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SOME ECONOMIC ASPECTS OF THE EARLY POTATO CROP IN CORNWALL

THREE-YEAR INVESTIGATION
1952/54

BY

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INTRODUCTION

For nearly a decade up to 1949 the early potato grower was producing for a sellers' market and if he had any problems, apart from the risk of frost damage, their nature was technical rather than financial. In 1950 and the succeeding years the prices he received for his crop were determined once again by the forces of supply and demand in a free market, determined on the supply side by the size and timing of home-grown and imported earlies and also to some extent by the supply of maincrop potatoes from the previous year, available in April and May: determined on the demand side by a slowly shrinking annual per caput consumption, partially offset by increasing population.

Thus since 1950 the early potato grower has been faced with a shrinking or buyers' market, a far more difficult economic climate and one which requires greater skill from the producer than a period of increasing demand. Since 1947 consumption of potatoes has been falling and whether it will contract still further and, if so, by how much it is almost impossible to predict. In each area, however, growers are producing for a particular section of the market and probably also for a special period of that market's duration. In relation to one area, therefore, it is possible to study the way in which supplies from other areas effect or fit in with this particular section of time and space and to study the trends and the fate of a regional supply.

There is a period, as it is hoped that the figures in the report will show, when the Cornish crop is needed—up to the end of the first and second week in June and in a late season even beyond the middle of the month. During these weeks the grower can legitimately expect to receive relatively high prices. There have been occasions when prices have remained high or have fallen and risen again temporarily but in view of the large home acreage, most of which is lifted towards the end of the Cornish season, such an eventuality has been due to the misfortunes of growers elsewhere rather than to a normal market demand.

The particular problem, therefore, of the Cornish grower with high price expectations, is to make the fullest use of his natural advantage of earliness in marketing and this means not only that his lifting should start early but that it should also finish early. With such a large home acreage to follow on the Cornish season, every advantage is to be gained by extending that season as far as possible and the best end at which to extend it is at the beginning. If lifting in Cornwall is delayed, or if it is advanced by a favourable season in other consigning areas such as Lincolnshire, which produces 25% of the total home-grown crop, the overlapping of supplies will depress market prices more quickly than in a season when Cornish supplies are tailing off as those from elsewhere are increasing.

The first section of the report contains a review of war time and post-war changes affecting potato production in England and Wales, together with data comparing the distribution of supplies from home and imported sources and consumption rates in the pre-war years with those of the three years 1952, 53 and 54, during which the investigation was carried out in Cornwall. An examination of the main findings of the investigation are set out in the second section, while the grower who wishes to probe into more detail will find further analyses of the chief costs, in West and East Cornwall, recorded over the three years, in Appendix III.

THE EARLY POTATO CROP IN ENGLAND AND WALES 1937-38—1955

1. TRENDS IN PRODUCTION

Of all the farm sale crops grown in England and Wales, early potatoes increased in acreage more than any other during the decade 1939-1949, by 294% compared with 125% for maincrop potatoes or 146% for the two together. Some individual vegetable crops, such as dry bulb onions, increased by an even greater percentage but the vegetable acreage as a whole rose by only 122%.

TABLE 1

COMPARATIVE CHANGES IN THE POTATO AND VEGETABLE ACREAGES IN ENGLAND AND WALES SINCE THE 1936–38 PERIOD

Period	*Potatoes*			*Vegetables*
	1st Early	*2nd and Maincrop*	*Total*	
1936–38	56,650	405,567	462,217	251,346
1941–43	105,395	772,087	877,482	347,440
1944–46	150,885	839,505	990,390	489,665
1947–49	202,086	793,495	995,581	535,991
1950–52	147,007	612,929	759,936	432,944
1953–55	115,917	565,237	681,154	428,317

Source :—Ministry of Agriculture, Fisheries and Food.

In Cornwall the increase in the acreage of earlies was proportionately far larger than in England and Wales as a whole. By 1948, the peak year, it had quadrupled in England and Wales but in Cornwall it had risen from a little over 1,000 acres before the war to more than 16,000 acres. Some of this increase occurred on the market garden holdings, the original "home" of the crop there, but most of it took place on the general mixed farms.

TABLE 2

COMPARATIVE CHANGES IN EARLY POTATO ACREAGES IN ENGLAND AND WALES AND IN CORNWALL SINCE THE 1936–38 PERIOD

Period	*England and Wales*		*Cornwall*	
	Acres	*Index No.*	*Acres*	*Index No.*
1936–38	56,650	100	1,006	100
1941–43	105,395	186	5,030	500
1944–46	150,885	266	12,175	1,210
1947–49	202,086	357	15,437	1,534
1950–52	147,007	260	8,512	846
1953–55	115,917	205	6,067	603

Source:—Ministry of Agriculture, Fisheries and Food.

The annual acreage increases in early and maincrop potatoes were relatively gradual but some form of central control was necessary to ensure an adequate all-the-year-round supply and control distribution. The necessary insurance policy of maximum production, promoted by acreage payment incentives and by propaganda, meant growing a larger tonnage than was needed to meet the additional requirements for seed and consumption. To avoid wastage the surplus was processed or used for stock feed and government controls were also extended to arrangements for the storage of seed.

Growers of the earliest varieties were forbidden to lift their crops before a certain date so that yields should be reasonably heavy and from 1942 they were permitted to market them only through New Potato Collectors, except under Grower-Salesman Licence.

As one of the earliest areas in the country, Cornwall had a special advantage and also received special treatment for the Ministry of Food itself was prepared to purchase unlimited quantities, during a stated pediod, direct from growers in Cornwall and the Scilly Islands for the years 1943-49 inclusive. The price, which changed almost daily to distribute loadings more evenly, was guaranteed in advance.

The potato crisis during the winter of 1947-48, caused by unusually low yields in the 1947 maincrop, led to six months of potato rationing. The supply shortage, together with the newly launched Agricultural Expansion Programme, encouraged a large acreage increase in both earlies and maincrop potatoes in 1948. The extent of the increase was unwarranted since consumption was beginning to fall as other foods became more plentiful. Although in 1949 the acreage of maincrop potatoes fell heavily, that for earlies remained at about the 1948 level, so that supply and demand were out of step in the early part of the season. Moreover, new potato imports were arriving to swell the supply still further.

In 1950 the Government decided to free the early potato market and growers in all areas had to find an outlet through ordinary commercial channels. The prospect of a free market for earlies had a wholesome effect on the acreage figures in 1950. In England and Wales there was a reduction of nearly 20% and in Cornwall one of 70%. Much smaller annual reductions followed. In 1954, however, the acreage of earlies in England and Wales was still about twice the pre-war figure and in Cornwall it was more than five times as high.

2. TRENDS IN IMPORTS

Although a very small quantity of new potato imports was re-admitted in 1945 the pre-war tonnage was not reached until 1950. Since then the annual total has been considerably higher than before the war. On the other hand the Channel Islands have been sending in much smaller quantities. France, having attained greater control over the Colorado Beetle has resumed her exports ; annual amounts received from Italy, France, Spain, N. Africa and Cyprus have fluctuated in recent seasons while those from the Canary Islands, Italy and Cyprus are greater than before the war.

TABLE 3

ANNUAL TONNAGES OF NEW POTATO IMPORTS
1937/38 and 1945–54

Year	*Channel Islands*	*Other Sources*	*Total*
	Tons	*Tons*	*Tons*
1937/38	56,900	65,050	121,950
1945	—	542	542
1946	92	1,324	1,416
1947	24,506	4,035	28,541
1948	26,035	53,405	79,440
1949	25,724	51,324	77,048
1950	33,667	80,938	114,605
1951	37,665	131,468	169,133
1952	37,566	103,028	140,594
1953	41,603	74,934	116,537
1954	32,943	145,671	178,614

Sources:—Annual Statement of Trade and Commonwealth Economic Committee.

Of greater significance, however, than the increase in the total annual imports, when compared with pre-war, is the change in their monthly distribution, for much of the additional tonnage is entering the country before the home-grown crop is ready to market and is not, therefore in direct competition with the latter.

TABLE 4

MONTHLY DISTRIBUTION OF NEW POTATO IMPORTS
1937/38, 1952, 1953 and 1954

*Month**	1937/8	1952	1953	1954
	Tons	*Tons*	*Tons*	*Tons*
January	275	504	486	346
February	575	1,584	3,410	2,884
March	3,375	8,676	10,859	14,931
April	8,700	20,957	15,100	35,011
May	38,550	64,635	45,694	64,390
June	58,150	41,039	35,143	55,780
July	11,475	2,921	4,156	3,863
August	375	1	—	—
September ...	150	1	130	5
October	—	—	4	6
November ...	50	5	329	362
December	275	271	1,226	1,036

Sources:—Annual Statement of Trade and Commonwealth Economic Committee.

*Strictly speaking these figures relate to a four week period from about the middle of the preceeding month to the middle of the month stated.

Before the war by far the larest quantity came in during the period mid-May to mid-June. In each of the three seasons 1952-54 the peak tonnage has been reached a month earlier and this is the culmination of increases which have taken place from February onwards. On the other

hand, imports after the middle of June, when home supplies are available in quantity, have dropped as dramatically as those in the earlier months have increased.

Recent fluctuations in the tonnage, coming from sources other than the Channel Islands, have been caused largely by our protection policy which was designed primarily to benefit the very early producers.

TABLE 5

MID-MAY TO MID-JUNE TONNAGES OF EARLY POTATO IMPORTS 1937/8, 1952, 1953 and 1954

Period	*Channel Islands*	*Other Sources*	*Total Imports*	*Import Controls*
	Tons	*Tons*	*Tons*	
1937/8 ...	44,200	13,950	58,150	Tariff @ 4s. 8d. per cwt. May 16th to June 30th.
1952 ...	27,749	13,290	41,039	Prohibition from May 31st.
1953 ...	29,314	5,829*	35,143	Prohibition from May 15th.
1954 ...	23,694	32,086	55,780	No prohibition. Tariff raised to 9s. 4d. per cwt. May 16th to June 30th.†

Sources:—Annual Statement of Trade and Commonwealth Economic Committee.

*Cyprus 2,237 tons; Malta; 1,612 tons; Irish Republic 934 tons; others not unloaded by May 15th 1,046 tons.

†The tariff before May 16th and after June 30th remains unaltered at 1s. 0d. and 2s. 0d. respectively.

It is too soon yet to judge the effect of the change in import restrictions from prohibition to an increased tariff, particularly in view of the rather exceptional circumstances of the two most recent seasons. In both years the lifting of the home crop has been delayed by adverse planting and growing conditions, while in 1955 the position was complicated further by the very dry summer and the reduced acreage that was planted. The effects of this may well continue into 1956. The activities of the Potato Marketing Board, which has recently been reformed, may also have an indirect influence on the market for earlies.

3. TRENDS IN CONSUMPTION

In the Nation's war-time and immediate post-war diet potatoes became a substitute for other foods in short supply; there was a larger proportional increase in the annual consumption per head than in any other category of food. In addition, about 7% of the total consumed before the war was imported and had to be replaced from home sources.

The annual per caput consumption of potatoes as a whole in the United Kingdom was at its height in 1947, when it was 57% above the estimated pre-war amount and it still exceeds it by about 20%. In terms of total consumption (allowing for growth of population) it rose by about 65% and in 1954 it was approximately 30% higher than pre-war.

TABLE 6

CHANGES IN THE ANNUAL PER CAPUT CONSUMPTION OF POTATOES IN THE UNITED KINGDOM

Period	*lb. Per Head Per Annum*	*Period*	*lb. Per Head Per Annum*
Pre-War	181·9		
		1950	246·4
1946	281·2	1951	239·6
1947	285·9	1952	237·8
1948	238·9	1953	221·5
1949	258·3	1954	220·6

Source:—Ministry of Food.

The annual per caput consumption of new potatoes, on the other hand, has recently been nearly double what it was before the war—41lbs. over the three years 1952-54 compared with about 21lbs., that is, for England and Wales, after allowing for an increase in population of about 7% over pre-war. The major consumption increase occurred in supplies obtained at home and far outweighs the additional amount from imported sources as indicated in Table 7.

TABLE 7*

ANNUAL PER CAPUT CONSUMPTION OF NEW POTATOES IN ENGLAND AND WALES—1937/8, 1952, 1953 and 1954

Period	*From Home Sources*	*From Imported Sources*	*Total*
	lb.	*lb.*	*lb.*
1937/8	14·9	6·6	21·5
1952	31·8	7·2	39·0
1953	34·0	5·9	39·9
1954	34·8	9·0	43·8

*These figures are based on the assumption that all early potato crops grown in England and Wales, plus the early potato imports, are also consumed in England and Wales.

As already mentioned, imported supplies up to the middle of May have recently been higher than they were before the war and in terms of consumption per head have more than offset the increase in population. The estimated monthly consumption set out in Table 8, suggests that while new potatoes were relatively something of a luxury before July in the pre-war period, in recent years they have almost ceased to be a luxury after the end of May.

TABLE 8*

ESTIMATED MONTHLY PER CAPUT CONSUMPTION OF NEW POTATOES IN ENGLAND AND WALES—1937/8, 1952, 1953 and 1954

Period	*Jan.—Feb.*	*Feb.—March*	*March—April*	*April—May*	*May—June*	*June—July*
	lb.	*lb.*	*lb.*	*lb.*	*lb.*	*lb.*
1937/8 ...	0·0	0·2	0·5	2·1	3·9	8·8
1952	0·1	0·4	1·1	3·3	5·9	17·3
1953	0·2	0·6	0·8	2·3	4·9	18·6
1954	0·2	0·8	1·8	3·3	4·9	19·7

*These figures are based on the assumption that all early potato crops grown in England and Wales, plus the early potato imports, are also consumed in England and Wales.

From the middle of May imported supplies were influenced in 1952 and 1953, by the prohibition of imports from sources other than the Commonwealth. Home supplies after mid-May were influenced as much by seasonal factors as by changes in acreage. The estimated per caput consumption of early potatoes from the two sources for May-June and June-July is shown in Table 9.

TABLE 9*

ESTIMATED MONTHLY PER CAPUT CONSUMPTION OF NEW POTATOES IN ENGLAND AND WALES FROM HOME AND IMPORTED SOURCES—1937/8, 1952, 1953 and 1954

Period	*May—June*			*June—July*		
	Home	*Imported*	*Total*	*Home*	*Imported*	*Total*
	lb.	*lb.*	*lb.*	*lb.*	*lb.*	*lb.*
1937/8 ...	0·7	3·2	3·9	8·2	0·6	8·8
1952	3·8	2·1	5·9	17·2	0·1	17·3
1953	3·1	1·8	4·9	18·4	0·2	18·6
1954	2·1	2·8	4·9	19·5	0·2	19·7

*These figures are based on the assumption that all early potato crops grown in England and Wales, plus the early potato imports, are also consumed in England and Wales.

4. SUMMARY OF THE DEMAND AND SUPPLY POSITION AND ITS IMPORTANCE FOR CORNWALL

The annual per caput consumption of potatoes as a whole in the United Kingdom has fallen steadily from 1947 onwards but although there has been only a slight difference between the 1953 and 1954 figures one cannot be certain that the decline, to an estimated 20% above pre-war level, has halted even yet. Assuming that the consumption per head is similar for England and Wales this means an increase in total demand for England and Wales of about 30% over pre-war.

On the supply side the acreage of all potatoes grown in England and Wales in 1954 was about 40% higher than before the war. Using the best available estimates this suggests that apart from the question of average yields, which were also higher than those just before the war, the total acreage in 1954 was still a little above the requirement level. That this was so appeared to be recognised by farmers and " early " growers alike, for in 1955 there was a drop in the acreage of both " earlies " and maincrop potatoes. Together they fell in England and Wales to 43,000 acres below the 1954 figure, or to about 31% above the pre-war acreage. In a " normal " season this would appear to have been about the required area but unfortunately the very dry summer of 1955 has meant lighter yields and the probability of inadequate supplies.

Thus it would seem that by 1955 overall demand and supply had perhaps reached a new equilibrium, at a higher level than before the war. Yet, within the overall picture, the increase in the early potato acreage in England and Wales was still relatively much greater than in that of the maincrop acreage—97% compared with 22% respectively. Since " earlies " cannot be stored like maincrop potatoes there is now a much greater need for an even flow of supplies to the market.

The foregoing sections have already indicated that as far as Cornwall is concerned competition comes from home rather than from imported supplies. Table 4, which sets out the monthly distribution of imports, shows that the increase up to and including 1954 has been in the period preceeding mid-May and that during the Cornish season, imports were actually lower than pre-war.

The Cornish season for " earlies " is normally a week or two ahead of the rest of the country but from the point of view of timing one can probably bracket Cornwall and Pembroke together. The early potato acreage in these two counties combined was more than 600% higher in 1954 than before the war.

There has, therefore, been an increase in supplies throughout the early season—before mid-May from imports ; from mid-May to mid-June from Cornwall and Pembroke and after mid-June from the rest of England and Wales.

Monthly consumption figures per head of population up to 1954 do not suggest that there has been an undue increase during the Cornish and Pembrokeshire seasons. Rather the spectacular increase occurs after mid-June, when late lifters in Cornwall meet competition from elsewhere, particularly Lincolnshire, where the acreage in 1954 was 121% compared with pre-war.

RESULTS OF THE EARLY POTATO INVESTIGATION IN CORNWALL

Of the total County acreage before the war about half was grown in the market gardening districts, that is approximately within the area west of a line from Hayle to Helston. When the acreage was at its peak, in 1948 and 1949, the proportion fell to about one-third but had risen to nearly a half again in 1954.

Two areas were studied in the investigation—West Cornwall, mainly the Penzance district and East Cornwall around Liskeard and Polperro. They have been regarded as broadly representative of the market gardening and mixed farming areas respectively. Because of the differences in the level of inputs used by the two types of organisation as well as in marketing dates, the figures have been analysed separately for each district. The distribution of co-operating farms in each of the three years is set out in Table 10.

TABLE 10

NUMBER AND DISTRIBUTION OF FARMS, LOTS AND ACRES COSTED, 1952, 1953 and 1954

Year	*West Cornwall*			*East Cornwall*			*Total*		
	Farms	*Lots*	*Acres*	*Farms*	*Lots*	*Acres*	*Farms*	*Lots*	*Acres*
1952	18	32	68¼	19	24	77	37	56	145¼
1953	17	24	50¼	11	14	42¼	28	38	92½
1954	16	28	56	11	12	47	27	40	103

Although in each district the sample of farms costed in 1953 and 1954 was a little different from the original one in 1952 this fact does not appear to account to any great extent for the way in which the results vary from one year to another. For a group of eighteen growers—ten in West Cornwall and eight in East Cornwall—co-operated continuously through the three seasons and their average results do not differ materially from that of the whole sample, either per year or for the three years taken together. The tables in the following sections relate, therefore, to the whole sample of co-operators.

1. SUMMARY OF FINANCIAL RESULTS FOR THE THREE YEARS 1952-54

In setting out the main results three units of measurement have been used. The per acre unit is the one most generally adopted and is necessary in making alternative crop comparisons. The per ton of seed figures provide some measure of relative seed efficiencies and overcome possible slight inaccuracies in area where fields average less than three acres in extent (it should be noted that crops grown on cliff land in West Cornwall are not included in the analyses). Then the wide variations in the average returns per ton sold, between one season and another, need to be set against the less variable cost per ton sold.

The financial results for the three years taken together show that the crop was a profitable one in both districts. The three-year average figures are given in Table 11.

TABLE 11

THREE-YEAR AVERAGE RETURNS, COSTS, MARGINS AND YIELDS BY DISTRICT 1952–54

	West Cornwall	East Cornwall	Average All Farms
Per Acre	£ s.	£ s.	£ s.
Net Return	124 16	101 17	113 12
Cost	100 2	75 12	88 3
Margin	24 14	26 5	25 9
Yield (tons)	5·4	5·6	5·5
Per Ton of Seed			
Net Return	95 17	88 0	92 5
Cost	76 18	65 6	71 11
Margin	18 19	22 14	20 14
Yield (tons)	4·2	4·8	4·5
Per Ton Sold			
Net Return	22 19	17 17	20 13
Cost	18 8	13 5	16 1
Margin	4 11	4 12	4 12

This three-year average, however, masks very wide variations in the margins between individual years. The difference between the average margin per acre in 1952 and in 1953, for example, was over £100.

TABLE 12

AVERAGE MARGINS BY DISTRICT
1952, 1953 and 1954

	West Cornwall	East Cornwall	Average All Farms
Per Acre	£ s.	£ s.	£ s.
1952	– 27 3	– 14 3	– 20 5
1953	85 6	92 6	88 10
1954	33 9	33 4	33 7
Average 1952–54 ...	24 14	26 5	25 9
Per Ton of Seed			
1952	– 21 1	– 13 9	– 17 8
1953	63 1	75 14	68 10
1954	26 6	26 1	26 4
Average 1952–54 ...	18 19	23 14	20 14
Per Ton Sold			
1952	– 5 5	– 2 12	– 3 16
1953	16 16	18 8	17 11
1954	5 10	5 7	5 9
Average 1952–54 ...	4 11	4 12	4 12

Although costs varied a little from one year to another the differences in the margins are chiefly a reflection of the large variations between the seasons in the returns per acre received by the growers.

2. ANALYSIS OF PRICES AND RETURNS

From a study of the prices received by growers during several seasons two features stand out clearly. First there is the wide variation between seasons of the average net returns per ton. This results from a number of variable factors such as the quantity and timing of imports, the earliness of lifting in Cornwall compared with other areas and the quality as well as quantity of ware potatoes remaining from the previous autumn ; effective demand and, therefore, the price of early potatoes also depends on the level of consumers' incomes. The second feature is the downward trend in daily market prices as the season advances, reflecting the increase in supplies becoming available as the bulk of the home-grown crop reaches the markets.

The returns per acre are the product of the yield per acre and the average price received per ton. These three items are set out for each year and as an average of the three years in Table 13. Although within any one season the level of yield was an important factor determining the return per acre, the figures in the table show quite clearly that the average price received per ton was the major factor causing the large variations in average returns per acre between the seasons.

TABLE 13

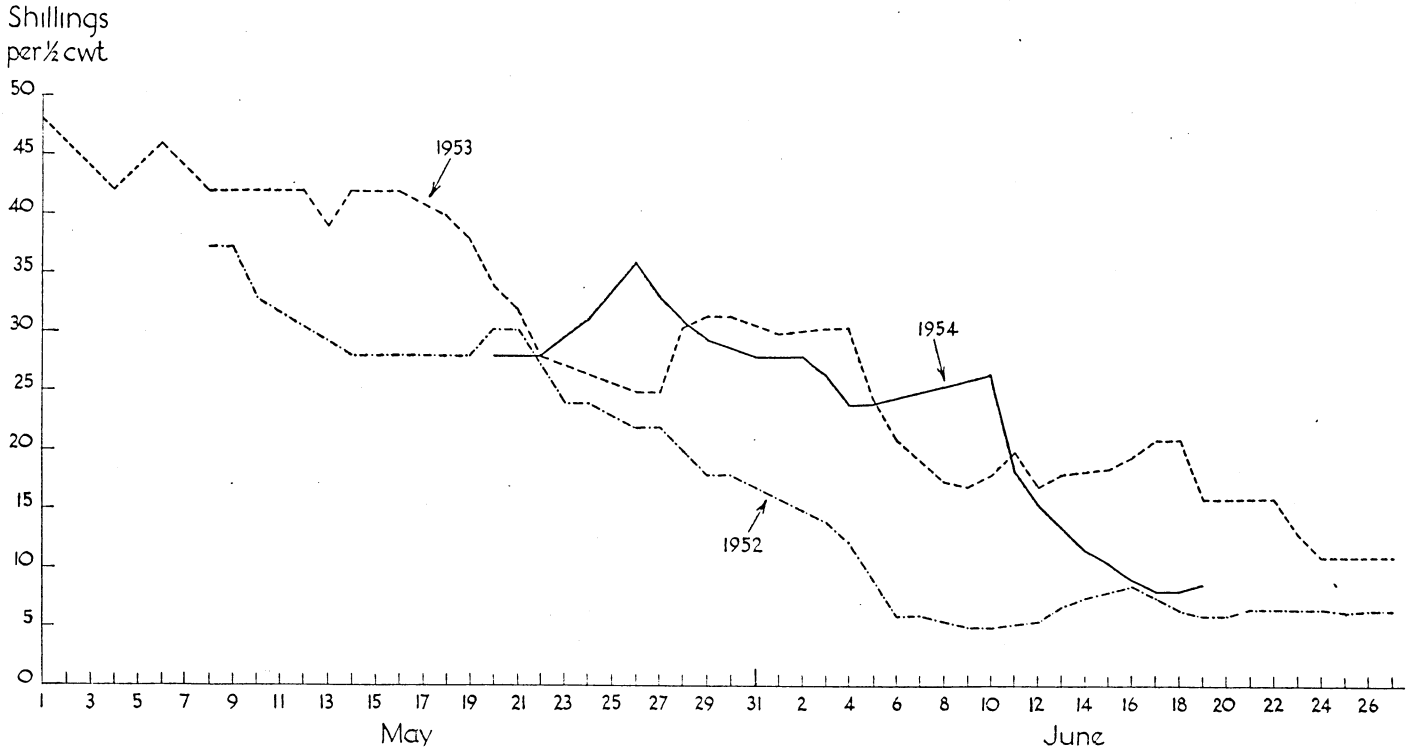
AVERAGE YIELDS, PRICE PER TON AND RETURNS PER ACRE BY DISTRICT 1952, 1953 and 1954

	West Cornwall	*East Cornwall*	*Average All Farms*
1952:			
Yield per Acre (tons)	5¼	5½	5⅓
Price per Ton Sold ...	£13 9	£11 4	£12 5
Returns per Acre ...	£69 12	£61 9	£65 6
1953:			
Yield per Acre (tons)	5	5	5
Price per Ton Sold ...	£37 0	£32 17	£35 2
Returns per Acre ...	£188 1	£164 12	£177 7
1954:			
Yield per Acre (tons)	6	6¼	6
Price per Ton Sold ...	£22 5	£18 1	£20 7
Returns per Acre ...	£135 5	£113 13	£124 10
Average 1952–54:			
Yield per Acre (tons)	5½	5½	5½
Price per Ton Sold ...	£22 19	£17 17	£20 13
Returns per Acre ...	£124 16	£101 17	£113 12

Both of the seasonal features—the variation in average returns between seasons and the downward trend in market prices as the season advances—are well illustrated in Table 14, where average daily prices received by a representative group of growers in West Cornwall for each of the years 1952-54 are shown in graph form. The level and movement of these daily prices appears to have been influenced each year by a different set of market conditions.

FIGURE 1.

AVERAGE DAILY PRICES RECEIVED FOR EARLY POTATOES BY A REPRESENTATIVE GROUP OF GROWERS IN WEST CORNWALL DURING THE SEASON IN 1952, 1953 and 1954



Taking the 1952 season as a whole, returns were so low, they averaged only about £14 a ton net, that few growers even covered their costs. There were heavy shipments of earlies, amounting to a total of 64,000 tons in the April-May period, and these appear to have had a depressing effect on prices at the start of the Cornish season. An average price of £48 a ton on May 23rd fell steadily to £12 on June 6th. According to railway loading figures half the Cornish crop handled by British Railways had been marketed by then ; 6,300 tons were carried during the week ending June 7th, a larger quantity than was shifted by rail during any week in the three years 1952-4. In 1952, the Lincolnshire crop was lifted a week or so earlier than in the two following seasons and though the average price rose temporarily to £17 on June 16th, it remained at about £12 for the rest of the season.

In 1953 a combination of favourable factors resulted in high average returns for the Cornish growers. The prohibition date for imports was advanced from May 31st in 1952 to May 15th and imports from mid-May to mid-June, other than from the Channel Islands, fell from 13,290 tons to 5,829 tons.* In addition, imports in the previous month were about 19,000 tons less than for the same period in 1952. At home there was a drop of 1,000 acres in Cornwall, and therefore a smaller supply from this area (the Pembroke acreage had also fallen by about 1,000 acres). In Lincolnshire the acreage increased slightly compared with 1952 but the crop was lifted a week or so later than in the previous season. Thus the lowest average price up to mid-June was £34 a ton and during the last week of June only fell to £22 a ton.

The prohibition of imports was lifted for the first time in 1954 and the tariff was doubled from 4s. 8d. to 9s. 4d. per cwt. from May 16th.† As a deterrent to imports it was not very effective for apart from the Channel Islands shipments, 32,000 tons entered the country from mid-May to mid-June, almost equal in amount to the tonnage received for the same period in 1952 when imports for this period were hardly affected by the late prohibition date of June 16th. In the previous month, mid-April to mid-May 1954, imports were 64,000 tons, as high as for the same period in 1952. However, in spite of the high level of imports for these two months the average price did not drop below £48 a ton until June 10th when it fell overnight from £53 to £36. From June 11th it fell steadily to £16 a ton and did not rise again much above this figure. In view of the heavy imported tonnage it would seem to have been the lateness of the English season in 1954 that resulted in prices remaining as high as they did until June 10th.

Since the fields are relatively small in Cornwall, they averaged about two acres in West Cornwall and three to four in East Cornwall, several growers had more than one field planted with early potatoes. This makes it possible to group most of the fields into those that were lifted over different and fairly short periods and to compare the group returns and margins. The data collected in 1952 is less detailed than that available in the two subsequent seasons but the results from different lifting period groups for 1953 and 1954 are set out in Table 14.

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*Cyprus 2,237 tons ; Malta 1,612 tons ; Irish Republic 934 tons ; other not unloaded by May 15th, 1,046 tons.

†The tariff before May 16th and after June 30th remains unaltered at 1s. 0d. and 2s. 0d. respectively.

TABLE 14

GROUP COMPARISONS OF WEST CORNWALL RESULTS FOR DIFFERENT LIFTING PERIODS IN JUNE, 1953 and 1954

No. Lots	Acres	Approx. Lifting Period	Net Ret. per Ton Sold	Per Acre			Seed per Acre	Per Ton of Seed		
				Yield	Cost	Margin		Yield	Cost	Margin
			£ s.	Tons	£ s.	£ s.	cwt.	Tons	£ s.	£ s.
1953 Crop										
7	15¾	1st wk.	45 10	5·2	119 12	107 11	30¾	3·4	79 16	69 19
8	15¾	2nd wk.	34 16	4·8	113 9	54 2	27¾	3·4	83 10	36 12
4	11½	3rd wk.	31 14	5·8	79 0	99 10	21¾	5·3	72 19	92 4
1954 Crop										
8	21¾	1st and 2nd wk.	31 10	5·9	106 9	78 1	26¼	4·7	83 4	66 13
7	10¾	3rd wk.	16 7	6·9	112 18	– 4 10	30¾	4·6	76 4	– 3 12
8	10¾	4th wk.	13 17	6·6	94 16	– 3 19	23	6·1	83 12	– 1 16

From the figures in Table 14 it is clear that, in general, the grower who plants at a high seed rate with the intention of obtaining a relatively good yield, early in the season, stands to lose when lifting is delayed for some reason. After all, the high costs involved in a heavy seed rate and careful chitting are for the purposes of inducing an extra early crop of a reasonably good yield. If the crop is unlikely to be lifted until the latter part of June, when the returns are normally much lower than in the early part of the month, it is probable that the grower will produce it more profitably if he keeps his costs low by planting only about one ton to the acre, spending less labour on seed treatment and allowing the crop to mature in its own time.

3. ANALYSIS OF COSTS

Average total costs did not vary appreciably over the three years. The difference in average costs per acre was greater between East and West Cornwall, *i.e.* between early potato production as part of the intensive system carried out on the high rented market garden holdings and production on the general mixed farm, than between two years in the same group.

TABLE 15

SUMMARY OF COSTS BY DISTRICT
1952, 1953 and 1954

	West Cornwall		*East Cornwall*		*Average All Farms*	
Per Acre	£	s.	£	s.	£	s.
1952	96	15	75	12	85	11
1953	102	15	72	6	88	17
1954	101	16	78	9	91	3
Average 1952/54 ...	100	2	75	12	88	3
Per Ton of Seed						
1952	75	0	71	17	73	9
1953	76	0	59	6	68	16
1954	80	3	61	11	71	13
Average 1952/54 ...	76	18	65	6	71	11
Per Ton Sold						
1952	18	14	13	16	16	0
1953	20	4	14	8	17	10
1954	16	15	12	14	14	18
Average 1952/54 ...	18	8	13	5	16	1

As shown in the itemised costs, Appendix I, Table 1, from 70% to 80% of the total cost in each district was accounted for by manual labour, seed and manures. Intensive cultivation means the application of a high level of inputs to obtain a high level of output and the higher cost in West than in East Cornwall was due to higher inputs of all three production factors.

The market garden holding carries a larger labour force than the mixed farm. For instance in the 1954 sample the average number of acres on the holding worked per man equivalent was approximately 17 in West Cornwall compared with 37 in East Cornwall. The extra hours involved in early potato production in West Cornwall were spent mainly on chitting the seed, cutting it before planting (an operation that was almost omitted in East Cornwall) and handling organic manures, seaweed, compost and F.Y.M., which were hardly used for the early potato crop in East Cornwall. Lifting hours were also a little lower in East Cornwall where a larger number of elevator diggers were used.

The smaller amount of machinery used in West Cornwall than on most of the mixed farms means that more labour is needed; fear of damaging the earliest liftings deters many from using elevator diggers and spinners. Conversely, the presence of relatively more labour on the market garden holding is a deterrent to the introduction of more machinery for operations of limited extent and duration. In addition much of the earliest land is composed of very small units and is of such a steep nature as to make the use of machinery impracticable.

The higher level of seed input in West Cornwall was partly physical and partly financial. With the exception of 1954, when a considerable amount of seed was frosted in the severe winter, rather more was planted to the acre in West than in East Cornwall. Financially the seed input was higher in West Cornwall since all but a small proportion was newly purchased each season. From a third to a half of the seed used by the East Cornwall group, on the other hand, consisted of once grown locally produced tubers.

The majority of growers in West Cornwall applied bulky organic manures for the early potato crop compared with only one or two in East Cornwall—expenditure on artificial fertilizers was a little higher in West Cornwall. Cropping and manuring policies are interdependent and it would perhaps be truer to say that the bulky organics are also for the benefit of the succeeding crop. In West Cornwall about 50% of the early potato ground was followed each year by a market garden crop, broccoli, spring cabbage and occasionally anemones or bulbs. While it is under cultivation the land there is cropped almost continuously. In East Cornwall the early potatoes were followed in most cases by a fodder root crop, usually kale or rape. In 1953 about 80% of the acreage in East Cornwall went into roots. In the late seasons of 1952 and 1954, however, 40% and 45% respectively of the acreages remained fallow until the following Spring.

4. SUMMARY AND CONCLUSIONS

Over an average of the three seasons 1952-54, during which costs were recorded, the early potato crop in Cornwall proved a profitable one. Returns per crop exceeded costs by an average of £25 an acre.

However the profitability of the crops varied widely as between seasons. In 1952, for example, a net loss of £20 an acre was incurred while in the 1953 and 1954 seasons respectively the surplus margins averaged £89 and £33 an acre. Despite this some growers made losses in the seasons when average margins were good, particularly in 1954,

while six out of thirty seven growers managed to make a surplus margin in 1952 when the crop on average was unprofitable. Thus the risks involved in growing early potatoes are hardly less than those associated with horticultural production in general.

The economic risks attached to early potato production arise out of the dynamic nature of the supply and demand situation. The supply is affected by the timing and extent of imports, the earliness and yield of the home grown crops and competition from the remainder of the previous season's main potato crop. The demand depends on a complex set of factors including the availability and prices of substitute foods and the general level of consumers' incomes.

From the supply side the large acreage now grown at home means that in an early season supplies from other areas may compete in the early " Cornish market," while the trend towards freer trade means less restriction on imports. From the demand side, since 1947, there has been a steady if slow fall in the per caput consumption of potatoes, it is still about 20% above pre-war and the decline may not have ceased yet in response to increased supplies of other foods.

When determining his cropping policy the grower should be guided in the first place by the general market trends in supply and demand. This " background " will change from season to season as has already been shown in the years 1952-54 and in the light of these temporary abnormalities the grower must exercise his own judgment and foresight.

Secondly he should examine the particular circumstances of his own farm organisation. In this report the early potato crop on the Cornish farm has been regarded largely in isolation. This is useful from the point of view of discovering to what extent it is a profitable crop, as an independent enterprise. However, it was also an enterprise within two broadly different types of organisation, intensive market garden production and general mixed farming.

It appears from the results of the three-year investigation that the crop was produced more profitably on the general farm than on the market garden holding. It is true that average returns received under the intensive market garden system were higher than those obtained on the mixed farm but were more than absorbed by higher costs. Since the general farmer incurs, on average, a cost of about £25 an acre less than that of the intensive grower, he can more easily make a profit margin from the lower returns decreed by climatic conditions, which prevent him from lifting until a week or so after the West Cornwall grower.

On the other hand the crop must also be regarded as an integral and interdependent part of the whole farm organisation. As already mentioned the market garden holding carries, for a given acreage, a far higher regular labour force than the mixed farm and the early potato crop may make productive use of otherwise relatively unproductive labour during the winter months, for example, in chitting. It is also making productive use of the high rented market garden land by enabling the grower to market at least three crops in two years. Seen in this light most of the labour cost can be looked upon as an overhead charge that the holding must carry, whether or not early potatoes are grown. From

this approach the relevant cost of growing the crop is the sum of the additional variable costs—casual labour, seed and fertilizers, etc.—while the early potato output adds to the total farm output and increases the productivity of both land and labour. The important consideration is whether growing this crop adds more to the total farm output than is required by way of additional variable costs, and how this margin between expected return and variable costs compares with alternative possibilties. Using the additional variable cost approach the crop might appear a more profitable one to the market garden grower than to the general farmer.

The same principles apply to the general farmer, although his alternative uses of land and labour will be different from those of the intensive grower. He may leave the early potatoes in the ground for a longer period than the market garden grower and lift a heavier yield without the need to grow another crop before the following spring. His alternative, apart from growing a fodder crop after fairly early lifting, might be that of establishing a ley to provide a hay or silage crop and grazing for extra bullocks.

If the early potato crop has proved, over the three-year period during which it was costed in Cornwall, to be a profitable one when taken on its own, it follows that it must, in general, be making a positive contribution to the profitability of the holding as a whole ; whether the individual grower is producing too large or too small an acreage is a matter for individual decision. It is hoped that the results of the investigation set out in this report will provide, in addition to an outline of the demand and supply context within which he is producing and marketing, some of the basic data from which the individual grower can think through his policy.

APPENDIX I

TABLE 1

THREE YEAR SUMMARY OF COSTS, RETURNS, MARGINS AND OTHER DATA—PER ACRE

	West Cornwall			*East Cornwall*			*All Farms*		
	1952	1953	1954	1952	1953	1954	1952	1953	1954
	£	£	£	£	£	£	£	£	£
Manual Labour ...	33	34	34	22	21	22	27	28	28
Seed	29	32	31	23	23	31	26	28	31
Net Manures ...	13	15	17	10	8	8	12	12	13
Horse, Tractor and Contract ...	9	8	8	8	6	7	8	7	7
Miscellaneous ...	2	2	1	2	2	1	2	2	1
Rent and Overheads	11	12	11	11	12	10	11	12	11
TOTAL COST	97	103	102	76	72	79	86	89	91
NET RETURN	70	188	135	61	164	112	65	177	124
MARGIN ...	–27	85	33	–15	92	33	–21	88	33
YIELD (Tons) ...	5¼	5	6	5½	5	6¼	5⅓	5	6
SEED PLANTED (cwt.) ...	26	27	26	21	24	26	23	26	25
Man Hours per Acre	273	251	245	180	147	146	224	203	195
Average Rate Per Hour Manual Labour	2/5	2/9	2/9½	2/5½	2/10	2/11½	2/5	2/9½	2/10

TABLE 2

THREE YEAR SUMMARY OF COSTS, RETURNS, MARGINS AND YIELDS PER TON OF SEED

	West Cornwall			*East Cornwall*			*All Farms*		
	1952	1953	1954	1952	1953	1954	1952	1953	1954
	£	£	£	£	£	£	£	£	£
Manual Labour ...	25	26	27	21	17	17	23	22	22
Seed	23	23	24	22	19	24	22	22	24
Net Manures ...	10	11	13	9	7	6	10	9	10
Horse, Tractor and Contract ...	7	6	6	8	5	6	7	5	6
Miscellaneous ...	1	1	1	2	2	1	2	2	1
Rent and Overheads	9	9	9	10	9	8	9	9	9
TOTAL COSTS	75	76	80	72	59	62	73	69	72
NET RETURN	54	139	106	58	135	88	56	137	98
MARGIN ...	–21	63	26	–14	76	26	–17	68	26
YIELD (Tons)...	4	3¾	4¾	5¼	4	4¾	4½	4	4¾

TABLE 3

PERCENTAGE OF COSTED ACREAGE PLANTED EACH YEAR IN DIFFERENT VARIETIES IN WEST AND EAST CORNWALL

	West Cornwall			*East Cornwall*		
	1952	1953	1954	1952	1953	1954
	%	%	%	%	%	%
Arran Pilot...	24	37	43	86	79	73
Home Guard	34	33	35	13	18	26
Craig's Defiance	7	14	5	1	—	—
Sharpe's Express	11	5	9	—	—	—
May Queen	8	6	1	—	6	—
Arran Banner	6	4	1	—	—	—
Vanguard	6	—	2	—	—	—
Others	4	1	4	—	—	1
	100	100	100	100	100	100

Included in "Others" are:—Arran Peak, Catriona, Craig's Royal, Chancellor, Epicure, Duke of York, Ulster Chieftain, Ulster Prince.

APPENDIX II

TABLE 1

WEEKLY AVERAGE WHOLESALE PRICES FOR EARLY POTATOES DURING SIX WEEKS IN MAY AND JUNE, 1938, 1952, 1953 AND 1954

		MAY			JUNE	
		d.	d.	d.	d.	d.
Channel Islands	1938	3¾	2¾	2¼	2½	—
Cornwall	1952	8	7½	3¾	2½	2½
,, ...	1953	11¼	9	7	5¼	5
,, ...	1954	10¼	8¾	7	6	3¼

Source:—Ministry of Agriculture, Fisheries and Food.

Wholesale prices for Cornish "earlies" are not available for 1938 but prices for Channel Islands "earlies," which have hardly differed from those of the Cornish in recent seasons, are included for 1938 as an interesting reflection of the change in wholesale prices since then.

APPENDIX III

ANALYSIS OF THE CHIEF COSTS RECORDED IN WEST AND EAST CORNWALL FOR THE IDENTICAL FARM GROUPS

In each of the three years less was spent in the Eastern part of the County on all three of the main cost items, manual labour, seed and manures but the largest difference between the areas was in the cost of manual labour.

1. MANUAL LABOUR

In West Cornwall manual labour was invariably the largest single item of cost. In East Cornwall it was a near second to that of seed.

An analysis of individual cultivation operations shows that one of the chief differences between the two districts occurs in seed treatment. Among growers in West Cornwall it is generally agreed that setts with short sturdy shoots produce a better crop than those with long thin ones and that proper chitting is necessary if a good crop is to be obtained. Thorough chitting of seed can take up to an hour a cwt. and cost, therefore, about £3 per ton. In East Cornwall on the other hand the time spent on chitting is considerably less. Very few setts are cut in East Cornwall but in West Cornwall seed cutting on average seems to be at the rate of 1-1½ cwt. an hour, involving an expenditure of £2 to £3 a ton. To determine whether seed cutting results in higher yields and returns than are obtained when this operation is virtually omitted would require properly organised field trials. For other factors such as site, season, soil conditions, planting and lifting dates all affect the yield. From the point of view of labour spread, however, one can say that seed chitting comes at a time when labour demands are at a low level. It may even be a useful wet day occupation.

At planting time, labour demands will tend to be greater on the market garden holding than on the mixed farm, arising from work on the winter maturing crops such as broccoli, bulbs and anemones. A comparison of the manual hours spent on various operations in the two areas is shown in Table 1.

TABLE 1

AVERAGE MANUAL HOURS PER TON PLANTED

	Seed Treatment	*Planting*	*Hand Hoeing*	*Other Operations*	*Total Cults*	*Lifting*
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
1952						
W. Cornwall ...	23	36	16	45	120	89
E. Cornwall ...	8	30	13	20	71	73
1953						
W. Cornwall ...	22	32	10	27	91	89
E. Cornwall ...	9	24	5	13	51	75
1954						
W. Cornwall ...	20	28	13	34	95	106
E. Cornwall ...	6	21	10	16	53	76

The difference between the areas in the time taken to plant a ton of seed is not very great. For the first two years one grower in West Cornwall was sowing manure in the same operation which increased his own hours. No planters were used in 1952, or at all by the identical East Cornwall group. Three growers in West Cornwall used a machine in 1953 and 1954, and reduced their hours by nearly one-third.

Among the growers in each area there are one or two who have done no hand hoeing. If those who omitted the operation are left out of the groups, the average hours spent on the remaining holdings are as follows:—

TABLE 2

AVERAGE HAND HOEING HOURS PER TON PLANTED—

(where this operation was carried out).

	1952		1953		1954		*Total No. of Growers*
	No. of Hours	*No. of Growers*	*No. of Hours*	*No. of Growers*	*No. of Hours*	*No. of Growers*	
W. Cornwall ...	20	8	14	7	15	9	10
E. Cornwall ...	14	4	10	4	20	4	8

Growers who do carry out this operation are therefore spending up to £3 per ton of seed planted. Moreover, hand hoeing usually comes at a time when labour hours are at a premium.

The large difference in group hours for operations other than those specified is due mainly to the more frequent use of farmyard manure in West Cornwall. In each year there was, on average, a 10 ton dressing per acre compared with less than 1 ton in East Cornwall.

Lifting hours, not only per ton planted but also per ton lifted, were persistently higher in West than East Cornwall but half the identical group here used elevator diggers compared with less than a third in West Cornwall. The average hours per ton lifted over the three years ranged between 22, and 27 in West Cornwall and between 15 and 19 in East Cornwall.

2. SEED

On average about 3 cwt. more seed per acre was planted in West than in East Cornwall and the extent of the range was also greater in the West. It is unusual to plant more than 30 cwt. in the East but 40 cwt. of seed was used in several fields in West Cornwall and one small plot was even planted at the rate of 60 cwt., for very early lifting.

In 1954 there was a difference in the seed charged and the amount planted owing to the fact that several growers sustained some loss of seed in the severe frost—sometimes in spite of heating. This inevitably resulted in a slightly higher cost per ton planted.

The average price of new seed has risen by a pound or so over the three year period but the major difference in seed costs is between areas

rather than between particular years. A small part of the difference is due to a lower average seed rate in East Cornwall. The main reason, however, is the relatively high proportion of locally once-grown seed that was used there. The figures in Table 3 show this as a precentage of the total planted by each group.

TABLE 3

ONCE GROWN SEED AS A PROPORTION OF THE TOTAL PLANTED

	1952	1953	1954
	%	%	%
W. Cornwall	1	5	—
E. Cornwall	57	47	34

Information about the spacing between rows and setts was only collected in 1954. In West Cornwall, taking the sample as a whole, spacing between the rows ranged from 14″ to 30″, and averaged 22″. In the East it was generally wider and ranged from 22″ to 26½″, and averaged 25″. Spacing between the setts ranged from 8″ to 15″ in both areas. It averaged 10″ in West Cornwall and 12″ in East Cornwall.

Yields are influenced by so many factors that it is impossible to say to what extent they are affected by the spacing of the seed. Though it is never wise to attach much importance to one or two examples, it might be worth mentioning that good yields were obtained early in June 1954 from two crops planted with uncut seed, spaced at 30″ x 11″ and 26″ x 14″; the seed rates were 20 and 23 cwt. and the yields, 5 and 5¼ tons to the acre and 5 and 4¾ tons per ton of seed respectively.

3. MANURES

After manual labour and seed, the manurial cost was the next largest single item.

The costing method and values used in estimating manurial and cultural residues to be brought forward from preceeding crops and carried forward to succeeding ones, is set out in Appendix IV. The figures in Tables 1 and 2, Appendix I, under net manures, are those obtained when the direct manurial cost has been adjusted for manurial and cultural residues.

The items, from which the net manurial cost is derived, are set out separately in Table 4 on the next page for the identical farm groups and for each of the three years.

The chief difference between East and West Cornwall is in the use of farmyard manure applied directly for the early potato crop. Each year the amount used in East Cornwall was negligible but the majority of crops costed in West Cornwall were dressed. As cropping and manuring policy are interdependent the explanation would appear to be that in West Cornwall about 50% of the early potato ground was followed each year by a market garden crop.

TABLE 4

AVERAGE COST PER ACRE OF DIRECT MANURING AND MANURIAL AND CULTURAL RESIDUES FOR THE 1952, 1953 AND 1954 CROPS

	B/Forward		*Direct*		*C/Forward*		*TOTAL NET COST*
	Man'l Res.	*Cult. Res.*	*F.Y.M.*	*Arts*	*Man'l Res.*	*Cult. Res.*	
	£	£	£	£	£	£	£
1952							
W. Cornwall	1	2	6	19	12	3	13
E. Cornwall	2	1	—	18	8	3	10
1953							
W. Cornwall	2	2	6	19	12	3	14
E. Cornwall ...	1	1	1	16	8	3	8
1954							
W. Cornwall ...	2	2	9	18	13	3	15
E. Cornwall ...	1	1	1	16	8	3	8

Thus the relatively higher level of manuring in West than in East Cornwall seems to be the price that has to be paid for greater intensity rather than a reflection of the actual needs of the early potato crop. It could be suggested that the use of farmyard manure and compost is a factor contributing to earliness or speed of growth. Average yields, though a doubtful single measure of productiveness, show in the two groups, Table 5, that a similar or slightly higher yield per ton of seed in East than in West Cornwall is achieved over a slightly longer growing period. Whether this is due to rather less favourable climatic conditions in the East or to the use of farmyard manure in the West is hard to prove from the figures. However, an examination of individual growers yields and growing periods, with and without farmyard manure, is inconclusive and suggests that the climatic factor may be the operative one.

TABLE 5

COMPARATIVE GROUP YIELDS AND GROWING PERIODS

	Av. Yield per Acre	*Av. Yield per Ton of Seed*	*Av. Period Crop was in the Ground*
	Tons	*Tons*	*Days*
1953			
W. Cornwall	5·08	3·76	100
E. Cornwall	5·01	4·11	105
1954			
W. Cornwall	6·07	4·78	93
E. Cornwall	6·18	4·85	95

APPENDIX IV

COSTING METHODS

LABOUR

1. *Manual* :—In 1952 an overall rate per hour of 2s. 7d. for men and 1s. 9d. for women was charged on each farm ; this included an allowance for perquisites and employers' share of national insurance.

In 1953 and 1954 an allowance to cover the 12 days paid holiday was included in the overall hourly rate, instead of in the general overheads as in 1952. In addition, where the grower regularly paid more than the minimum wage this rate was a little higher than the basic 2s. 9d. and 2s. 11d. an hour applicable for those two years.

Casual workers and children were entered at the actual rate paid by the farmer.

2. *Horse* :—1s. 3d. per hour.

3. *Tractor* :—Light @ 4s. 2d. per hour.
Medium @ 4s. 6d. per hour.
Heavy @ 4s. 10d. per hour.

MANURES

The net cost to the farmer of artificials, farmyard manure (charged at 15s. 0d. per ton), lime and sand has been adjusted to allow for residual manurial values in the following way:—

Proportions brought forward from the previous crops.

Third cost of farmyard manure plus third estimated cost of application.

Third cost of compound, phosphatic and potassic fertilizers.

NIL from nitrogenous fertilizers.

Fifth cost of lime and sand applied during the previous four years.

Proportions carried forward after Early Potatoes.

*Half cost of farmyard manure and half cost of application.

*Half cost of compound, phosphatic and potassic fertilizers.

*Third cost of nitrogenous fertilizers.

Four-fifths cost of lime and sand.

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*Where a second crop was planted or sown in the same season. In other cases the same proportions were carried forward as had been brought forward for the early potato crop.

CULTURAL RESIDUES

Benefits accruing from previous crops have been brought forward and charged to the early potato crop as follows:—

Ley (grazed) ...	@ 60s. 0d. per acre
(mown ...	@ 30s. 0d. „ „
Roots	@ 45s. 0d. „ „
Maincrop Potatoes	@ 50s. 0d. „ „
Corn	nil
Anemones	nil
Spring Cabbage ...	@ 45s. 0d. per acre
Broccoli	@ 45s. 0d. per acre
Fallow	50% of cost

Cultural benefits from the early potato crop have been carried forward at a charge to the succeeding crop at 60s. 0d. per acre.

OVERHEAD CHARGES

Where the early potato crop is one of three crops harvested in two years, one-third of two years' full charge per acre for rent, depreciation of implements (estimated per acre amount) and hedge upkeep has been entered. Where only two crops have been harvested in two years the full charge per acre is included.

Depreciation—Muck Spreader, Planters, Motor Hoes, Spinners, Elevator Diggers — Charged at 25% of written down value, spread over the total acreage on which the implement was used in the year.

An estimated charge of 20s. 0d. per acre has been made to cover the depreciation of all other implements used on the early potato crop (fuel for motor hoe engines has been charged at cost and included in " Miscellaneous Expenses ").

Hedge Upkeep—at a cost per acre agreed with the farmer.

Other Overhead Expenses—A proportion of these, represented by the percentage of the estimated total gross returns from sale crops and livestock, contributed by the early potato crop, has been charged to the costed crop on each farm.