variations would be studied later.

Production: The total production of Cyprus has increased considerably, especially in the last five years (table 1). The average production of the last five years is more than double that of the year 1945-49. The total production depends on the acreage and on the yield. Since the acreage and the yield are fluctuating, big fluctuations are found in the total production. The variations of the total production (Diagram 1) have great influence on the level of prices of each year. Since the demand for potatoes is inelastic, a certain change in supply affects the level of prices and consequently the income from potato crop more than proportionately in the opposite direction. Unfortunately, the output of the potato industry is largely unpredictable and to a considerable extent uncontrollable.

A comparison of Spring and Fall Crop

What was mentioned above referred to both Spring and Fall crop as a whole. However, it is advisable to study separately each crop and examine their characteristics.

The acreage, the production and the yield of the spring crop as well as those of the fall crop for the last five years are given in table 2. This with diagram 2 make the comparison of the two completely separate crops possible.

TABLE 2

Comparison of Spring and Fall Crop

Year	Acreage th. donums		Production ml. okes		Yield Okes	
	Spring	Fall	Spring	Fall	Spring	Fall
1958	22	15	24	17	1,100	1,150
1959	38	16	38	26	1,000	1,600
1960	18	22	40	20	2,200	900
1961	32	20	48	16	1,500	800
1962	46	19	68	24	1,500	1,250
1963	67	20 *	80 *	20		
Average 1958-62	31	18	40	20	1,440	1,140

* Provisional

1. Acreage

The acreage of the spring crop is much greater than that of the fall crop except in 1960. The average acreage of the spring crop for the period 1958-62 is by 70% larger than that of the fall crop. The increase in acreage of the spring crop is much greater than that of the fall crop (as a matter of fact the acreage of the fall crop is more or less steady). This is due to the greater demand for spring potatoes from U.K., to the bigger yield of the spring crop and to the quantity of water available for irrigation.

The variations in acreage of the spring crop are greater than those of the fall crop. Probably this is due to the fact that the acreage of the spring crop depends wholly on the quantity of the imported potato seed and that the fluctuations of prices of the spring crop are much greater than those of the fall.

If the assumption that the acreage planted is affected by the prices of the previous season is valid, then the prices that the 1958 spring crop secured should have been remunerative and rather high. The prices of 1959 spring crop should have been low and those of 1960, 1961 and 1962 above average. As a matter of fact the demand from abroad and the prices which the farmers secured correspond to our assumption (Diagram 7). The very high prices which prevailed during the 1962 spring crop resulted the 1963 spring crop to reach 67,000 donums and set a record. It is rather early to make a forecast but it can be said that the acreage which will be devoted to potatoes in 1964 spring would be much smaller than that of 1963 because the prices of potatoes until now are about the average and demand is not promising*. Under normal conditions it can be said in advance that

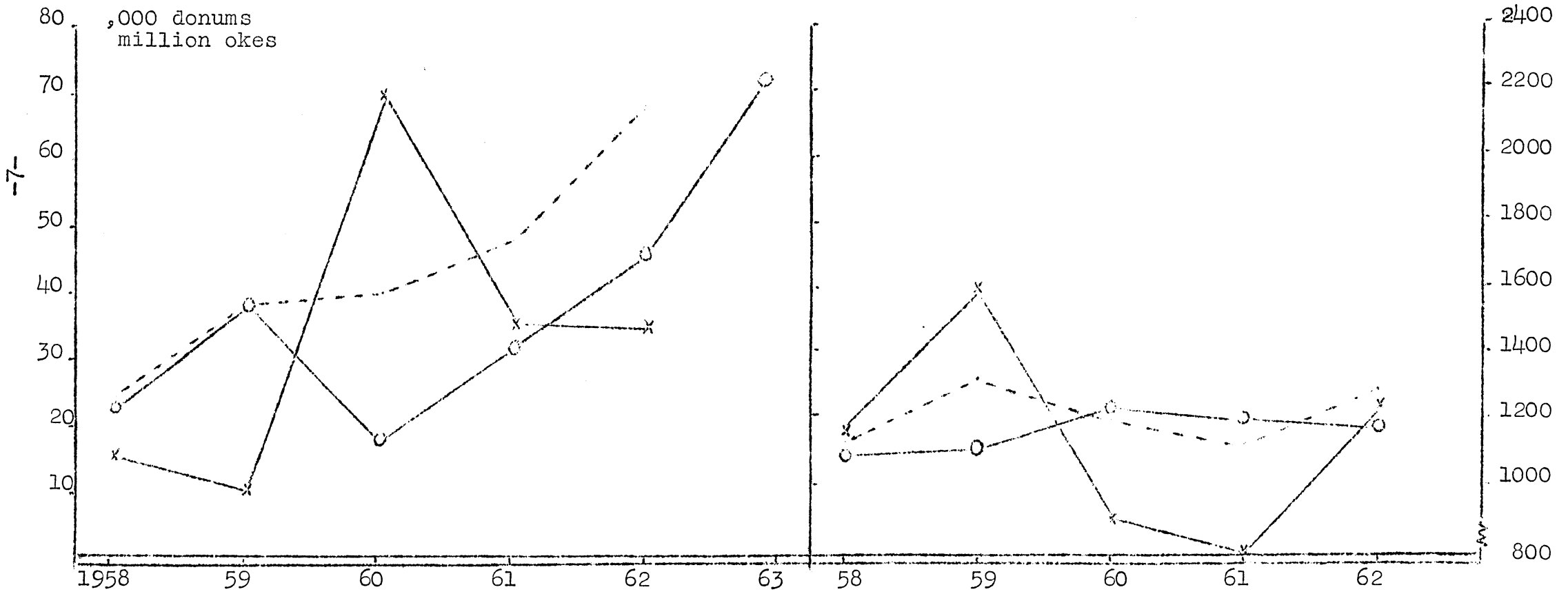
(* This paper was written in May)

DIAGRAM 2

○—○—○ = Acreage
 x—x—x = Yield
 - - - = Production

SPRING CROP

FALL CROP



-7-

the acreage of 1964 spring crop should be around 50,000 donums.

2. Yields:

The yields of the spring crop are generally higher than those of the fall crop. It is observed that the average yield of the spring crop of the period 1958-62 is 26% higher than that of the fall crop. This is due among others, to climatic factors such as temperatures, day length which prevail during the growing period, to the potato seed, etc.

The yield fluctuations are equally obvious, considerable and characteristic for both crops. The variability in yields is a universal phenomenon of the potato crop all over the world. One of the most important reasons for this is blight.

The variability of yields is of substantial economic importance to the producers returns which show big difference year by year. The stabilization of producers returns from the potato crop should be considered as one, if not the first, of the objectives of the agricultural policy for potatoes.

3. Total Production:

As it can be expected the total production of the spring crop is larger than that of the fall crop. As a matter of fact the average of the years 1958-62 of the spring crop doubles that of the fall crop. (table 2). This is due to the fact that both the acreage and the yield of the spring crop are larger.

The trend of increase of the spring crop is much greater than that of the fall crop (diagram 2).

The variations of the total production both of the spring crop and the fall crop are much smaller than those of acreage or of yield. This is due to the fact that the variations of yields are not necessarily parallel with those of acreage and consequently they may moderate each other in some way. This is of great economic importance.

On the other hand the income of individual producer fluctuates very strongly from year to year and to much greater extent than the potato national income. This means that some producers suffer economic losses one year and other producers another year causing great losses of productive resources. Every effort should be made to diminish this economic waste.

Location of Production:

As it was seen before, the acreage of potatoes has shown a considerable increase in the last year. The cultivation of potatoes is concentrated mainly in certain villages of Famagusta and Larnaca district (called Kokkinochoria) and in certain villages of Nicosia district in Morphou area. However, potatoes are planted all over

Cyprus. About 400 villages, distributed all over Cyprus, cultivate potatoes from few donums to some thousand donums. The number of villages which cultivate potatoes below 50 donums is very large in comparison with the number of the main potato villages (table 3).

TABLE 3

Distribution of Potato Villages according to number of donums.											
Donums District	Under 50	51-100	101-200	201-300	301-400	401-500	501-600	701-800	901-1000	1101-1200	Over 1500
Nicosia	67	16	17	4	5	2	4	-	1	-	-
Kyrenia	19	4	-	-	-	-	-	-	-	-	-
Famagusta	32	9	4	2	3	2	3	-	-	3	3
Larnaca	29	5	4	1	1	-	-	1	1	-	1
Limassol	51	6	1	-	-	-	-	-	-	-	-
Paphos	85	4	2	-	-	-	-	-	-	-	-
Total	283	44	28	7	9	4	7	1	2	3	4

It is not known which is the percentage of potatoes produced in the villages of secondary importance. However, this percentage must be considerable to affect prices especially those prevailing in the local market, since these villages represent mainly the late spring production.

The distribution of acreage as well as production by district for the year 1961-62 is given in table 4.

It can be seen (table 4) that Famagusta district occupies the first place followed by Nicosia, Larnaca, Limassol, Paphos and Kyrenia. From the above it becomes obvious that cultivation of potatoes is distributed over all areas of Cyprus and in the two thirds of the number of villages of Cyprus. However, something like 65-75% of production is concentrated in 10 villages of Famagusta and Larnaca area.

This concentration is mainly due to the following reasons:

1. The availability of plenty and suitable water for irrigation.
2. The suitability of favourable soils and climatic condition, which result in good quality.
3. The earliness in harvesting which is of major economic importance in relation to demand.

TABLE 4

Distribution of Acreage and Production by District
in 1961-62 year

ACREAGE

District	Spring Crop		Autumn Crop		Hill Crop	
	Donums	%	Donums	%	Donums	%
Nicosia	16,000	35.56	7,000	34.74	300	20.69
Kyrenia	500	1.11	350	1.74	-	-
Famagusta	18,000	40.00	9,000	44.67	-	-
Larnaca	4,500	10.00	2,000	9.92	50	3.45
Limassol	4,000	8.89	1,000	4.96	800	55.17
Paphos	2,000	4.44	800	3.97	300	20.69
Total	45,000	100.00	20,150	100.00	1,450	100.00

PRODUCTION

District	Spring Crop		Autumn Crop		Hill Crop	
	Tons	%	Tons	%	Tons	%
Nicosia	30,000	33.33	8,000	34.34	700	21.21
Kyrenia	1,000	1.11	800	3.43	-	-
Famagusta	38,000	42.22	10,000	42.92	-	-
Larnaca	10,000	11.11	2,000	8.58	100	3.03
Limassol	7,000	7.78	1,500	6.44	2,000	60.61
Paphos	4,000	4.45	1,000	4.29	500	15.15
Total	90,000	100.00	23,300	100.00	3,300	100.00

4. The location of this area near the port of exports (Famagusta) is an advantage in comparison with other villages.

These advantages i.e. quality, earliness, location near the port of exports are very important under conditions of competition.

II. UTILIZATION OF PRODUCTION-MARKETING

There are two outlets of production. The greater share of the potato produce is exported to foreign markets and the smaller share is used for local consumption. Occasionally a quantity is wasted. The annual variability of per donum yields and the perishability of the crop are the main misfortunes of the potato industry. Since exports are the main outlet of Cyprus potatoes, the study of their features requires attention.

For purposes of general information and for reasons of comparison the following items are shown in table 5: (a) the imports of potato seed and their value, (b) the total production, (c) the total exports and their value and (d) the quantity of potatoes used in Cyprus in different ways. It must be emphasized that these figures concern a calendar and not a productive year which particularly affect the quantities used in Cyprus. Part of the amount shown as being used in a particular year may have been carried over into the next year. This must have been the case in 1950. Therefore, it is probable that some differences might be observed with the figures which will be given later for each crop separately.

TABLE 5

Year	Imports -(potato seed)-		Total Production tons	Exports		Quantities used in Cyprus
	tons	£,000		tons	£,000	
1935-39	900	7	25,000	15,000	82	10,000
1945-49	1100	26	36,000	19,000	444	17,000
1950	1500	32	44,000	23,000	422	21,000
1951	3250	79	49,000	50,000	1028	1,000
1952	4900	149	50,000	44,000	953	6,000
1953	3500	80	72,000	43,000	898	29,000
1954	2950	64	71,000	45,000	935	26,000
1955	4000	71	55,000	33,000	697	22,000
1956	5100	120	47,000	36,000	928	11,000
1957	6100	142	46,000	41,000	626	5,000
1958	6100	190	51,000	25,000	967	26,000
1959	6400	203	80,000	53,000	1178	27,000
1960	8000	186	75,000	53,000	1224	22,000
1961	5500	181	80,000	54,000	1291	26,000
1962	13400	527	115,000	79,000	3303	36,000

The imported potato seed is continually increasing. This is the reflection of the increase of demand for the spring crop which depends wholly on the imported seed. The value of the imported

potato seed in the recent years is about £200,000. In 1962 it was over £500,000. Any effort of using the right quantity of potato seed means a saving in foreign exchange.

Exports show considerable variations which is a reflection of demand from abroad. Despite these variations exports show an increasing trend, especially in the past five years.

The quantities consumed in Cyprus, used as potato seed for the fall crop and wasted are represented by the dark area of Diagram 3. It can be observed at a glance that the quantities remaining in Cyprus vary considerably year after year. Since the demand for potatoes is inelastic, this variability means that prices in Cyprus markets fluctuate considerably and wastage in some years is very high.

The most significant problem which every potato producer, as well as the Government faces, is the utilization of potatoes in the most efficient way. On the one hand the producer is interested to sell his whole production at as high prices as possible in order to cover his cost of production and secure a normal profit as a reward of his labour, his capital and the risks of income under which he is disposed. On the other hand, the Government is interested or should be interested, in utilizing the full crop to secure as high output as possible by increasing exports and diminishing wastage.

In order to form a clearer picture about utilization of potatoes it is necessary to split the total production and exports to spring and fall crop. This is done in table 6 and Diagram 4, which show the production, the exports and the remainder separately for each crop since 1955-56. The figures of table 6 refer to a production year.

1. Exports

In the past four years, exports exceeded 50,000 tons and their value was around £1,200,000. In 1962 exports were 80,000 tons and their value was £3,300,000. All these illustrate the importance of potato exports for the Cyprus economy.

The break down of exports for each crop is shown in table 6 and Diagram 4. Exports of the spring crop are larger than those of the fall crop. This is due to the greater demand for potatoes from U.K. in April, May and June.

DIAGRAM No.3.

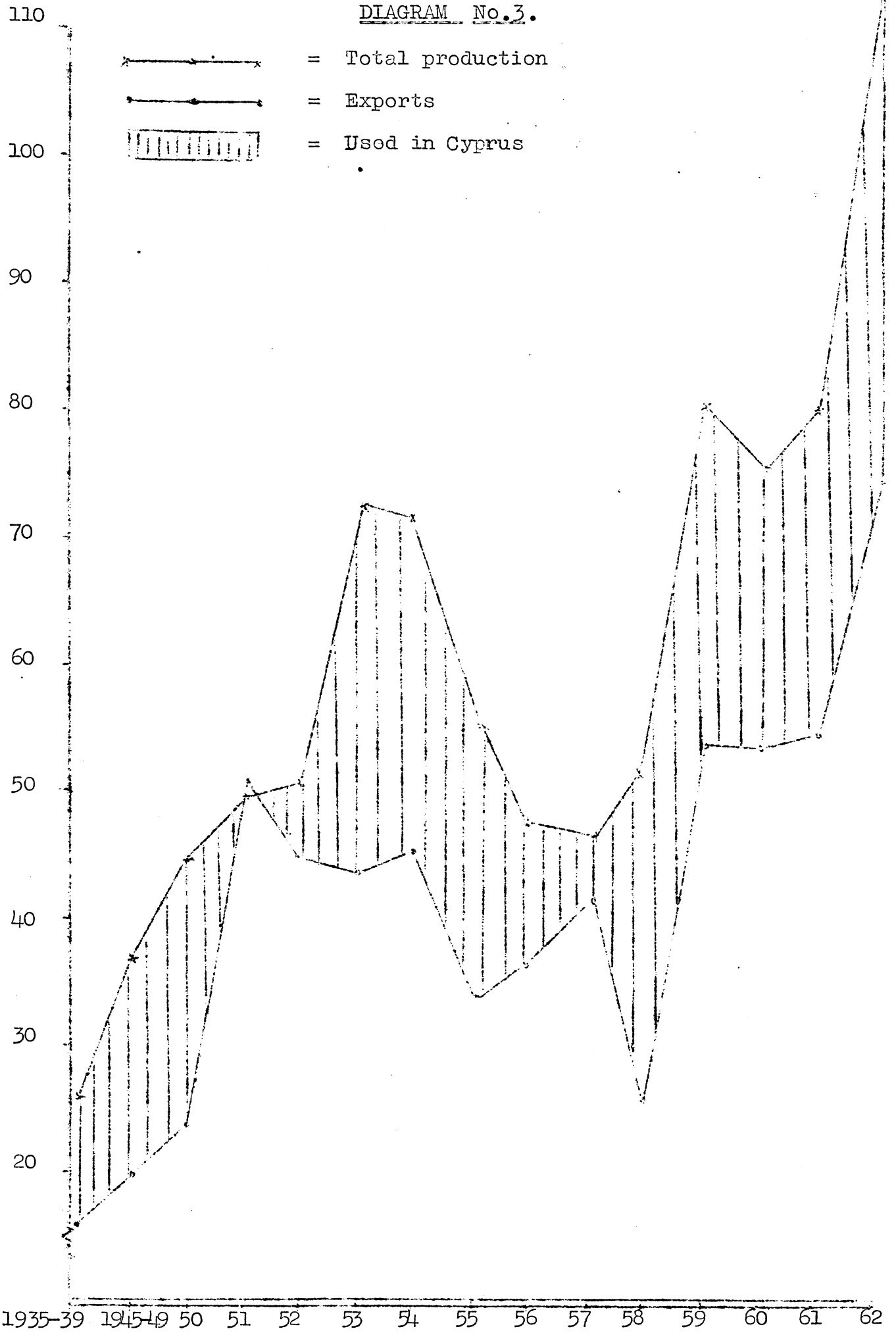


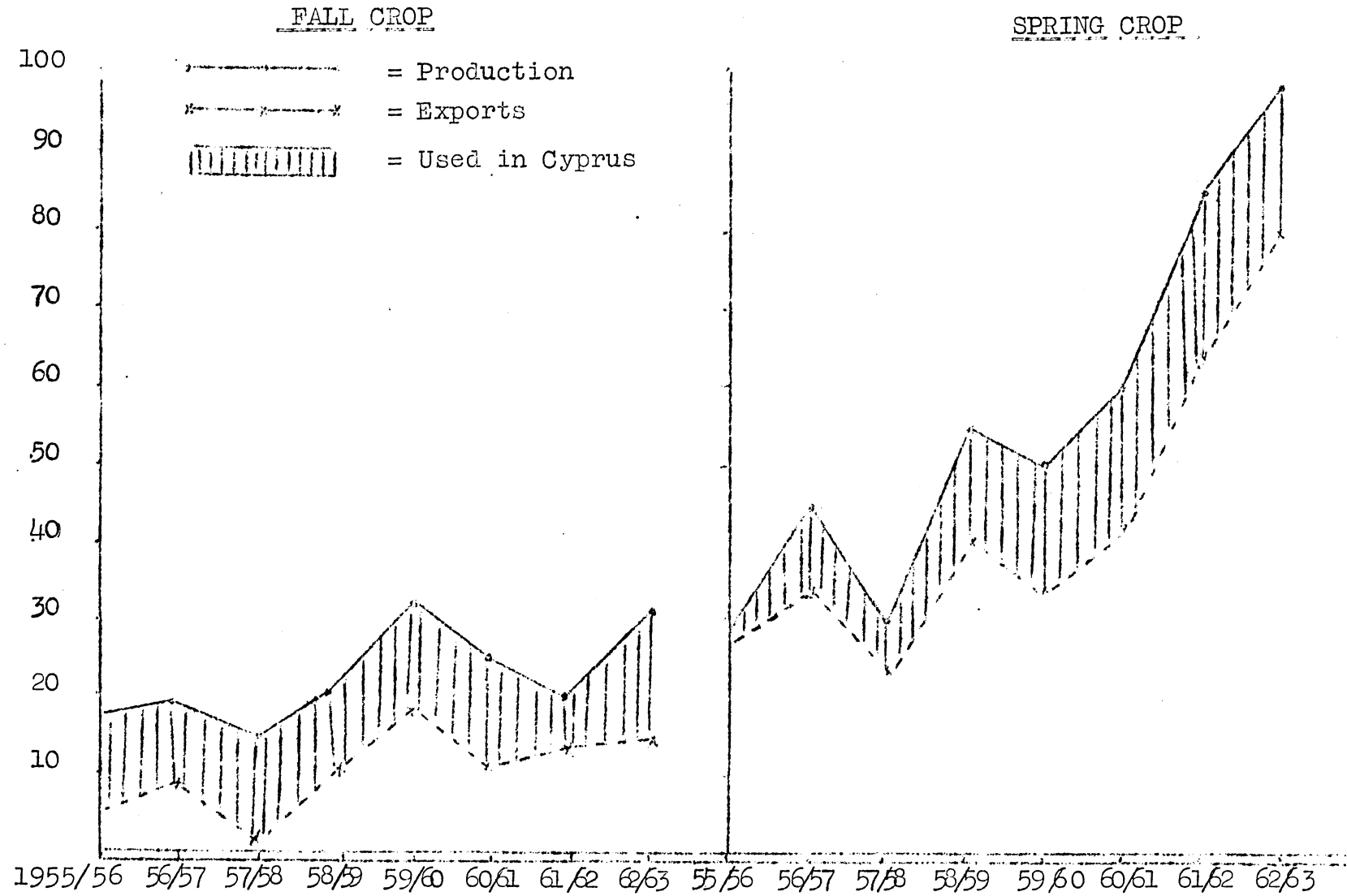
TABLE 6.

Production, Exports and local consumption in tons

Year	Fall Crop			Spring Crop			Total		
	Production	Exports	Difference	Production	Exports	Difference	Production	Exports	Difference
1955-56	18,000	5,650	12,350	29,000 (45,000)	27,450	1,550 (9,900)	47,000 (64,000)	33,100	13,900 (20,350)
1956-57	19,000	8,550	10,450	30,000	35,100	5,100	49,000	43,650	5,350
1957-58	15,000	1,300	13,700	30,000	24,100	5,900	45,000	25,400	19,600
1958-59	21,000	10,300	10,700	55,000	40,400	14,600	76,000	50,700	25,300
1959-60	32,000	18,350	13,650	50,000	34,500	15,500	82,000	52,850	29,150
1960-61	25,000	11,150	13,850	60,000	42,250	17,750	85,000	53,400	31,600
1961-62	20,000	13,700	6,300	85,000	64,900	20,100	105,000	78,600	26,400
1962-63	30,000	15,000*	15,000	100,000*	70,000*	30,000*	130,000*	85,000	45,000

(* These figures are provisional ones)

DIAGRAM 4.



The demand for Cyprus potatoes from abroad varies seasonally and within the season, consequently exports follow the same pattern too. (table 7).

TABLE 7
Distribution of Exports per month

	1958-59		1959-60		1960-61		1961-62	
	tons	%	tons	%	tons	%	tons	%
1. Fall Crop								
November	5	-	1,072	5.8	541	4.9	561	4.1
December	665	6.5	1,724	9.4	1,715	15.4	2,203	16.1
January	2,041	19.9	6,399	34.9	2,366	21.3	1,420	10.4
February	1,503	14.6	4,470	24.3	2,853	25.6	2,054	15.0
March	3,504	34.0	2,672	14.5	2,453	22.0	6,773	49.5
April	2,294	22.2	2,032	11.1	1,205	10.8	675	4.9
May	290	2.8	-	-	-	-	-	-
Total	10,302	100	19,369	100	11,133	100	13,686	100
2. Spring Crop								
April	96	0.2	1,025	3.0	421	1.0	737	1.1
May	3,243	8.0	26,484	76.7	21,242	50.3	25,704	39.6
June	25,436	63.0	6,920	20.1	20,276	48.0	28,178	58.9
July	9,137	22.6	73	0.2	298	0.7	262	0.4
August	168	0.4	-	-	-	-	-	-
September	793	2.0	-	-	-	-	-	-
October	1,537	3.8	-	-	-	-	-	-
Total	40,410	100	34,502	100	42,238	100	64,881	100

Exports of the fall crop are smaller. They are more or less normally distributed in the period from November to April. This means that there is no technical difficulty, like congestions at the packing houses and the ports etc. in exporting the fall crop.

Almost all (95%) of the spring crop exports take place in two months only, namely in May and June. This creates some technical difficulties. In a relatively short time the harvesting the packing and loading on ships of relatively large quantities of potatoes should be carried out. During this period shortage of labour, congestion outside the packing houses and delays of loading on the ships are affecting the efficiency of marketing. The expansion of Famagusta harbour will facilitate the speed of exports in May and June. Under the present port facilities it becomes a problem to export 65,000 tons of potatoes in May and the beginning of June,

because at the same time another 15,000-20,000 tons of carrots have to be handled. The need of organizing the marketing channels from the place of production to the port in an efficient way is of primary importance. Any delay in exports during May and June for whatever reasons, means losses for producers. In other words delay in exports causes greater quantities of potatoes to remain in Cyprus, and as it will be mentioned later, lower prices will be secured by producers in the local market.

In April there is an overlapping of exports of the Fall and Spring crop. Exports during the months of July, August, September and October usually are negligible. (Diagram 5).

2. The Characteristics of demand from abroad.

The demand for Cyprus potatoes from abroad is greater in the spring than in the fall. This is why exports of the first crop are much greater than those of the later.

The demand for the spring crop is limited to a period of 45-50 days, while the demand for the fall crop lasts about 6 months.

The U.K. market absorbs more than 95% of Cyprus exports. It takes almost the spring exports and the greater part of the fall ones. Small quantities are exported to a number of other countries (table 8).

It can be seen that Cyprus exports to continental countries are nil. This is due to the fact that consumers of these countries and especially the German consumers prefer yellow flesh potatoes making it impossible to export Cyprus white flesh potatoes in any quantities to German markets. New varieties of yellow flesh potatoes should be tested, so that Cyprus may take advantage of a possibly important potato outlet.

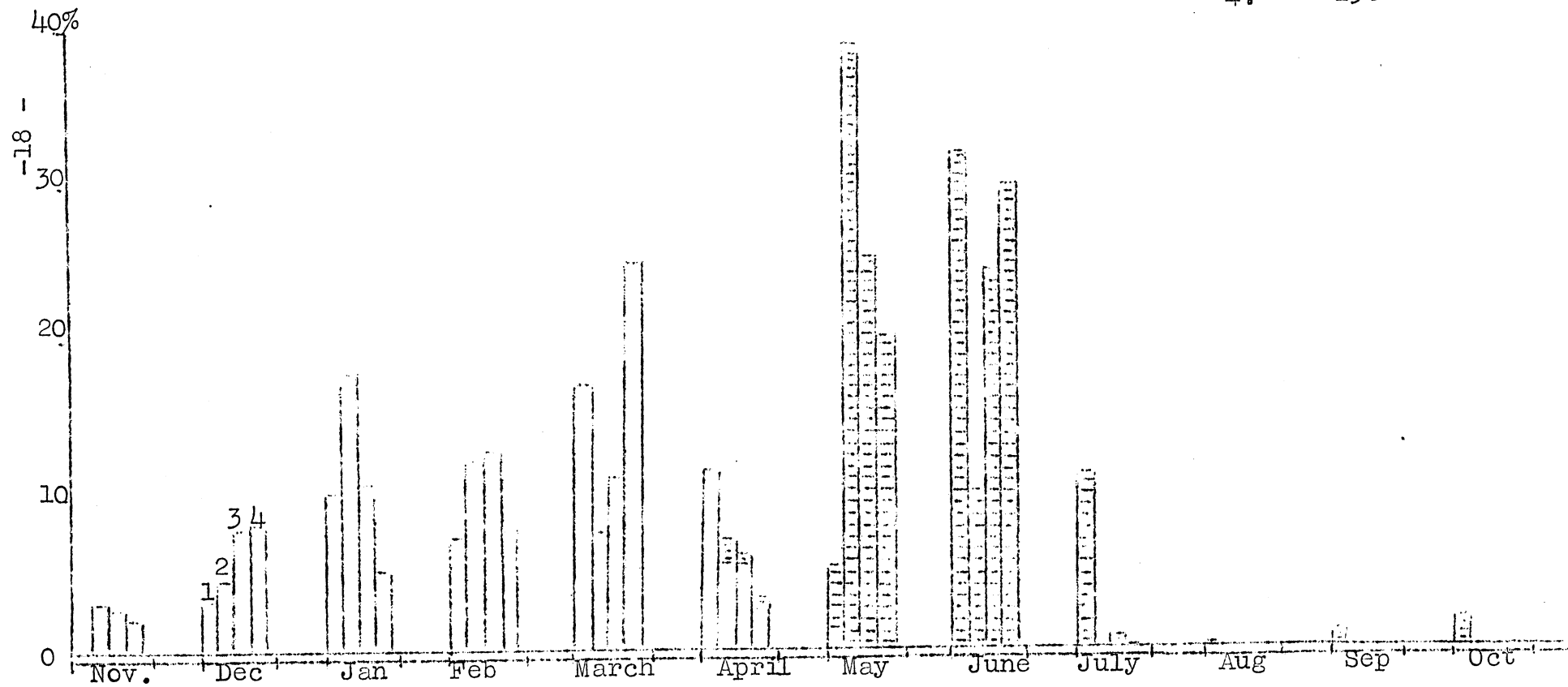
Since U.K. market is the major buyer of Cyprus potatoes a short examination of the U.K. markets is necessary. The needs of the U.K. consumers of potatoes are covered for 90% by the local production and only 10% from imports. Out of this 10% of the U.K. imports, 6-7% refer to imports of early potatoes during the months of February, March, April and May (table 9).

The consumption of early potatoes in U.K. has slightly increased in recent years with a trend of further increase. Imports of early potatoes have not only increase but they have also shifted in time of importation. In 1956 most of the potatoes

DIAGRAM 5

MONTHLY EXPORTS

- 1. = 1958-59
- 2. = 1959-60
- 3. = 1960-61
- 4. = 1961-62



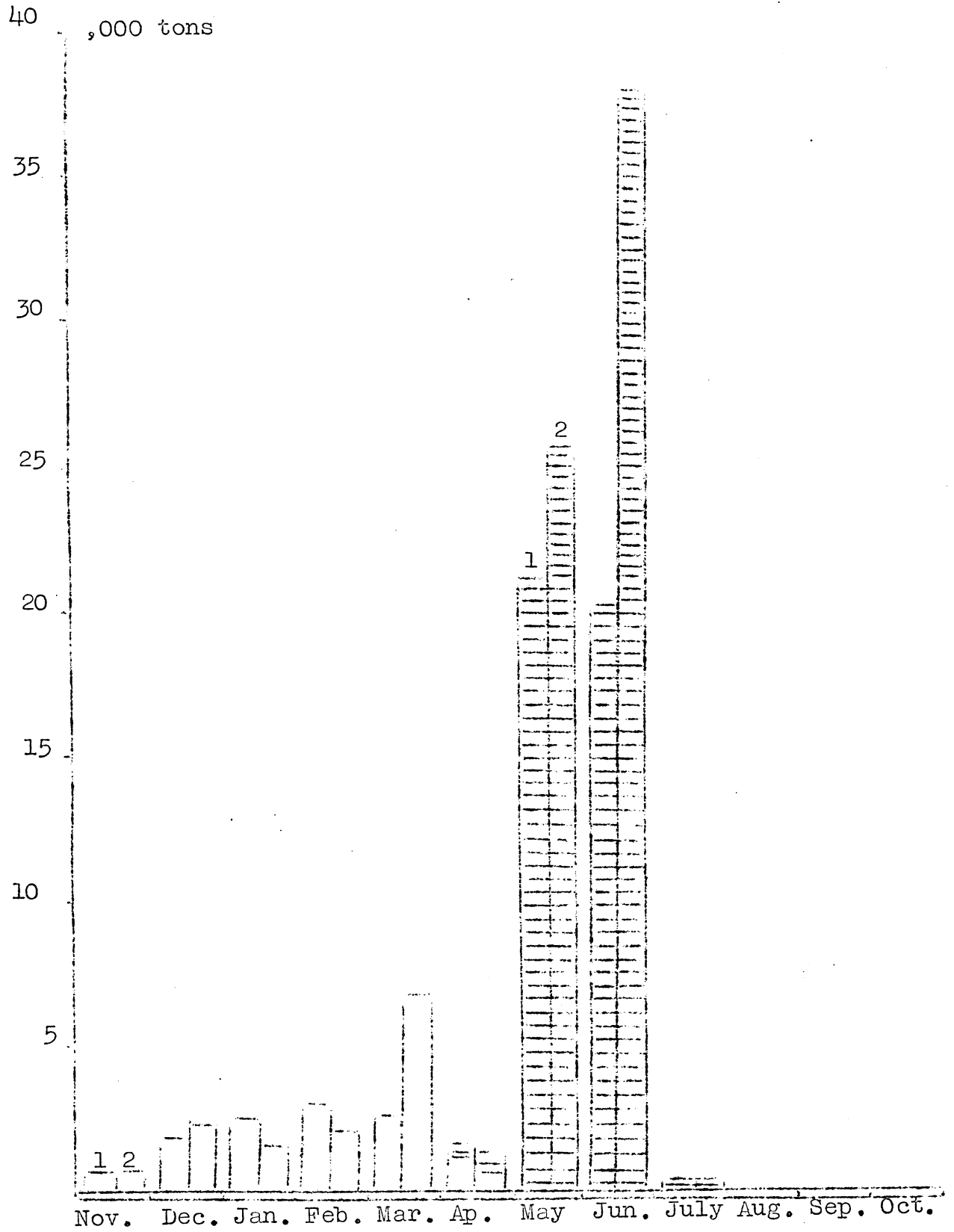
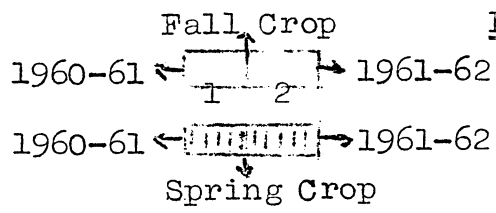


TABLE 8
Experts by country of destination

	Country	1959-60				1960-61				1961-62			
		Fall	Spring	Total	%	Fall	Spring	Total	%	Fall	Spring	Total	%
	England	14,954	34,502	49,456	93.7	9,079	42,197	51,276	96.0	12,683	64,781	77,464	98.6
	Syria	296	-	296	0.5	250	-	250	0.5	725	-	725	0.9
	Saudi Arabia	-	-	-	-	434	-	434	0.8	164	-	164	0.2
	Sweden	91	-	91	0.2	-	-	-	-	38	41	79	0.1
	Lebanon	657	-	657	1.3	1,041	-	1,041	1.9	25	40	65	0.1
	Guana	-	-	-	-	15	40	55	0.1	30	11	41	0.1
	Greece	-	-	-	-	90	-	90	0.2	-	-	-	-
	Kuwait	-	-	-	-	82	-	82	0.2	-	-	-	-
	Ceylon	975	-	975	1.8	-	-	-	-	-	-	-	-
	Jordan	221	-	221	0.4	-	-	-	-	-	-	-	-
	Other Countries	1,200	-	1,200	2.1	142	-	142	0.3	-	-	-	-
	Total	18,394	34,502	52,896	100	11,133	42,237	53,370	100	13,665	64,873	78,538	100

TABLE 9
Source of potato supplies in U.K.

	1954/55	1958/59	1959/60	1960/61
	%	%	%	%
<u>A. Early Potatoes</u>				
Imports	3.7	6.1	6.9	6.6
Local Production	9.1	9.5	9.4	9.8
	12.8	15.6	16.3	16.4
<u>B. Late Potatoes</u>				
Imports	5.0	10.7	2.7	2.3
Local Production	82.2	73.3	81.0	81.3
	87.2	84.4	83.7	83.6
TOTAL	100	100	100	100
Total Imports	8.7	16.8	9.6	8.9

were imported in June, while in 1960 most of them were imported in May and increased in quantities as well (Diagram 6). This is of great importance for the spring crop of Cyprus. Since the U.K. does not allow imports of potatoes after the end of June, the earlier Cyprus production is, the easier will be its disposal in U.K. markets and usually at higher prices.

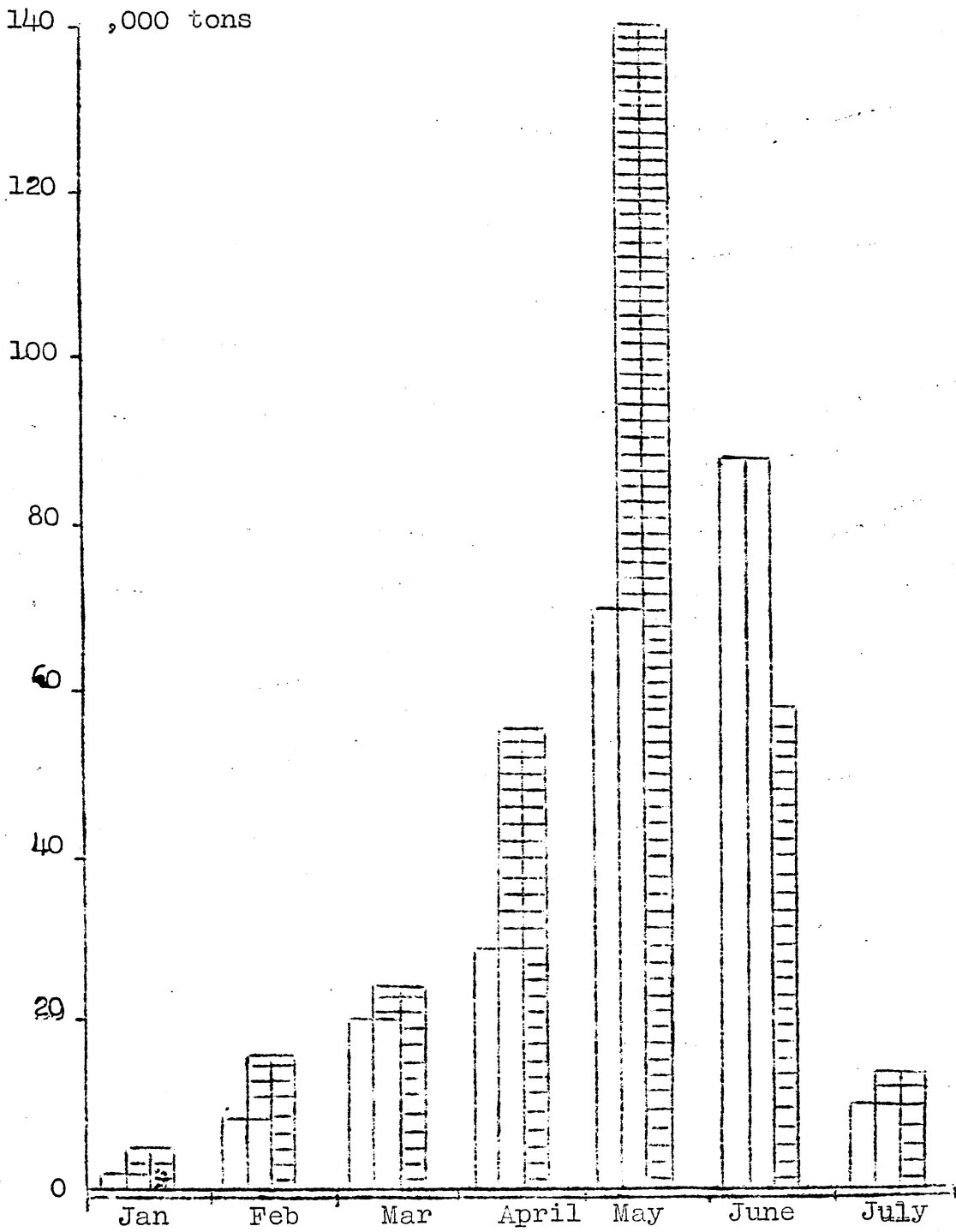
Another point to be born in mind is that imports into U.K. come from many countries. In addition to Cyprus, Canary Islands, Malta, Italy, Morocco, Greece, Egypt, Israel, Lebanon, etc. are exporting potatoes to U.K. markets and therefore they are competing with Cyprus. The competition from these countries is considerable and should not be overlooked, or underestimated. The preferential tariffs work to the advantage of Cyprus but when supplies from other countries are very big then demand for Cyprus potatoes is considerably affected in the form of smaller quantities demanded and lower prices offered.

Cyprus potatoes have a good name in U.K. and are considered to be of good eating quality provided their arrival condition is sound. Unfortunately in the past the percentage of wastage of

DIAGRAM 6.

MONTHLY POTATO IMPORTS IN U.K.

□ = 1956
▨ = 1960



arrivals was rather great. This should be moderated if not eliminated or otherwise it will affect the long term demand for Cyprus potatoes.

The price elasticity of demand for potatoes in U.K. is inelastic. Therefore the supplies of potatoes which come either from the local production or are imported from many countries affect prices adversely in U.K. The production of potatoes in U.K. and consequently the supply of local potatoes shows great variations. The same is happening with the production of other countries. Since the market demand for potatoes in U.K. is stable, it is understandable why the demand for Cyprus potatoes from U.K. will show variations from year to year according to available supplies in U.K. The demand for Cyprus potatoes from U.K. is a given factor and the Cypriot producer can do very little about it. The only thing is to make use of the given demand in the best possible way. This season's production is very large in relation to demand. Producers will realize - unfortunately very late - that strikes will help them very little if not bring losses to them privately and as a whole.

3. Local Utilization

What remains from the total production when exports stop is used locally. This local use covers human consumption, needs of potato seed and wastage.

The production of the fall crop covers the local consumption from November to April while that of the spring from May to November and also it is used as potato seed for the next fall crop. The price of potatoes depends on supply and demand. Human consumption in Cyprus is rather stable. It is estimated that the annual consumption of potatoes in Cyprus is about 15-20 thousand tons. Out of this about 8-9 thousand tons come from the fall crop and another 9-12 thousand tons from the spring crop. The demand for potatoes is rather inelastic, since quite wide changes in prices have little effect on the quantity demanded. In other words, a rise in price will curb demand to only a limited extent and a price fall will not lead to much expansion of consumption. The price elasticity of demand for potatoes has not yet been estimated in Cyprus but there are reasons to suggest that it is less than unity. The inelasticity of demand means that relatively small increase of the quantity of potatoes, over and above the 8-10 thousand tons, which can be consumed in Cyprus in 6 months, can have a great influence in lowering the prices. This is the reason for which sometimes prices

increase and sometimes decrease immediately after the export period or when the new crop approaches. When exports are great in relation to the production and consequently the available quantity for the local market smaller than the quantities consumed, then the prices prevailing in the local market are higher than average. On the other hand when the quantity which remains in Cyprus after the export period is greater, then prices fall sharply. This happened with the 1963 spring crop. Despite the fact that the production of 1963 spring crop is much lower (about 100 thousand tons) than what was expected (140,000 tons) and at the same time exports are also limited (it is estimated to reach 70,000 tons) the quantity which will remain in Cyprus will be 30-35 thousand tons. As a result the prices which will prevail in Cyprus from July to November 1963 will be around 15 mils per oke if not lower, unless some unusual demand from other countries occurs or the actual production is smaller than what was estimated.

It is by now obvious that the prices prevailing in the local market are affected very much by the available quantity which depends on the relation of production and exports. The fact that the demand for potatoes is inelastic can be advantageous to producers if they can stabilize supply. Unfortunately the unpredictability of production, the variations in exports and the fact that farmers have no organized system of controlling supply results in big fluctuations in prices. This is detrimental to the producers and undesirable to consumers. The organization of producers in such a way that they can control the disposal of supplies would be a first approach to secure more stable prices. Under Cyprus conditions this can only be accomplished by the establishment of a Potato Marketing Board.

4. Prices

The most serious problem facing the potato producers is the uncertainty about prices which will prevail during the harvest time. It must be stressed that selling of potatoes at the right time is the most significant decision that the producers have to take. Every year producers are facing new situations and conditions which are impossible to be forecasted accurately with their limited knowledge.

A study of prices for each crop of the past years is necessary in order to draw certain conclusions about the level of prices, trends, etc.

The prices show considerable fluctuations yearly, seasonally and even within a season (table 10). The prices for the spring crop show greater discrepancies year by year than the prices of the fall crop (diagram 7).

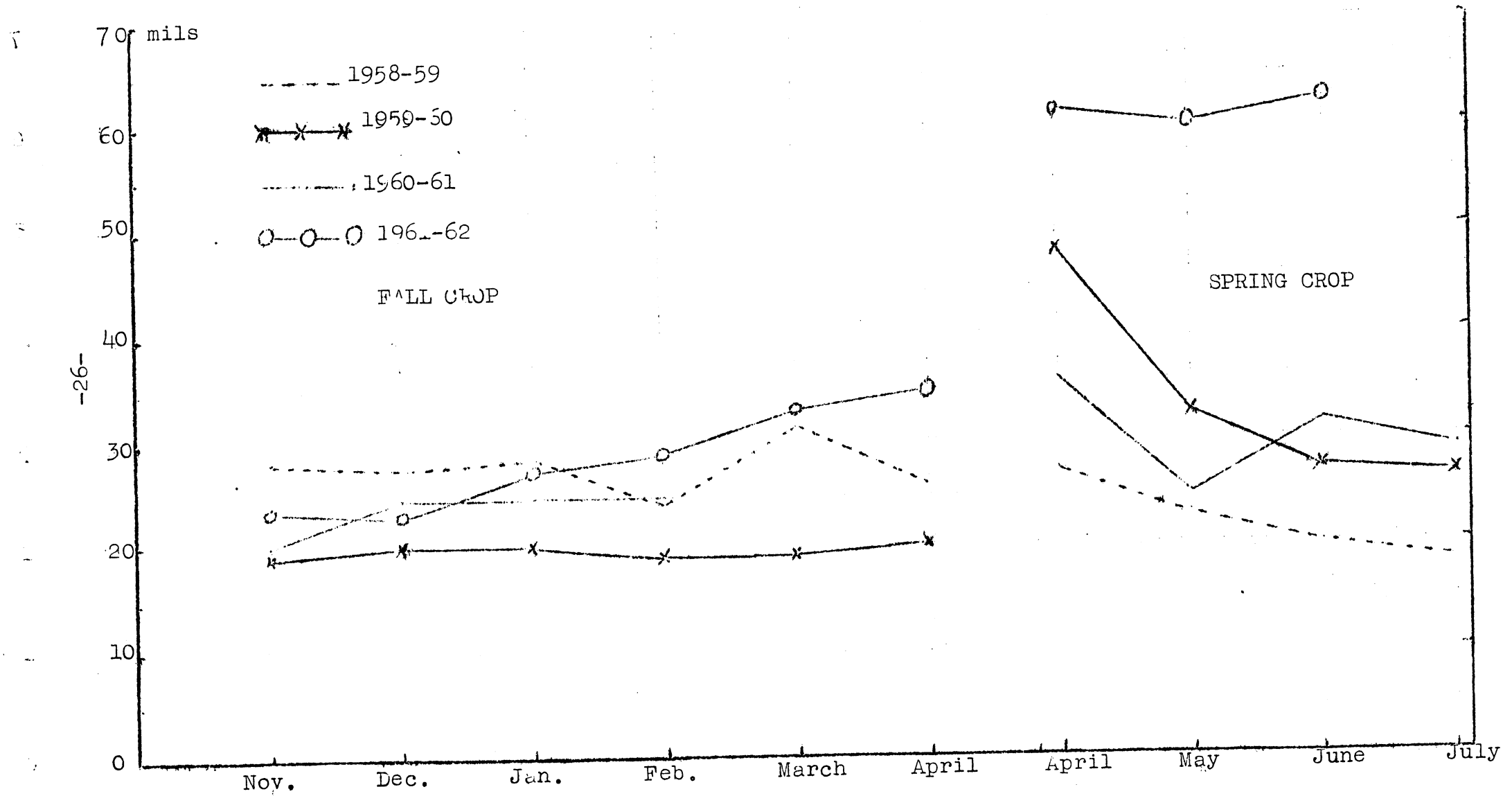
TABLE 10
Producers Prices per Month

Months	1958-59		1959-60		1960-61		1961-62	
	mils per oke		mils per oke		mils per oke		mils per oke	
<u>1. Fall</u>	range	Av.	Range	Av.	Range	Av.	Range	Av.
November	27-30	28½	18-20	19	18-22	20	22-25	23½
December	26-30	28	20	20	25	25	23	23
January	27-30	28½	20	20	25-26	25½	25-30	27½
February	22-27	24½	18-20	19	25	25	25-32	28½
March	28-35	31½	18-20	19	-	-	30-35	32½
April	20-32	26	20	20	-	-	35	35
<u>2. Spring</u>								
April	25-30	27½	48	48	35-37	36	55-68	61½
May	21-25	23	30-35	32½	23-27	25	42-78	60
June	19-21	20	25-30	27½	30-34	32	80-45	62½
July	17-19	18	25-28	26½	28-30	29	-	-
August	19	19						
September	10-12	11						
October	10-12	11						

Regarding the fall crop producers should have in mind that the average price which they might secure for their production is about 25 mils per oke. In estimating the acreage to be planted they should bear this price in mind. Since there are no great fluctuations from month to month producers might well sell at harvest time if the price is around 25 mils. In actual fact some producers do this. Some store potatoes and sell later, for reasons of speculation. This is done mainly because the fall crop is storable.

Regarding the spring crop, farmers should have in mind that the level of prices from year to year shows great differences (diagram 7). At the same time they should bear in mind that prices of the spring crop show great fluctuations within the season. Generally speaking it can be said that prices are higher at the beginning of the season showing a downward trend to the end of the exporting period.

DIAGRAM 7
MONTHLY PRODUCERS PRICES



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These fluctuations of prices during the exporting period are due to the changes in demand from abroad or to different local factors, therefore farmers should be careful when to sell. The average price for the spring crop during export period should be pre-estimated around 35 mils per oke and this figure should be considered as a basis in deciding the new plantings. The storage of the spring crop potatoes with the intention of securing better prices is very risky. As pointed out before the prices which will prevail in the local market after the end of exports is very difficult to be forecasted accurately. Since most producers realize this they do sell at the harvest time.

The level of prices for each crop and each year in Cyprus depends:

1. On the level of demand from U.K. markets. This is affected mainly by the conditions of the English production. The lower the U.K. production the bigger the demand. The bigger the demand, the higher the prices. The prices of the years 1958-59, 1959-60 and 1960-61 are more representative than the prices of the year 1961-62. Great damages of the English production of that year resulted in an abnormal demand for potatoes from abroad.

2. On the supplies of other countries which export to U.K. and compete with Cyprus potatoes. As it was pointed out earlier the number of countries exporting to U.K. is great. It is unlikely that the total production and consequently the supply from these countries will show considerable variations from year to year.

3. On the production and consequently on the Cyprus supply. The bigger the supply in comparison with demand, the lower the prices which will be realized in Cyprus. In this case prices fall even lower because of competition among producers.

4. On the quality of Cyprus potatoes and especially on the absence of diseases. If losses during shipping from Cyprus to U.K. are great then the prices that U.K. importers are prepared to offer are lower. The possibility of casual but heavy losses due to deterioration of quality during transport might even make importers unwilling to buy. Then the narrow margins of profit which could be sufficient if there were no dangers of losses and if they had only to face the risk of the market are not enough.

5. On the marketing system which determines the difference between prices in U.K. and prices paid to the Cypriot producer. The better organized the marketing system is, the smaller the margin would be. Every reduction in the overhead expenses and any elimination of damages during transportation means higher returns to all concerned. The reduction in margins could be secured:

- a) By reducing to a minimum the wastage, by maintaining high quality, and consequently diminishing risks.
- b) By reducing expenses of harvesting, assembling, packing and transportation.
- c) By increasing the competition among exporters and reducing consequently the profit margin when this is abnormal and unjustifiable.

III. SOME ASPECTS OF FARM MANAGEMENT

(a) Cost of Production:

It is not the purpose of the present paper to analyze in detail the cost of production of potatoes. However, it is considered desirable to refer to the factors affecting the profitability of the potato crop. Needless to emphasize that a detailed and comprehensive study of the cost of production of potatoes is necessary. It may be mentioned here that the recently established Agricultural Research Institute has planned the study of the cost of production of the main agricultural crops of Cyprus including that of potatoes. In this paper some rough estimates of the cost of production are given.

Average cost per donum of potato production

Preparation of the field	£0,800 - 1,200
Planting expenses	3,000 - 4,000
Value of seed	6,000 - 9,000
Value of fertilizers	4,000 - 6,000
After sowing cultivation	2,000 - 3,000
Irrigations	5,000 -10,000
Control of diseases and pests	1,000 - 1,500
Harvesting	4,000 - 5,000
Interest on capital	5,000 - 5,000
Total expenses	£ 30,800 -44,700 =====

It can be seen that the average cost of production including the cost of land, labour and capital is £37,000 mils per donum. Assuming that the average production per donum is 1500 okes then potatoes have to be sold at 25 mils per oke in order to cover these expenses.

(b) Farm Management Efficiency

The proper integration of the potato crop into the whole farm economy is the first step to a successful potato enterprise. This is of major importance in cases where the farmer is planting other crops like carrots, whose cultivation practices coincide with those of potatoes. In these cases, this might increase the cost of production or prevent the right cultural practices at the right time. For example, many producers and especially of Nicosia district were prevented to cultivate or to harvest, their potatoes at the right time because they were occupied with the harvesting of carrots. In these cases if producers used to plant fewer donums of carrots and potatoes in order to be in the position to harvest them when it was necessary and sell the produce at the right time they could secure a higher return.

Any increase of output per donum means higher profits or lower losses. In most cases the differences in profit secured by farmers are due to the differences in output per donum while cost per donum is more or less the same. The output per donum depends on yields and prices. Neither the one nor the other should be overlooked. It must be emphasized that both yields and prices secured by each individual farmer depend very much on the efficient management. However it is not within the scope of this paper to study this.

IV. CONCLUSIONS AND SUGGESTIONS

From what has been said in this paper the following conclusions can be drawn:

1. The total production of potatoes experiences great variations from year to year which create very acute disposal problems. If the factors to which these variations of production are due could be moderated the problems of disposing production could be mostly solved.

2. The demand for potatoes from U.K. markets while in the recent years showing an increasing trend, has experienced great variations. The factors affecting demand are out of control.

These variations of demand are accompanied with analogous variations of prices. As it can be seen from the following diagram the prices which prevail in U.K. depend on factors which cannot be affected. Largely these prices are given for the Cyprus potato producer.

3. Since most of the Cyprus potatoes are exported to U.K. Cyprus production should be adjusted to a normal U.K. demand.

4. From what was mentioned it is obvious that potato yields vary considerably and that the average is low. Consequently all efforts and necessary steps should be taken to increase yields. At the same time quality of exported potatoes should be promoted. All these mean better management.

5. The marketing of yellow flesh potatoes in Continental Europe and especially in Germany might be an outlet for Cyprus potatoes, if the latter could offer suitable supplies.

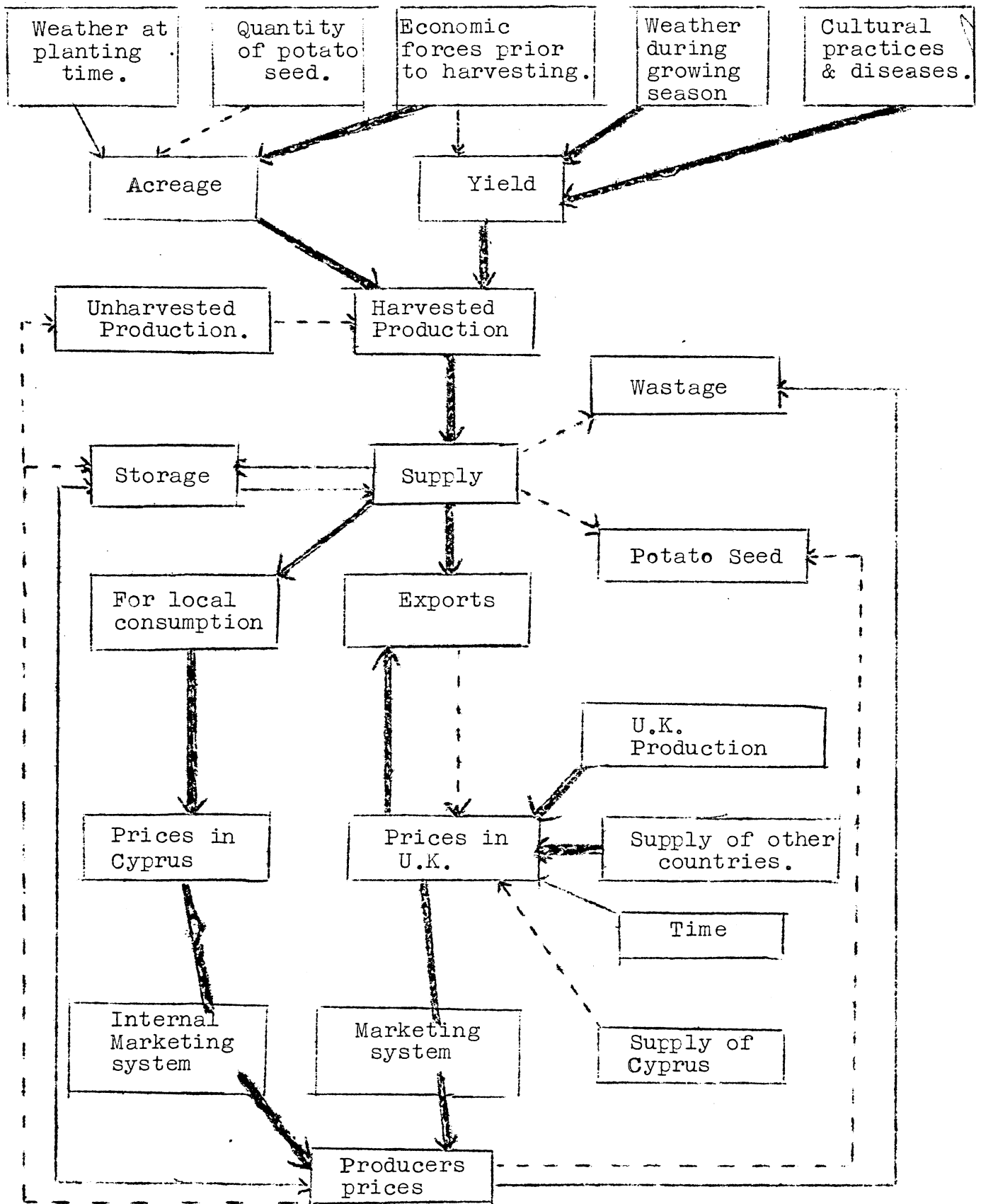
6. The monthly or weekly fluctuations of prices might be justifiable, but mainly the fluctuations of prices during the same day which are completely unjustifiable, are the most serious problem facing the potato producers. The stabilization of prices in any possible way will contribute in moderating the uncertainty facing the producers and increasing the economic importance of potato crop for Cyprus as a whole.

7. It seems very probable that many of the above mentioned marketing problems will be solved with the establishment of a Potato Marketing Board.

8. A shift has taken place in the quantities and timing of U.K. imports. The earliest the harvesting and exporting of Cyprus potatoes the better.

9. The factors affecting production, exports and prices for Cyprus potatoes, some of which are economic in nature, others merely physical and others human, have been examined in this paper and are shown diagrammatically below.

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 FACTORS AFFECTING THE PRODUCTION - EXPORT - DEMAND AND
 PRICES FOR CYPRUS POTATOES



Notes: Arrows show direction of influence.
 Heavy lines indicate major paths of influence.
 Solid lines indicate paths of moderate influence.
 Dashed lines show paths of negligible, doubtful or occasional influences.

