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OCCASIONAL PAPERS NO. 12

OUTLOOK FOR HORTICULTURE

by

W. L. HINTON

A study in agricultural policy and
adjustment with particular reference to
Britain and the Common Market

Issued by the

FARM ECONOMICS BRANCH
SCHOOL OF AGRICULTURE
CAMBRIDGE UNIVERSITY

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Foreword

When discussion turns on the future of farming, it is nearly always livestock or crops such as wheat or sugar beet that claim the writer's attention. If horticulture is mentioned at all it is as an afterthought and indeed much of the comment on the industry is ill-informed. This is unfortunate because horticulture contributes £181m or ten per cent of the total output of agriculture. Home production also contributes 62 per cent of our supplies of fruit and vegetables from temperate areas. An increase in this proportion could thus contribute a share in solving our balance of payments difficulties.

There is a further point. The income elasticity of demand is higher for horticultural than for most other farm produce. In other words, a rise in the standard of living is likely to increase substantially the market for vegetables, fruit and flowers whereas the demand for staples such as flour or potatoes may remain stationary or even decline. It does not, however, follow that the home producer will capture this additional market or even retain his present share of the market. As the author points out, competition from imports is changing in character and becoming greater. Much of the Commonwealth produce on which we depended in the past appeared at a different season from British produce and was often complementary rather than competitive with home-grown supplies. Closer links with Europe would, however, open our market to produce appearing at the same time or just ahead of our own, thus skimming off the most lucrative sector of the market. So far, the British producer has had a measure of protection against such produce but it is only fair to warn him that this protection may not continue in its present form. It is obvious that if we joined the Common Market the trade barriers would go down and our horticulturists would be wide open to imports from Europe. But even if we did not, it is possible that a British government faced with the alternative of opening up a market for industrial exports and excluding horticultural imports may be tempted to choose the former.

The point then arises: how well are our producers able to stand greater competition? Although we lack the early spring found in southern France or Italy, the English climate is otherwise admirably suited to growing horticultural crops. With an open winter vegetables grow all the year round and with an even distribution of rainfall crops seldom suffer from drought. If a cool climate gives slower growth, it also encourages flavour and with a market on our doorstep the horticulturist can deliver produce fresh to the consumer at a modest cost in transport.

We have other advantages. Two-thirds of our vegetables are grown on arable farms that on the whole are larger and better mechanised than their opposite numbers in Europe and elsewhere. But such advantages as exist provide no passport to success. The Dutch, for example, with few natural advantages are highly efficient and are formidable competitors. There is, however, nothing that they do that our growers could not emulate if they took the pains to do so. Some of the initiative in improving our methods could come from government help and encouragement but most of it must come from within the industry.

This report has been prepared by Mr. W. L. Hinton who is that rare person—an economist who really understands the horticultural industry. It is hoped that this analysis of its present state and future prospects will be found useful both by growers and by those who formulate horticultural policy. Acknowledgements are due to Mr. W. C. Housden for the analysis of statistical data and the preparation of diagrams.

F. G. Sturrock

Director, Farm Economics Branch

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CHAPTER 1

The Significance of British Horticulture

Introduction

Comment on the outlook for British Agriculture in the light of current policy changes has been confined almost entirely to that 90 per cent of it which is government supported. Much less reference has been made to the situation facing the other ten per cent, horticulture, despite the general awareness that this is the most vulnerable part of our agriculture.

Government policy for Horticulture is characterised by an absence of price support and a reliance on tariffs and quotas. This means that any necessary movement towards free trade in Britain, whether or not we join the Common Market, will have far-reaching effects for British horticulture. This report sets out to trace the implications of policy changes both for the horticultural industry and for the producers concerned.

HORTICULTURE IN THE AGRICULTURAL ECONOMY

Agriculture and Horticulture

In general terms horticulture is of course just as much a part of agriculture as arable farming and dairying. More specifically however, horticulture is the intensive production of fruit, vegetables and flowers, and normally differs from farming in that higher inputs of capital and labour are required. Moreover, horticultural production carries far more risk since the output is more subject to price and yield fluctuations.

Coefficient of Variation Percent 1956/7 to 1965/6

		<i>Yield</i>	<i>Price</i>	<i>Value</i>
Wheat	12·8	5·4	9·9
Sugar Beet	12·7	3·4	13·2
Dessert Apples	19·2	18·1	15·9
Carrots	24·6	24·4	23·8

Furthermore, all horticultural products have one basic point in common. Prices are set by market forces, apart from import restrictions of one kind or another. There is no 'determination' of prices as a part of government policy.

Greater intensity of production in horticulture implies higher output per acre, greater labour requirements and more capital investment per man. With the exception of peas for processing the level of intensity of horticultural crops grown in the open is markedly higher than that of farm

crops, while the intensity of glasshouse crops is at the highest level known in British crop farming. The relative intensity of horticultural cropping and farm cropping is shown below.

Table 1. Intensity of Production in Horticulture

Farm Crops			Horticultural Crops		
Crop	Output £ per acre	Man days per acre	Crop	Output £ per acre	Man days per acre
Barley	23	2½	Vegetables	163	17-50
Wheat	36	2½	Fruit	190	25-90
S. Beet	89	12½	Flowers	650	100
Potatoes	125	20	Glasshouse Crops ..	5400	1500
All farm crops	30	2½-20	All horticultural crops	250	17-1500

Despite the much higher labour requirements in horticulture, capital investment per man exceeds that of farming, particularly on vegetable farms and glasshouse nurseries. Output per man is also higher as shown by the following data from the Cambridge Farm Management Survey.

	Equipment per man £	Output per man £
General farms	730	2683
Fruit farms	735	3309
Vegetable farms	1084	4608
Glasshouse nurseries—heated ..	2499	5071

Finally there are two other features which have greater significance for horticultural products than farm products. These are the important effect on the revenue of quality and the higher degree of sophistication in demand which results in different varieties of apples or flowers becoming different 'products'.

The Contribution of Horticulture

Throughout the period since 1950, when imports of horticultural produce returned to normal after the war, the farm gate value of horticultural output in the United Kingdom, now £181m, has been running at ten per cent of total agricultural output. Horticulture has maintained this position over a period of deliberate and costly expansion of the agricultural sector. This means that horticulture with no special inducement has been expanding as fast as agriculture. The high rate of growth in horticulture may be accounted for by a rising demand for quality fruit, vegetables, and flowers, as a result of increasing affluence.

The contribution of horticulture to the total gross output of agriculture does, however, understate the part played by horticulture. This is the value added or net output of the industry. Horticulture relies little on imported inputs while agriculture is a big user of imported livestock and feeding stuffs. In terms of net output the contribution of horticulture is much greater, and amounts to 17 per cent or one-seventh of the value added to the national product by British farming as a whole.

Government Support to Agriculture and Horticulture

While acknowledging the fact that government support for horticulture takes the form of import tariffs and quotas, it is none the less relevant to take a brief look at the level of Exchequer Support for horticulture alongside that for agriculture.

Table 2. The Estimated Cost of Exchequer Support to Agriculture and Horticulture £m.

	Agriculture		Horticulture	
	1966/7	1967/8	1966/7	1967/8
Co-operation and credit	0.3	0.4		
Implementation of price guarantees	113.0	142.8		
Farming Grants and Subsidies	109.3	115.3		
Administration expenses	10.2	10.8		
	<u>232.8</u>	<u>269.3</u>	<u>2.8*</u>	<u>5.0*</u>

*Total horticultural grants including co-operation and credit.
Source: Cmnd. 3229 Determination of Guarantees 1967.

The table above emphasises how much agriculture relies on government support, amounting in previous years to a sum comparable in size to the income of the national farm, and how little horticulture is supported. Within the item 'Farming Grants and Subsidies' totalling £36.8m in 1966/7 there is some concealed support (estimated at £3.5m) for fertilisers used by horticulturalists. The direct grants expenditure for horticulture shown above include payments made under the Horticultural Improvement and the Horticultural Business Schemes.

HORTICULTURAL POLICY

Tariffs and Quotas on Imported Produce

Over the past 30 years the import tariff, which was established to meet the economic crisis in 1932, has, by accident rather than design, become the basis of government policy for horticulture. The duties on a wide range of horticultural produce were increased in 1953 and as recently as 1960, the specific tariff on tomatoes was increased to give our growers more chance of competing with the Dutch. Similarly, the acute dollar shortage after the war resulted in quotas to preserve our dollar balance. These became an instrument of horticultural policy by restricting the imports of apples and pears.

Some reference to these restrictions is relevant because they largely determine the present structure of horticultural production in this country and the prosperity of the industry. It is from the prevailing framework of protection that we will have to make adjustments, perhaps painful ones, to horticulture in the future.

The schedule of tariffs is too complex to be described in detail here. Briefly, however, imports from Commonwealth countries and South Africa are free of duty whereas those from E.F.T.A. countries with a few minor exceptions attract the full tariff. Tariffs raise the price of the home produce which is in competition with imports, and in many cases those on fresh produce are varied according to the season so as to afford greater protection to our produce in its own marketing period. This scaling of tariff rates has a marked effect on home produce prices and the returns of our growers.

Tariff rates differ between commodities but the minimum for most products is ten per cent *ad valorem* or a levy by weight which in some cases exceeds ten per cent. Carrots for instance pay £20 a ton in May and June when the home price is between £30 and £40 per ton. For the rest of the

year the tariff is ten per cent *ad valorem*. As the average price at that time is from £10 to £12 per ton, the duty is only £1 to £1.2 per ton. This type of protection with higher duties at the beginning of the season is applied to many field vegetables.

Nowhere is seasonal protection so comprehensive as in the case of tomatoes where the tariff has an *ad valorem* incidence ranging from 20 to 40 per cent. In May the rate depends on the price of imported tomatoes. Above a given minimum price the duty per lb. is 4d in the first half of May, and 6d in the second half. Prices are normally above the minimum specified but otherwise the basic ten per cent applies. The 6d per lb. tariff, irrespective of a minimum import price, is maintained for the first half of June, then the rate progressively falls to 2d in September.

Tariffs relating to fresh fruit other than apples and pears also have rates stepped according to the home marketing period. In the case of apples and pears, however, the quotas afford a much greater degree of protection. There is in fact no tariff on apples during the main period of home supply and a lower tariff applies to pears at this time.

The Quotas

The quota of most consequence to us is the one on imported apples and pears. The Apple and Pear Quota now applies to all sources other than the Sterling Area. At present the annual quota of apple imports is 83,950 tons, but only a fifth of this may be imported from July to December when 90 per cent of our home supply is marketed. The quota on pear imports is 28,000 tons and operates over the whole year. These quotas are very effective in supporting home prices and they are normally fully taken up.

Control of imports is the long established method of maintaining horticultural prices in Britain. It should be added, however, that changes in this policy are more often initiated by the action of pressure groups within the industry than by a clear lead from the Government. Protection gives an industry a false idea of its economic value. Indeed the tariff structure, strengthened by one generation of growers and perpetuated by governments for so long, represents a most serious obstacle now that new economic circumstances, which might have been prepared for earlier, demand its removal. In 1963 the Minister of Agriculture gave warning that he would be free to consider the possible relaxation of import restrictions on horticultural products, which may be commenced in 1968 (Statement on Future Horticultural Policy, 27th November 1963).

The New Policy for Horticulture

The first sign of a new policy for horticulture came in 1959 with the White Paper, *Horticulture, a policy for the improvement of production and marketing of horticultural produce*. This was followed by the Horticulture Act, 1960.

This Act had two main features, only one of which has been successful. Part I relating to horticultural improvements, became operative as the Horticulture Improvement Scheme. This was aimed at improving the competitiveness of British horticulture, and so far has become the cornerstone of policy in the transition period before any changes in the tariff structure are contemplated. Part II relating to horticultural marketing has met with less success. Under Part II the Horticultural Marketing Council was established. This was to have been self-supporting after 1963, but it came to an end because of insufficient support.

Provision was also made for the establishment of similar marketing organisations but no advantage was taken of it. The failure to establish marketing organisations at this time was in line with other failures in this field.* The only horticultural marketing board to exist in this

*A board for Apple and Pear Marketing was twice voted by growers and twice turned down because of insufficient support.

country was the Tomato and Cucumber Board which collapsed in 1963 for want of grower support. The need for such organisations is all too apparent today, yet it is quite evident that the government has done all it could to encourage their formation. Attention has since switched to the alternative, co-operative marketing, which with the looser forms of organisation now being encouraged, has more chance of success.

The Horticulture Improvement Scheme

This scheme has been successively broadened in scope since its inception in 1960. Initially a grant of one-third of the cost of improving marketing and glasshouse heating was given to growers and landlords with four acres of horticultural land, and marketing co-operatives.

The 1964 Agriculture and Horticulture Act extended the scope of the scheme to cover a wide range of production equipment and announced, with the Common Market in mind, that grading to E.C.E. standards would be made compulsory in 1967 and 1968 for apples, pears, tomatoes, cucumbers and cauliflowers. The government increased the £8m grant authorised in 1960 to £24m and provided £20m to redevelop wholesale markets, with the warning that advantage should be taken of these funds by 1974. Because growers in the early years of the scheme were slow to take up the grants, credit facilities were also made available. At this time the Small Horticultural Production Business Scheme and new Grants for Orchard Grubbing were introduced. Subsequent measures in 1966 have brought a yet wider range of improvements within the scheme, and in association with the new investment grant, aid for horticultural improvements was effectively raised from 33½ per cent to 38½ per cent.

The Horticulture Improvement Scheme and the ways in which it has been expanded, demonstrate the concern of the government that growers should strengthen their business before the tariff policy is changed. In future, growers are to be more dependent on successful management and the socio-economic problem of the small grower will increase in importance. The outstanding weakness of British horticulture in facing the problems of tariff demolition and international trade would seem to lie in the relative absence of formal organisations and political solidarity, but the new environment may itself force improvements in this situation.

Finally, some reference must be made to the 'National Plan for 1965' and to 'The Examination of the Horticultural Industry 1965'. Because of the size of its task the National Plan's minor reference to Horticulture is understandable. The estimate of a £25m increase in horticultural output by 1970 has been interpreted to imply an expansion of horticulture. This is not so when it is realised that horticultural output at current prices increased by £40m between 1960 and 1965. The 'Examination' is a logical development of policy but if it is to succeed in its work, appreciably more resources will have to be made available for research, the lack of which is a great weakness in the economics of horticulture in this country.

THE CHARACTER OF THE INDUSTRY

The Distribution of Production in the U.K.

Commercial horticulture takes place throughout the United Kingdom wherever suitable soil and climate associated with a market makes it financially rewarding. Thus England and Wales contributes 94 per cent of the output, Scotland only four per cent and Northern Ireland two per cent.

Because of the importance of local outlets many holdings are situated near towns. The industry is therefore widely dispersed throughout the country, yet there are important concentrations in certain regions. The concentrations in England are shown in Figure 1. The shaded parts cover only half of the acreage of crops and grass in England and Wales, but together they account for 87 per cent of the horticultural output.

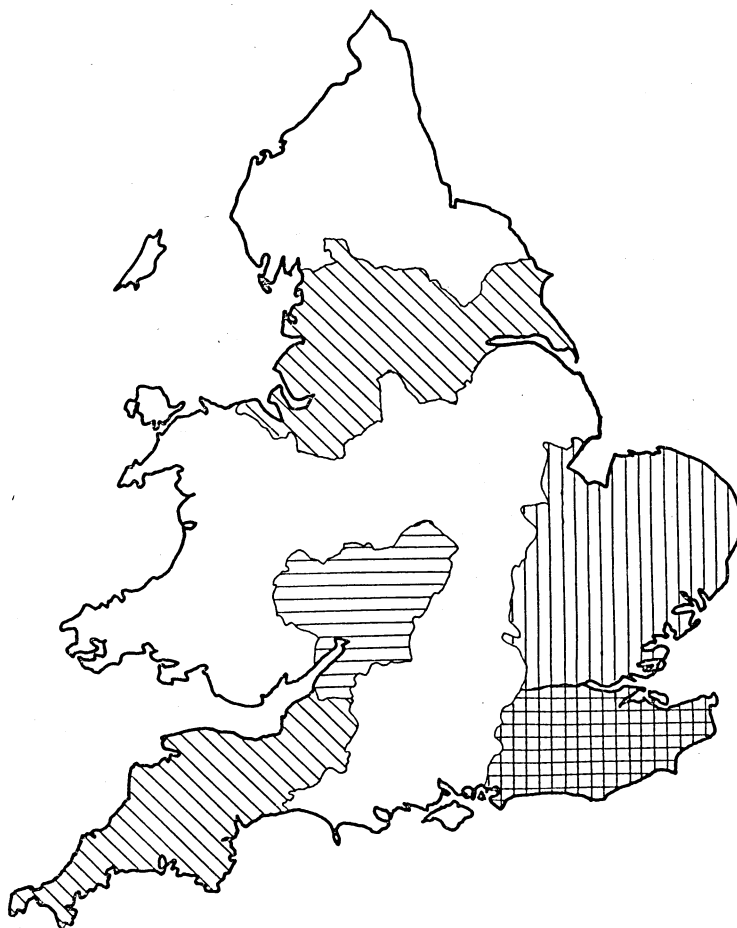
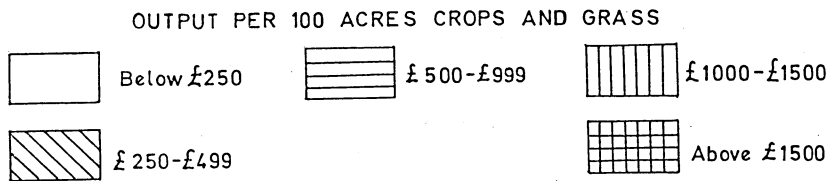


Figure 1. Horticultural Output

The contribution of the different regions to horticultural output in England and Wales is shown below in Table 3.

Table 3. Distribution of Horticultural Output England and Wales 1965/6

Region	Proportion of Output %	Vegetables* %	Fruit %	Flowers %	Glasshouse Produce %
Eastern ..	40.0	42.0	29.5	48.5	45.0
South East ..	23.0	12.0	39.5	12.5	23.0
West Midlands	10.0	10.0	17.0	3.5	3.0
North ..	8.5	13.0	1.0	7.0	10.3
South West ..	5.5	5.0	5.0	15.5	4.2
Other areas ..	13.0	18.0	8.0	13.0	14.5
Total % ..	100.0	100.0	100.0	100.0	100.0

*Field vegetables only, glasshouse vegetables are included under glasshouse produce.
Source: M.A.F.F. Statistics.

Eastern region is the biggest contributor in all types of production except fruit. The most intensive area, the South East, produces most of our fruit and is second as a supplier of glasshouse produce. The West Midlands takes third place and is strong in fruit and vegetables. The Northern area stands out as a region because of the important local demand, and is prominent in vegetables and glasshouse produce. Despite its remoteness from centres of population, the South West qualifies as a horticultural region on account of its early production, particularly of vegetables and flowers.

The composition of horticultural output in Scotland and Northern Ireland is similar to that of the United Kingdom as a whole; vegetables account for half of the output and fruit and flowers, for one quarter each (see Table 5).

The Contribution of each type of Grower to each type of Produce

Horticultural produce is grown on about 70,000 holdings in this country but somewhat less than 40,000 of them are full-time businesses. Fundamental to the problem of the future of horticulture for the individual grower is the extent to which he depends for income on horticultural products and dependent on other farm income. Changes in horticultural policy will naturally affect the mixed producer less than the specialist grower, who not only bears more financial risk but whose problems of management are usually greater. Table 4 shows an estimate of what each different type of producer contributes to each different type of product.

Table 4. The Comparative Contribution of each Type of Producer to each Type of Produce 1965/6
Adapted from R. R. W. Folley, Commercial Horticulture in Great Britain 1960

Type of Product	Type of Producer				Total Horticultural Output	
	Farmers %	Fruit Growers %	Market Gardeners %	Glasshouse Nurserymen %	Value £m	%
Field Vegetables ..	68	—	32	—	66.8	37.2
Glasshouse Produce ..	—	—	16	84	45.1	25.1
Field Flowers	50	—	50	—	21.4	11.9
Fruit	24	60	16	—	46.3	25.8
Total value from each type of producer	£67.2m	£27.8m	£46.7m	£37.9m	179.6*	
Percent total value from each type of producer ..	37.4	15.5	26.0	21.1	100.0	100.0

*Excluding produce not grown for sale.

More than a third of our horticultural production is grown on farms where the farmers' outlook is conditioned more by agricultural than by horticultural policy. Over two-thirds of our field vegetables and a large proportion of the outdoor flowers, and one-quarter of our fruit are grown on farms. Most of the remaining fruit is grown on specialised holdings whose share of the total output, 15 per cent, is the smallest of the producer groups shown. Market gardeners wholly dependent on horticulture, grow a wide range of produce though there is a high degree of specialisation on individual holdings. Glasshouse produce including flowers is grown almost wholly by producers who specialise in production under glass, and the remainder is grown on market gardens.

HOME PRODUCTION AND IMPORTS

A Preliminary Comparison

The latest available figures at the time of writing for the gross output of horticulture, 1965/6 'Provisional', are used as the measure of the present situation of horticulture in this study. Figures for 1966/7 are estimated but they were still in the 'Forecast' category.

Table 5. Value of U.K. Horticultural Output 1965/6 and the Increase since 1955/6

Type of Produce	England and Wales £m	Scotland £m	Northern Ireland £m	Total £m	Increase since 1955/6 %
Vegetables ..	89.5	3.4	1.9	94.8	14.6
Fruit	44.0	1.9	0.9	46.8	21.2
Flowers ..	36.7	2.0	1.0	39.7	92.7
	<u>170.2</u>	<u>7.3</u>	<u>3.8</u>	<u>181.3</u>	<u>27.8</u>

Source: M.A.F.F. Statistics.

Table 5 shows that the total horticultural output is now £181m which is £40m greater than ten years ago. The figures show the relative importance of each type of produce under the broad headings, of vegetables, fruit and flowers.

The present composition of horticultural production in comparison with that of ten years ago is as follows:

	1965/6 %	1955/6 %
Vegetables	52	58
Fruit	26	27
Flowers	22	15

Changes shown above, in the pattern of horticultural production in this country are a characteristic of the industry. It is the fear of too rapid a change forced on by new policies which is now the concern of the government and the growers. The increase in flower production is due mainly to a switch in glasshouse cropping from vegetables to flowers. This is associated with a greater demand for flowers and more reliance on overseas supplies of glasshouse vegetables, in particular

tomatoes. In the last ten years all types of production have expanded. Production of flowers has increased by far the most and the production of vegetables and fruit has declined as a proportion of total horticultural output.

In Table 6 home production is set against imports to give the total supplies of temperate horticultural produce. Imports of produce from temperate regions only are included as these have the most direct effect on our situation. Table 6 reveals that, despite the impressive expansion of British Horticulture in recent years, we are already losing ground considerably to imported supplies.

Table 6. Total Supplies of Temperate Horticultural Produce
U.K. Production and Imports 1965/6 and 1955/6

	£m	1965/6 £m	%	£m	1955/6 £m	%
U.K. Output		181·3	61·9		141·9	68·6
Imports Vegetables ..	58·5*			38·7		
Fruit	39·0			18·0		
Flowers	14·1†			8·2		
Total Imports		111·6	38·1		64·9	31·4
Total Supplies		292·9	100·0		206·8	100·0

*Including £12·9m from the Channel Islands.

†Including £4·3m from the Channel Islands.

Source: M.A.A.F. Statistics and Fruit Intelligence, Commonwealth Secretariat.

The contribution of home production to the total supplies of each type of produce is as follows:

		1965/6 %	1955/6 %
Vegetables	62	68	
Fruit	54	68	
Flowers	73	72	

showing that fruit and vegetables have lost ground to imports while flowers have maintained their position.

Comparison of Home Production and Imports According to Type of Production

The simple threefold classification of horticulture by natural product is adequate for certain purposes but the grouping now considered is one according to type of production, not the natural division but an economic one. Competition affects different types of producers differently. Of particular importance here is the distinction between vegetables grown under glass and in the open. More than a quarter of our vegetables are grown under glass and they have an appreciably different economic character from those grown in the open. Glasshouse vegetable growing implies a particular system of production and in addition certain glasshouse vegetables enjoy special tariff

protection. Flowers grown under glass also qualify for inclusion under glasshouse production with glasshouse vegetables. The existing classification for fruit satisfies the economic grouping as it is, since the amount of glasshouse fruit is negligible. Open ground flower production defies simple classification but may logically be considered with glasshouse produce which includes glasshouse flowers.

This now leaves the three main groupings as open ground or field vegetables, glasshouse produce and flowers, and fruit. The economic outlook for the horticultural industry will be considered later under these three commodity groups. Table 7 below shows our horticultural output and imports regrouped on this basis.

Table 7. Total Supplies of Horticulture Produce by Type 1965/6

<i>Type of Production</i>	<i>Home Production</i>		<i>Imports</i>	<i>Total Supplies</i>	<i>Proportion Home Grown</i>
	<i>£m</i>	<i>%</i>	<i>£m</i>	<i>£m</i>	<i>%</i>
Outdoor Vegetables	66.8	37.2	18.8	85.6	78.0
Glasshouse Vegetables	26.8	14.9	39.7†	66.5	40.3
Glasshouse flowers	18.3	10.2	0.8	19.1	95.8
Total Glasshouse	45.1	25.1	40.5	85.6	52.7
Outdoor Flowers	21.4	11.9	13.3	34.7	61.7
Total Glasshouse and Flowers ..	66.5	37.0	53.8	120.3	55.3
Fruit	46.3	25.8	39.0	85.3	54.3
Total Horticultural Output	179.6*	100.0	111.6	291.2	61.7

*Excluding produce not grown primarily for sale.

†Channel Islands £12.3m.

Source: M.A.F.F. Statistics and Fruit Intelligence, Commonwealth Secretariat.

Table 7 sheds more light on the situation regarding our present self-sufficiency in the supply of horticultural produce. We now supply three-quarters of the field vegetables and two-fifths of the glasshouse vegetables consumed in Britain. We also produce rather more than half of our total needs of glasshouse produce and fruit, and most of our flowers.

Imports from the Common Market and the Commonwealth

As imports from the E.E.C. and Commonwealth countries are of particular interest the import figures are analysed to show the contribution from each of these sources.

Entry to the E.E.C. would mean that the imports from the Commonwealth and South Africa now coming in free of tariff would be subject to the common E.E.C. tariff, whereas our present tariff and quotas against the Six would be progressively relaxed. The Channel Islands would no

doubt 'enter Europe' with us, and, like the U.K., could take advantage of non-tariff trade with the E.E.C. The present grouping of the trade in horticultural produce according to the various types of production is shown below.

Table 8. Horticultural Imports from different sources by value 1965/6
Imports add up to 100% across

Product	Proportion of Supplies Imported	Percent Imports by Value*			
		E.E.C.	Commonwealth		Other Countries
			Ch. Islands	Other	
	%	%	%	%	%
Field Vegetables	22	25.5	2.1	14.4	58.0
Tomatoes	75	27.0	37.0	—	36.0
Other glasshouse vegetables	28	75.0	1.6	—	23.4
Glasshouse flowers	4	n.a.	n.a.	n.a.	n.a.
Glasshouse Produce	47	35.0	31.0	—	34.0
Field Flowers	38	69.6	30.4	n.a.	n.a.
Apples	54	11.8	—	46.8	41.4
Pears	65	22.4	—	72.1	5.5
Other top fruit	26	34.8	—	13.0	52.2
Soft fruit	11	35.7	—	14.3	50.0
Fruit	46	16.2	—	47.4	36.4
Total Horticulture	38	25.5	13.0	21.7	39.8

*Estimated where necessary from quantities of each commodity.

n.a. not available.

— nil.

Source: M.A.F.F. Statistics and Fruit Intelligence, Commonwealth Secretariat.

The U.K. is most self-sufficient in field vegetables and field flowers, and is least self-sufficient in glasshouse produce and fruit. To a large extent imports supplement the supply of produce in the period when home grown supplies are not available.

Two-thirds of our imports, those from the E.E.C. and the non-Commonwealth countries are subject to tariff, 26 per cent from the E.E.C. and 40 per cent from other countries. Imports of apples and pears from Canada are subject to the quota. Imports from the E.E.C. form a large proportion of the total imports of glasshouse produce and field flowers (mainly bulbs), and a much smaller proportion of the field vegetables and fruit.

The Channel Islands hold a special place in the market for tomatoes, and at present they are our biggest single supplier. The Commonwealth features most prominently in the supply of orchard fruit, much of which comes from countries in the southern hemisphere which assists in providing Britain with an all year round supply.

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CHAPTER 2

Field Vegetables

U.K. PRODUCTION OF VEGETABLES

Many factors combine to make field vegetable production in Britain one of the most efficient sectors of our farming. The outlook for the industry is promising since vegetable farming is resilient enough to adjust itself to economic change, and, on the whole, to gain from it.

Although Britain had to be largely self-sufficient in supplies of vegetables during the war shortages that occurred gave a strong stimulus to production in this country. Since then, competition has brought about further adjustments to satisfy the market, and have so modernised and relocated production as to give vegetable farming considerable economic strength. Unlike fruit and glasshouse production, where specialised investment limits possibilities in production alternatives, vegetable growers not only have a big choice of crops to grow, but are in a position to grow them or leave them alone.

Over two-thirds of our vegetables by value are now grown on farms. In the main they are large arable farms of Eastern England, and, though of much less importance, in Eastern Scotland. Rather less than a third of the vegetables are grown on market garden holdings which specialise in horticultural produce of various kinds. Ninety per cent of vegetables produced in the U.K. are grown in England, and two-thirds of these come from Eastern England. Farm production concentrates on bulky and more extensively grown vegetables such as autumn and winter cabbage, carrots, leeks and celery, that lend themselves to mechanisation. Market garden production tends to concentrate on perishable and high value crops such as lettuce, runner beans, radishes, salad onions, and rhubarb.

Location of Vegetable Production

A considerable shift has occurred in the location of vegetable production in recent years. This is due to mechanisation, to developments in motor transport, and to the increasing effectiveness of market services. Many of the large farms deliver direct to the main markets, the co-operatives and processors, whereas others are served by grower merchants or dealer lorrymen. Many of the market gardeners supply local outlets. The present trend is a reduction in the vegetable acreage in established market garden areas such as the Thames Valley and Evesham, and a big increase on the large arable farms in Eastern England.

The market gardeners, whose holdings are mostly within ten miles of the urban areas, have reacted to the changing circumstances by concentrating on perishable and high value crops for which proximity to market is an advantage. Few of these now grow vegetables alone and their output usually includes glasshouse crops and often fruit and flowers. The migration of vegetable

production away from the towns has been hastened by the loss of land to housing and the high cost of labour on the outskirts of towns.

As producers of vegetables, large arable farms have a number of advantages over the small market garden. The farmer usually concentrates on only one or two crops such as celery or carrots which he can master thoroughly and produce cheaply with his mechanised field equipment. Many vegetable crops moreover provide a useful cleaning or break crop in the rotation. From the economic standpoint the arable farmer can stand the risk of wide fluctuations in returns from vegetables because much of his income comes from cereals and other crops with guaranteed prices. It is in any case easy to exaggerate the losses that occur when vegetable prices are low because the farmer can avoid the cost of harvesting—the biggest item—by ploughing the crop in.

In these circumstances the public and the producer benefit, and, as a result of our climate, the best in Europe for field vegetables, we enjoy an all the year round supply of fresh vegetables, which on the whole are within a day's journey from the shops.

Scale of Production in Vegetable Growing

The increase in the scale of production in recent years is shown in Table 9 below.

Table 9. Scale in Vegetable Production

<i>Vegetable Acreage</i>	1960		1965	
	<i>Grower's %</i>	<i>Acreage %</i>	<i>Grower's %</i>	<i>Acreage %</i>
Under 20 acres	88.6	36.5	87.1	31.0
20-49 $\frac{1}{2}$ acres	7.8	24.9	8.2	22.8
50-99 $\frac{1}{2}$ acres	2.4	17.3	3.0	19.1
100 acres and over	1.2	21.3	1.7	27.1
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: M.A.A.F. Statistics—Raised results from a one-third sample of June Returns, 1960 and 1965.

In five years the acreage in the two smaller size groups has fallen, but more markedly in the under 20 acre group. The acreage in the large size groups has increased, especially in the group with 100 acres or more. Large scale production is increasing rapidly at present at the expense of small scale production.

This trend towards increasing scale is likely to persist as advances in mechanisation, so readily taken up by British farmers growing vegetables, continue. Also, the universal vegetable harvester in association with increased provision of vegetable storage will bring about further economies on the farm and raise the value of the produce at the retail level.

Field Vegetable Output in the U.K.

Vegetables grown in the open account for 37 per cent of our horticultural output. The composition of the output in thousand tons and in value is shown in Table 10 below.

Table 10. U.K. Field Vegetable Output 1965/6

Type	Quantity '000 tons	Output £m	Output %
Roots and Onions	609.5	11.9	17.8
Beetroot	82.1	1.4	
Carrots	284.1	4.6	
Parsnips	42.4	0.8	
Turnips and Swedes	131.7	1.2	
Onions, dry bulb	50.9	0.7	
Onions, salad	18.3	3.2	
Celery and Leeks	86.9	2.3	3.4
Celery	65.4	1.3	
Leeks	21.5	1.0	
Brassicas	1065.3	27.2	40.7
Brussels Sprouts	178.7	6.0	
Cabbages	564.3	11.1	
Cauliflower	322.3	10.1	
Fresh Legumes	158.6	5.7	8.6
Beans, broad	42.7	0.7	
Beans, runner	58.2	3.0	
Peas, green	57.7	2.0	
Lettuce	103.1	4.9	7.3
Other Vegetables	170.9	6.2	9.3
Total Fresh Vegetables	2194.3	58.2	87.1
Peas for canning and freezing	135.5	6.3	
Peas for harvesting dry	40.7	2.3	
Vegetables for Processing	176.2	8.6	12.9
Total	2370.5	66.8	100.0

Source: M.A.A.F. Statistics.

Table 10 shows the wide variety of field vegetables that we produce. In value, home supplies of vegetables account for 78 per cent of the total including 80 per cent of the fresh vegetables and 68 per cent of the vegetables for processing*. From July to November, with the exception of onions, we are virtually self-sufficient in fresh vegetables.

Most of our home produced vegetables are brassicas (41 per cent) and roots and onions (18 per cent). Cabbages of some kind are available throughout the year, and with brussels sprouts they are our staple source of green vegetables in the winter. No brussels sprouts and very few cabbages are imported. Home grown cauliflower is available all the year round with peaks in the autumn and spring. The high value of cauliflower over the winter attracts imports from November to April, but imports of cauliflower are not heavy.

Salad onions, a high value crop, are available in Britain from February to September and there are no imports. Root crops and bulb onions are in peak supply in the winter. Carrots are harvested from June to April and because of the high value of young carrots there are some imported supplies throughout the year. Dry bulb onions, naturally ripened, need a hot summer to produce

*Omitting vegetables imported in the processed state.

a good sample and consequently they are successfully grown in this country in only one year in three. Substantial onion imports are therefore a normal feature of our trade in horticultural produce.

Fresh beans, peas and lettuce comprise 16 per cent of vegetable output. All are high value summer vegetables, and imports are negligible since imported lettuce is mainly in the glasshouse category. Other fresh vegetables include rhubarb, asparagus and watercress.

The vegetables for processing shown in Table 10 are peas for canning and quick freezing and peas for harvesting dry. Peas for freeze-drying are included with peas for freezing. Up to a quarter of the carrots included with fresh vegetables are used for canning. Green peas, whether grown for the fresh market or for vining (canning and quick freezing), are mostly grown on a large scale. Peas for harvesting dry are best suited to the smaller and medium sized farms. Almost half the carrots are grown by less than 300 farms of 500 acres or more in size, but bunched carrots, only five per cent of the acreage, are widely grown on market garden holdings.

HOME AND IMPORTED SUPPLIES

Home produced fresh vegetables cater for our needs throughout the year, and English growers are in a position to increase their big stake in this supply. Costs of production of most of the fresh vegetables are much lower in Britain than in countries near enough to us to consider supplying our requirements. Vegetables, with a few exceptions not very significant in the trade, are bulky commodities, whose price will not support the high cost of transporting them from abroad. Also giving natural 'protection' to vegetables is their tendency to lose value through lack of freshness. Finally, conditions of near perfect competition in supply promote the quality of all but the more durable of our vegetable produce and ensure that supply, from one year to another, adjusts itself to demand.

Table 11. U.K. Production and Imports of Field Vegetables 1965/6
Channel Island Produce with Imports

Field Vegetables	Home Production		Imports	Total Supplies	Proportion Home Grown
	£m	%			
Roots and Onions ..	11.9	17.8	10.6	22.5	52.9
Celery and Leeks ..	2.3	3.4	n.	2.3	100.0
Brassicas	27.2	40.7	2.1	29.3	92.8
Fresh Peas and Beans ..	5.7	8.6	n.	5.7	100.0
Lettuce	4.9	7.3	n.g.	4.9	100.0
Other Vegetables ..	6.2	9.3	2.1*	8.3	74.7
Total Fresh Vegetables ..	58.2	87.1	14.8	73.0	79.7
Peas for Processing ..	8.6	12.9	4.0	12.6	68.3
Total Field Vegetables ..	66.8	100.0	18.8	85.6	78.0

* Imported other vegetables included very small quantities of celery and leeks, and fresh peas and beans.

n. Negligible, included with other vegetables.

n.g. Negligible, lettuce imports are mainly glasshouse lettuces.

N.B. The processed vegetable imports shown are those imported in the raw state. Imports of frozen vegetables in 1966 were £5m. Imports of canned vegetables in 1966 were £17.8m and consist mainly of tomatoes and other vegetables not grown for processing in Britain. These products, imported in the processed form are not included above.

Source: M.A.A.F. Statistics and Fruit Intelligence, Commonwealth Secretariat.

Table 11 shows that three-quarters of our vegetable imports, or £14.8m, are of fresh vegetables and these imports amount to 19 per cent of the total supply. A quarter of the imports of vegetables are for processing. Only dried peas are included here. Imports of already processed vegetables, quick frozen and canned, are shown at the foot of Table 10.

Our biggest imports of fresh vegetables are roots and onions which comprise just over 70 per cent of the total. Imports of brassicas, mainly cauliflower, account for another 13 per cent, and the remaining 16 per cent comprises fresh vegetables not separately specified. The home production and imports of specified fresh vegetables are shown in Table 12 below.

Table 12. Fresh Vegetable Supplies—Home Production and Imports 1965/6

Vegetable	Home Production £m	Imports £m	Total Supplies £m	Percent Imports	
				of total supplies of each vegetable	of total fresh vegetables imported
Onions ..	0.7	8.1	8.8	92.0	60.0
Carrots ..	4.6	1.5	6.1	24.6	11.1
Cauliflower ..	10.1	1.5	11.6	12.9	11.1
Cabbage ..	11.1	0.2	11.3	1.8	1.5
Unspecified ..	—	2.2	—	—	16.3
					100.0

Source: M.A.F.F. Statistics and Fruit Intelligence, Commonwealth Secretariat.

Onions

Apart from 1964, imports have accounted over the past ten years for over 90 per cent of our onion supplies. The quantity imported has remained fairly constant at 200,000 tons a year. Production in England has, however, increased slightly in the last ten years. Demand which fell heavily during the war is now increasing steadily.

The reason for the heavy import of onions is that the quality and colour of imported onions, whether ripened naturally as in Spain and Egypt, or artificially, as in Holland, is markedly superior to our own. As a result, these imported onions realise a higher price than home supplies, particularly those ripened naturally in a warm climate.

Indeed without a reasonably long period of warmth in August and early September the crop does not ripen satisfactorily and the onions do not keep well and have a poor skin finish. In England conditions are favourable for natural ripening of onions in about one year in five. Consequently, the price of the home crop varies according to the weather conditions at harvest time and in two years out of three there is heavy wastage.

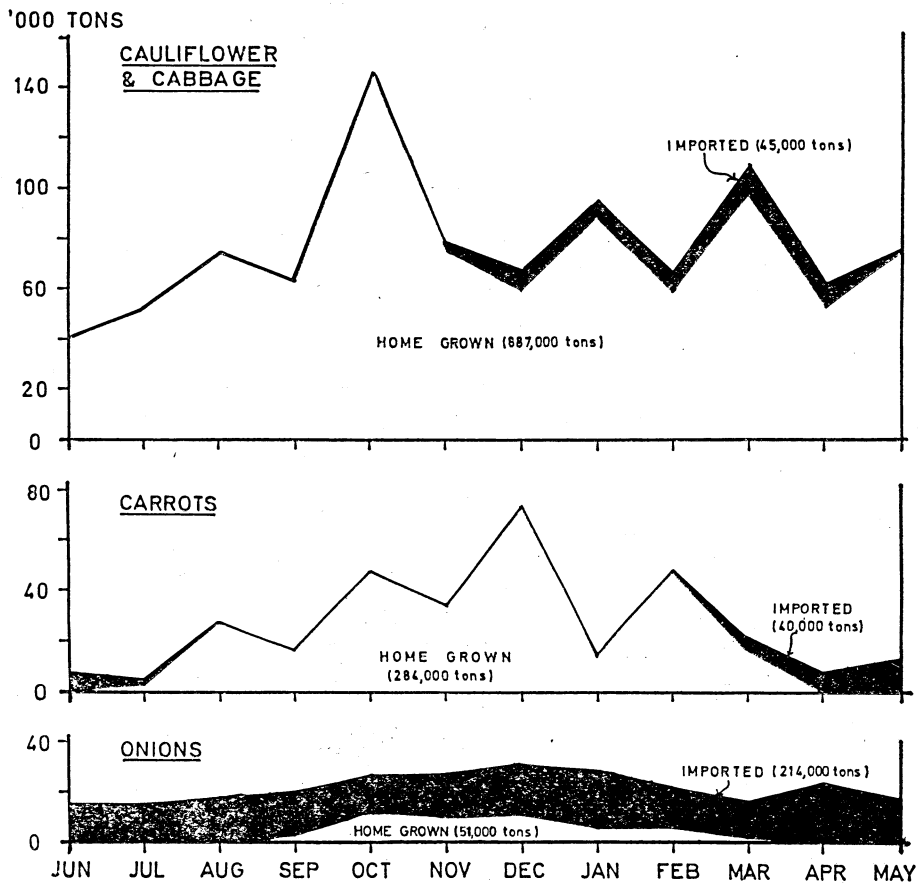
Onion supplies over the year are shown in Figure 2. Home supplies make a small contribution to total supplies from September to March, but imports are heavy throughout the year, and supplies come from many, often distant, parts of the world.

The tariff on bulb onions is 4s 8d per hundredweight from August 1st to November 30th, when the price of imported onions is about 40s per hundredweight, and ten per cent *ad valorem* for the rest of the year. The price of imported onions is always at least 50 per cent higher than home-grown, except when the first liftings of our own crop are marketed.

Table 13. Onion Imports by Source. Average 1964-6

Country	%	Period of Supply
Netherlands	17.9	All year
France and Italy	1.7	Aug.-March
E.E.C.	19.6	35% Aug.-Nov. 80% Aug.-Nov.
Canada	9.0	Sept.-April
Malta	1.1	July-Aug.
South Africa	1.4	Feb.-April
Commonwealth	11.5	
Spain	34.8	All year
Poland	8.8	Aug.-March
Chile	6.4	45% Aug.-Nov.
Egypt	12.9	March-June
U.S.A.	2.3	March-June
Hungary and others	3.7	Oct.-April
Other Countries	68.9	All year
		Hungary Aug.-March

Source: Fruit Intelligence, Commonwealth Secretariat.



Percent. of total supplies of field vegetables for fresh consumption
Cauliflower & Cabbage 35.1; Carrots 11.5; Onions 9.9

Figure 2. Monthly Supplies of Field Vegetables 1965/6
Those with Significant Imports

Over two-thirds of the imports come from countries which are neither in the Commonwealth nor in E.E.C. Spain stands out as our largest single source, supplying more than one-third of the total. We now take more than 70 per cent of Spain's total export of this crop, and imports from Spain as a proportion of total onion imports have increased slightly in recent years.

The conspicuous quality of Spanish onion exports arises in part from the fact that only the best, about 100,000 tons, are exported out of a total production of 800,000 tons (1966). The forecast for 1970 is of a total production of 1,080,000 tons and exports of 150,000 tons. In 1960 Western Germany took under two per cent of Spanish exports and now she already takes more than 20 per cent.

Imports of onions from Poland have increased in recent years, from 8,300 tons in 1955 to 17,400 tons in 1965. Poland, with other East European countries, supplies over ten per cent of our imports. Imports of Chilean onions, comparable in quality to the Spanish and Egyptian, fluctuate from year to year as do Egyptian supplies. Together, these two countries supply nearly 20 per cent of our imports.

Holland and France supply 20 per cent of our imports, and nearly all of these come now from Holland where growing and harvesting conditions are most similar to our own. Holland now produces rather more than 200,000 tons of onions of which she exports 164,000 tons, more than Spain. Two-thirds of the Dutch exports go to other E.E.C. countries. The Dutch estimated production for 1970, is a total output of 240,000 tons, and exports of 180,000 tons.

Commonwealth countries supply 12 per cent of our imports which of course enter free of tariff. It is quite clear, however, that the tariff is not discouraging the supply of onions from countries who are at present obliged to pay it, and who now send in nearly 90 per cent of our supplies. Nor do freight costs act as a deterrent. This is because of the high premium on quality which our foreign suppliers are able to secure, backed by rigid grading of the onions selected for export.

Having regard to the big Netherlands export of onions in which artificial ripening plays an important part, it is fair to ask why a bigger share of the market cannot be supplied from home production. More especially is this so when we find that a large proportion of the acreage in England is grown by a few growers, that in fact the structure of onion growing in this country shows a scale of production favourable to economic investment in this crop. Here is a big opportunity to save part of the £9m imports of onions. Obviously there would be a limit because those onions from the warmer climates would still secure a share of the market because of their quality. What the Dutch have done, however, we also can do, and the new varieties now being produced which give better skin colour will be a help in this. There is no real reason why we should not save at least £3m of our imports, and compete on equal terms with Holland in the production of onions which until now has been one of our biggest imports of horticultural produce.

Carrots

The consumption of carrots is now greater in Britain than anywhere in Europe except France. Home production runs currently at some 280,000 tons per year and imports are between 20,000 and 30,000 tons per year. The amount imported normally depends on the severity of our winter, which determines how long our own crop lasts. Over the last ten years home production has increased in value by 50 per cent and in quantity by about 25 per cent.

Reference to Figure 2 shows that from August to February our requirements are wholly met from home production. There is in fact a trickle of imports throughout this period which are too small to show up in the figure. From the time when the home supply tails off in February imports

are increasingly important and come to a peak in May. Imports then diminish sharply, until in August virtually all our supply is home grown.

The tariff on carrots in May and June is £1 per hundredweight when our early bunched crop is available, a very high rate, and ten per cent *ad valorem* for the rest of the year.

There are two reasons for importing carrots. The main one is the gap in the home supply between the end of one crop and the beginning of another. Then there is the demand for the luxury carrot, often prepacked, which our producers supply only in part. Imports are at present a quarter by value of our total supply, or £1.5m per year.

The sources of carrot imports are shown in Table 14.

Table 14. Carrot Imports by Source. Average 1964/6

Country	%	Period of Supply
Netherlands	27.2	80% Jan.-April 26% April
Other E.E.C. Countries	7.6	Similar
E.E.C.	34.8	
Cyprus	46.6	97% May-June
Canada	0.8	Dec.-May
Commonwealth ..	47.4	
U.S.A.	13.7	Dec.-May
Other Countries*	4.1	Dec.-May
	17.8	

*Eire 1.8%, Denmark 0.1%.

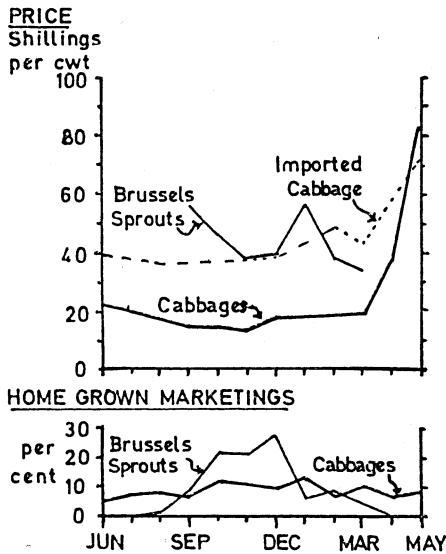
Source: Fruit Intelligence, Commonwealth Secretariat.

The price of imported carrots, as shown in Figure 3, is three or four times as great as that of our own product. This high price does much to destroy the deterrent value of the tariff and freight charges. Imports come in not only when prices are high because supplies are short but also to supply a luxury trade for which there is a keen demand for most of the year. Only selected, first quality carrots are sent to Britain.

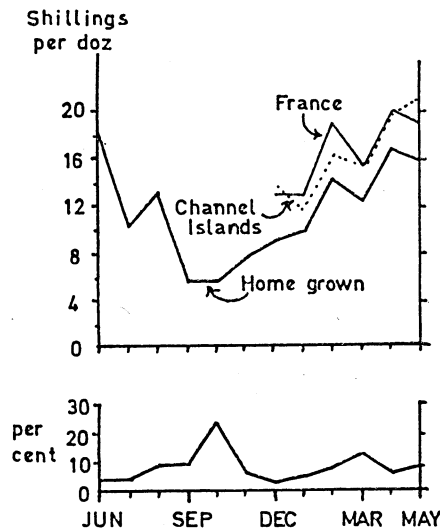
Cyprus as a member of the Commonwealth supplies nearly all our tariff free imports in May and June when the high tariff is in force and home supplies are lowest. British entry into E.E.C. would thus make Cyprus supplies particularly vulnerable. The import of carrots from the U.S.A. and even from Canada does show, however, that with a reasonably good price, it can pay to ship bulky produce over great distances. This is of course worthwhile only when supplies are short and when there is a premium on quality.

One third of our imports come from the E.E.C., mainly Holland, where these supplies are stored after lifting on a contract or co-operative basis. If the tariff disappeared, there might be some diversion of supplies to Britain from Holland's other customers, but as Dutch production is only 3,000 tons the effect would be limited. This has been the output in Holland for at least ten years and it seems unlikely to increase.

CABBAGES



CAULIFLOWERS



CARROTS AND ONIONS

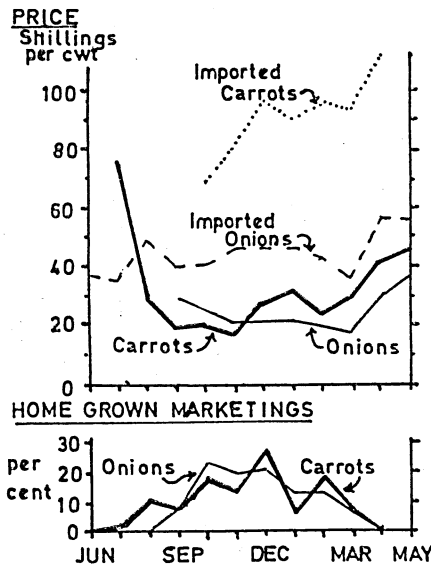


Figure 3. Prices of Vegetables having significant Imports
Monthly prices of home-grown and imported produce and proportion of home-grown marketed each month

Clearly, English growers and merchants could secure a larger share of the carrot market, and with modern storage, lengthen the season. They could also take over more of the luxury carrot trade and, with a longer season of marketing, reduce imports by at least 50 per cent. Methods of

storage, production and marketing long established in Holland are only now being applied here. In England, a large proportion of the crop is in the hands of a few growers and merchants, in concentrated areas and they could easily apply these new methods and capture a larger share of the market for home supplies.

Cauliflower and Cabbage

The supplies over the year of cauliflower and cabbage, both home grown and imported, are shown in Figure 2. There are some imports from November to May when other vegetables are scarce. At this time demand for cabbage and cauliflower is strong, and cannot fully be met from home supplies. Over the past ten years, 20 per cent by weight and 14 per cent by value of all cauliflower and brocolli consumed in the U.K., has been imported. Considerably less cabbage is imported, nearly three per cent by weight and one-and-a-half per cent by value, annually. Home production of cauliflower has increased by about 50 per cent in the last ten years, while that of cabbage has remained little changed. From May to the end of November, 90 per cent and sometimes more, of cauliflower supplies are home grown. In December and January home supplies fall off sharply, but rise to about 80 per cent from February to April.

The tariff on cauliflower is 6s a hundredweight from July 1st to the end of February, and 8s from March 1st to June 30th. Imports of cauliflower from each country are given in Table 15.

Table 15. Cauliflower Imports by Source. Average 1964-6

<i>Country</i>	<i>%</i>	<i>Period of Supply</i>
France	58.5	Dec.-May
Italy	12.4	Nov.-May
Netherlands	1.1	Dec.-March
E.E.C.	72.0	
Channel Islands	24.5	Nov.-April
Eire	3.3	All year
Others	0.2	All year
Other Countries	3.5	

Source: Fruit Intelligence, Commonwealth Secretariat.

The E.E.C. countries, principally France and Italy, whose acreage is large owing to their milder climate, supply over 70 per cent of our imports. Most of the remainder come from the Channel Islands and are free of tariff.

France and Italy which are organised to supply an export market, also export to other European countries. In Italy about 125,000 tons are selected for export from the total production of 670,000 tons, but at present only 6,000 tons of this comes to Britain. France, with a domestic production of over 200,000 tons, sends us a much larger proportion of her exports to us. By 1970, production in both countries is expected to increase by at least 20 per cent and the proportion for export to increase. A fair quantity of these supplies, which are of great benefit to the British public, are coming in now despite the tariff. Figure 3 shows that imported cauliflower gain a premium of 4s a dozen over home grown, and any relaxation of the tariff would make them more plentiful and less expensive in the months when they are needed most.

Cauliflower, is one of the five items of horticultural produce declared 'sensitive' in 1963, and compulsory grading to Common Market standards is now in force. A policy of free trade would

affect different types of producers in England in different ways. Large growers in Lincolnshire, for instance, market only very little of their crop when imports are plentiful, and even if they lose a part of the market to imports, they can turn to other crops. The smaller Cornish grower, however, faces overseas competition throughout the season when his crop is marketed. Competition from abroad is a far more serious matter for him as he has no alternative winter crop.

VEGETABLES FOR PROCESSING

Peas for canning and quick freezing are grown on large arable farms on contract from processors who stipulate a minimum acreage and supervise the management of the crop. With the development of mechanisation in pea growing and the fact that peas are harvested in a slack period before the cereal harvest, contracts for vining peas are much in demand by farmers.

In the brief five-year period ending in 1966, the consumption of canned vegetables in Britain increased by 30 per cent, and 80 per cent of this is manufactured in this country. Quick-frozen vegetables have increased by over 50 per cent in the same period to 135,000 tons and 98,000 tons of this is home produced.

The increased demand for canned and frozen vegetables has, however, been beyond the capacity of our processors and farmers to fulfil. Though home production has increased, imports have gone up more. There is no reason, however, why Britain with advantages of climate and of farm structure, should not capture a large share of this increased demand and even enter strongly into the export trade. Should we join the Six, our opportunity for exporting processed vegetables would be greater.

THE OUTLOOK FOR FIELD VEGETABLES

The British public requires an all-the-year-round supply of a great variety of vegetables. When home supplies are not available, the gap is filled by imports but there is little doubt that home production could fulfil more of our requirements. Our growers have advantages. Production costs are low and our vegetables arrive fresher on the market and the heavy freight charges for bulky produce incurred by importers are avoided. This high degree of natural protection from imports will remain whatever trade relationships may be reached in the future.

The influence of our agricultural policy on vegetable production in Britain should not be overlooked. Most of our vegetables are produced by general farmers who also produce crops and livestock with guaranteed prices. Vegetables moreover often fit very neatly into a crop rotation by providing an alternative to sugar beet and potatoes and a break crop between cereals. With guaranteed prices for some crops, the farmer can better withstand the risks of vegetable production. On the other hand, the farmer who only partly depends on vegetables may be less disposed to exploit his opportunities to the full. This may explain why the growers of onions and carrots are less enterprising in meeting market demands as are the Dutch growers. They may not consider the risk of developing new techniques and exploiting specialist outlets worthwhile when their income from ordinary farm crops is assured. The same attitude is also to be found in the growers regard to quality. Those who are trying to improve matters are having to struggle against a background of big supplies each year of poor quality English onions and carrots. Nonetheless, improvements are taking place in the supply and distribution of these crops, which should give more economic strength to those who remain in production. These changes could well result in some improvement in our self-sufficiency in vegetable supplies. If, indeed, we do face Europe on an equal footing, economic pressure may force the pace of developments in onion and carrot.

farming. Should we fail to make advances now, however, those pressures will result in a smaller but more efficient home production of these vegetables.

If we adopt the Common Agricultural Policy cereal prices are likely to go up. This would encourage farmers to grow more of them leaving less room for vegetables, which would rise in price. This could benefit vegetable growers. Higher prices would also attract some more imports, especially from Europe, but the increase would be limited by the natural advantages our growers possess. The vegetable grower whose future may be in doubt, particularly if we join Europe, is the grower with a small acreage specialising in out-of-season production, such as winter cauliflower, especially in counties like Cornwall and Pembroke. Small growers who have failed to develop direct outlets or who do not possess particular skills in production have been under pressure for many years. Such pressure in a capitalist society is accepted as normal and leads to adjustment in production or marketing, or both. Only growers who have no alternative should, however, actually go out of business.

The future demand for vegetables depends on the nation's economic growth and the general rise in incomes consequent upon it. Table 16 shows the income elasticity* of demand for the main fresh and processed vegetables and the expected increase in demand of the major groups by 1980.

Table 16. Income Elasticity of Demand and Expected Increase in Requirements by 1980

Product	Income elasticity	Increase in Demand† 1980 over 1961	
		Low growth rate*	High growth rate†
Roots and Onions	0.30	16	33
Including canned	0.80		
Brassicas	0.25	11	19
Including quick frozen	2.50		
Cauliflower	0.65		
Legumes including shelled peas	0.93	53	75
Peas in shell	0.70		
Quick frozen peas and beans	2.00		
Legumes canned fresh	0.30		
Salad vegetables	1.00	52	76

* 2% growth rate.

† 4% growth rate.

‡ Increase demand is adjusted for population trends.

Expected demands are at constant retail prices for the end products.

Source: G. T. Jones, Agricultural Economics Research Institute, University of Oxford.

Vegetable products have positive income elasticities in no case lower than 0.25. Cabbage, root vegetables and canned peas have higher elasticities, while the better types of brassicas have an even higher demand. The income elasticity of fresh legumes and salad vegetables ranges from 0.70 to 1.0. Canned roots and onions also have a high income elasticity and that of quick frozen vegetables is extremely high.

Since the demand elasticities are positive and have high values it means that vegetable production as a whole is assured of a bigger demand as incomes rise. The present demand for quick frozen and canned vegetables is much higher than that for most fresh vegetables. Among fresh vegetables, the demand for salads and legumes is higher than that for others. The increase in demand by 1980 for the major groups of vegetables is also given in Table 16. As groups, salads and leguminous vegetables which are prominent in the production of the small grower, show the

*The income elasticity of demand for a product is defined as the percentage increase in demand for the product for each percent increase in income.

biggest increase, and brassicas show the smallest increase. Considerably more of the legumes and brassicas will be used for quick freezing in the future.

Vegetable production is easily adjusted to these changes in demand because it is characterised by annual or even more frequent cropping. The future pattern of production will follow the lines shown above and the necessary adjustments are not likely to be painful to British growers. On the contrary, demand expectations are such that there is a promising future for the industry. There are no obstacles to prevent the industry from making the best use of resources, and freer imports would help towards this end. At the same time there is scope for saving imports of certain vegetables, and we should give attention to this irrespective of future tariff policy.

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CHAPTER 3

Produce Grown Under Glass and Outdoor Flowers

THE U.K. GLASSHOUSE INDUSTRY

If our present import restrictions are relaxed, glasshouse and orchard fruit production will become more vulnerable to foreign competition than any other part of our horticulture. The glasshouse industry is threatened because Holland, our chief competitor, has shown that she can increase her share in our market despite increased tariffs in recent years. In assessing the prospects for home production, it should be realised that glasshouse production lacks some of the natural protection in trade enjoyed by open ground vegetables. Because produce is less bulky, freight charges are of less consequence and exports can be organised to arrive fresh in our shops. The type of production implies the provision of an expensive, controlled environment, and competitive production depends on a high level of investment. Finally, the profitable production of glasshouse commodities depends on the successful application of sophisticated techniques and the risks of failure increase progressively with the level of investment. A fair degree of business ability is also demanded. Many of our 10,000 nursery growers cannot meet these requirements and as a result may not be able to compete successfully. Indeed, even with tariff protection, far-reaching changes would have to be undertaken if our industry is to remain competitive.

Production from glasshouses now accounts for a quarter of our horticultural output, and over four-fifths of the growers concerned depend entirely on glass for a living. That the glasshouse industry can make adjustments to economic pressures, however, may be observed from recent developments. In the last ten years its output has increased at a much faster rate than any other sector of horticulture during which time the acreage of glass has decreased by 11 per cent.

The Structure of Glasshouse Production

In 1966 the total area of glasshouse in Britain was 4,232 acres, of which 3,900 were in England and Wales. Britain has the biggest glasshouse industry of any European country, apart from Holland, where the area now stands at 12,300 acres. The Channel Islands, which trade as members of the Commonwealth, but do not come under the U.K. Horticultural Improvement Scheme, have about 1,250 acres, mainly in Guernsey.

A detailed description of the structure of glasshouse production is only available for England and Wales, but this can fairly be taken to represent the U.K. as a whole as it covers all but 300 acres of the total. In an industry of this type, competitiveness depends in large measure on the extent to which equipment concerned is modern. If we compare the age of the glasshouses in Table 17 it can be seen that equipment in England is less up to date than in Holland, our chief rival.

Table 17. The Glasshouse Age Structure, England and Wales, and Holland

<i>England and Wales 1963</i>		<i>England and Wales 1967</i>		<i>Netherlands 1966</i>	
	<i>% area</i>		<i>% area</i>		<i>% area</i>
Built before 1945	54·1	Built before 1945	41·8	Built before 1950	32·0
New 1945-62	43·0	New 1945-62	43·5	New 1950-60	51·0
New during 1963	2·9	New 1964-66	10·8	New 1960-65	17·0
		New July 1966-Mar. 1967	3·9		
Total	100·0	Total	100·0	Total	100·0
Total glass area, acres	3696	Total glass area, acres	3853	Total glass area, acres	12300

Source: Glasshouses and Glasshouse Equipment Enquiry, England and Wales, and O.E.C.D.

Some of the difference can be explained by the great expansion in the glass area in Holland and a slowing down of investment in glass in this country. The low rate of replacement, however, of our glasshouses does not mean a lack of growth in the industry in the longer term. From this situation it is more possible to make new growth, but many of the existing businesses will not be sharing in it. There has been an encouraging development of new glasshouses since 1963 in response to the Horticultural Improvement Scheme.

As much as a quarter of all facilities approved for grant under the scheme have been for improvements to glasshouse heating. An enquiry in March 1967, shows that two-thirds of the area heated is automatically controlled and that automatic watering is now installed on over half the acreage.

A quarter of our glasshouse area is unheated and cold house construction is going ahead at a faster rate than heated. However, the proportion of cold glass can be expected to decline in future because growers commonly extend the glass to the financial limit, and then install heating later as funds become available.

Table 18. Glasshouse Size Structure. England and Wales 1966

Acreage Size Group	ALL GLASS		HEATED GLASS		UNHEATED GLASS	
	% Number	% Acreage	% Number	% Acreage	% Number	% Acreage
Up to $\frac{1}{4}$	66.6	16.7	71.6	16.3	88.3	42.1
$\frac{1}{4}$ - $\frac{1}{2}$	16.4	14.3	13.1	12.5	7.6	17.2
$\frac{1}{2}$ -1	9.8	16.8	8.2	15.4	2.6	11.4
1-2 $\frac{1}{2}$	5.0	19.1	4.9	20.5	1.1	11.4
2 $\frac{1}{2}$ -4	1.1	8.4	1.0	8.7	0.2	3.0
4-10	0.8	11.4	0.9	14.1	0.1	6.3
10 and over	0.3	13.3	0.3	12.5	0.1	8.6
	100.0	100.0	100.0	100.0	100.0	100.0
Total No. Total acres	9742	3912	8003	2913	6654	999

Source: Glasshouse Census, England and Wales.

Table 18 shows the glasshouse size structure in 1966, for England and Wales. This has not changed unduly since 1960 when the data on size structure was first available. For all glasshouses, whether heated or not, the marked numerical preponderance of the small growers is evident. The proportion of small growers in glasshouse production is much greater than in any other section of British Horticulture. More than 80 per cent of the holdings have less than half an acre of glass but, account for less than a third of the total area. At the other end of the scale, holdings of two-and-half acres or more, account for another third of the area. These are true commercial undertakings that rely on paid labour. The largest of them (with more than four acres) number only one per cent of the growers but occupy 25 per cent of the glasshouse acreage.

How does the size of nursery in Britain compare with that of our two chief competitors, Holland and Guernsey? The most frequent glasshouse unit in the U.K. ranges in size from one-seventh to one-quarter of an acre, while that in Holland it is much larger and ranges from one and a quarter to two and a half acres. Those in Guernsey are also small, though larger than the English nurseries. They range in size from one-third to half an acre of glass. Taken as a whole, the size structure of British nurseries is greatly inferior to that in Holland, and not so economic as that in the Channel Islands. Not only is the turnover of the English nursery lower, but the scope for introducing modern automation is considerably less on the English nursery than on the Dutch nursery. This does not apply so much, of course to the seven per cent by number of British

nurseries, with an acre or more of glass, who together grow over half the total value of our glasshouse produce.

Except on the modern, large English nursery, the English grower is handicapped by the small size of the unit in which he works, the size of the individual glasshouses. He has many more units per acre than the typical Dutch grower whose single unit is normally one-third of an acre or more in size.

Finally it should be mentioned that in Holland entry to the glasshouse industry is controlled; only those with suitable qualifications and financial backing are allowed in. Running a small nursery is one of the easiest ways on entering farming in Britain because very little initial capital is required. The British policy of freedom of entry into all kinds of farming, laudable in its way, has increased the small farm problem in this country. For the small nurseryman the future is one of greater economic and social insecurity. There is no doubt at all that whatever happens to the glasshouse industry in future, the number of growers will show a marked decline.

PRODUCTION UNDER GLASS

The last ten years have shown remarkable adjustments in the industry due to the pressure of imports and changes in public demand. The output from glasshouses has increased by a half. Flower production has more than doubled, increasing at a rate four times as great as glasshouse vegetables. During this time the proportion of imports to total supplies of glasshouse produce increased from 43 per cent to 47 per cent.

The composition of the U.K. glasshouse output and the changes over the last ten years is shown in Table 19.

Table 19. U.K. Glasshouse Output 1955/6 and 1965/6

Crop	1955/6		1965/6	
	£m	%	£m	%
Tomato	11.9	39.1	11.6	25.7
Cucumber	4.0	13.2	4.0	8.9
Lettuce	2.2	7.2	2.2	4.9
Mushrooms	2.7	8.9	8.0	17.7
Other	1.2	4.0	1.0	2.2
Vegetables	22.0	72.4	26.8	59.4
Flowers	8.4	27.6	18.3	40.6
TOTAL	30.4	100.0	45.1	100.0

Source: M.A.F.F. Statistics.

Though the production of glasshouse vegetables as a whole increased by 23 per cent in ten years, this increase is due entirely to the impressive increase in mushroom production. The output of the traditional glasshouse vegetables such as tomatoes, cucumbers and lettuce has remained static. Tomatoes, accounted for 54 per cent of the glasshouse vegetables in 1955/6 and for 43 per cent in 1965/6, or for one-twelfth and one-sixteenth of our total horticultural output in each year respectively, but their importance is greater than this proportion would indicate. As shown in the 1966 glasshouse census 8,051 of the 9,742 growers of glasshouse produce in England and Wales included tomatoes in their cropping. Tomatoes are also a key crop in the rotation and half of the glasshouse acreage in July is under this crop. Lettuce is also important to the small grower because along with flower crops like chrysanthemums it provides an income in winter. Cucumbers tend to be grown on specialised nurseries and like most tomatoes, are grown with heat. Mushroom growing is a highly specialised occupation and most of the output is controlled by a few very large businesses. Mushrooms are highly perishable, and for this reason home production has a natural

protection from imports. As with all high intensity glasshouse crops grown on a large scale the financial and cultural risks are substantial.

In recent years the demand for flowers has increased markedly, and the opportunity has been exploited by glasshouse growers with proved ability to change to new crops. The increase in flower production is shared by all growers, large and small alike, and indeed the enterprise of growers in producing choice blooms has helped to create a demand for flowers. This development has certainly helped to maintain profits and has provided the capital to modernise equipment.

HOME PRODUCTION AND IMPORTS OF GLASSHOUSE VEGETABLES

Today, some £40m worth of vegetables grown under glass are imported yearly into the U.K. This augments the home supply worth £27m. In the last ten years the proportion imported has risen from 52 per cent to 60 per cent, due to a decline in home production of glasshouse vegetables in the face of pressure from imports.

The high proportion of imports by itself need give no cause for alarm, since without a considerable increase in the glasshouse area, at no time during the year can Britain supply more than a small proportion of the glasshouse produce to meet her needs. When home supplies are available, home produce is normally the luxury product and the imported produce is less sought after, the reverse of the situation for field vegetables. This applies to tomatoes in particular. The premium in the price of home produce is very important to the income of British growers. That large supplies of imported produce, normally at rather lower prices than home grown should be available throughout the year, is however, a necessity to the British public. Supply cannot be restricted to those who can most easily afford it.

Table 20. Glasshouse Vegetable Production and Imports 1965/6 and the Proportion U.K. Production of Total Supplies

Type of Vegetable	Home Production		Imports		Total Supplies	Proportion Home Grown
			Channel Is.	Other		
	£m	%	£m	£m	£m	%
Tomatoes	11.6	43.3	12.2	21.1	44.9	25.8
Lettuce	2.2	8.2	0.1	2.7	5.0	44.0
Cucumbers	4.0	14.9	—	2.9	6.9	58.0
Mushroom	8.0	29.9	—	0.4	8.4	95.2
Others	1.0	3.7	—	—	1.0	100.0
Total Vegetables	26.8	100.0	12.3	27.1	66.2	40.5

Source: M.A.F.F. Statistics.

Over four-fifths of our imports of glasshouse produce are tomatoes. One-third of the tomatoes imported come from the Channel Islands, and enter free of duty. Imports of lettuce exceed the home supply, but we are more self-sufficient in the supply of cucumbers. In considering the impact of imports on our home industry it is important to note that the amount entering the country is less important than the season when they arrive. Much of the imported produce does not in fact conflict with the home produced equivalent. The implications of these big imports of glasshouse vegetables for the U.K. glasshouse industry are now considered under separate commodity headings.

Tomatoes

While we have always imported tomatoes, the amount has increased in the last ten years by 50 per cent in value and by 22 per cent in weight. Consumption has increased by ten per cent in this period. Tomatoes from the Netherlands, now 21 per cent of imports, have doubled while those

from Spain, now 14 per cent of imports, have nearly trebled. Supplies from the Channel Islands and the Canaries, each of which send about a third of our imports, have changed little over the last ten years.

Tomatoes are protected by a formidable tariff which has been strengthened in recent years. This has given the impression that all our horticulture is heavily protected, and that abandonment of the tariff will spell doom to the industry. Yet tomatoes account for only a very small part of the output of horticulture.

The tariff was increased in 1953, and raised again in 1961. The present rates are shown at the foot of Figure 4. A ten per cent *ad valorem* duty applies if the value of imports does not exceed 1s 3d per lb. from May 1st to May 15th, or 1s 0d per lb. from May 16th to May 31st. (The latter level of 1s 0d was reduced from 1s 3d in 1962.) From June to October inclusive the specific tariff quoted on page 38 applies, but for this period its application is not related to the price of imported tomatoes. From November to April inclusive the rate is ten per cent *ad valorem*.

Figure 4 shows tomato supplies over the 1966 season and the seasonal tariff. This clearly indicates the competition facing British producers. Supplies from the Canaries and Spain come in during the winter when glass grown tomatoes are scarce. These consignments are vital to maintain all the year round supplies. Spanish and Canary Island tomatoes are grown in the open, and offer a cheaper alternative to the glass grown product when both types are available. The total Spanish production of fresh tomatoes now runs at 1,400,000 tons per annum, of which one fifth are exported. For 1970 the forecast of production is 1,880,000 tons, of which 300,000 tons will be available for export. The U.K. now takes rather more than half the Spanish exports. Other countries which feature prominently in the Spanish trade, are Western Germany, France and Holland.

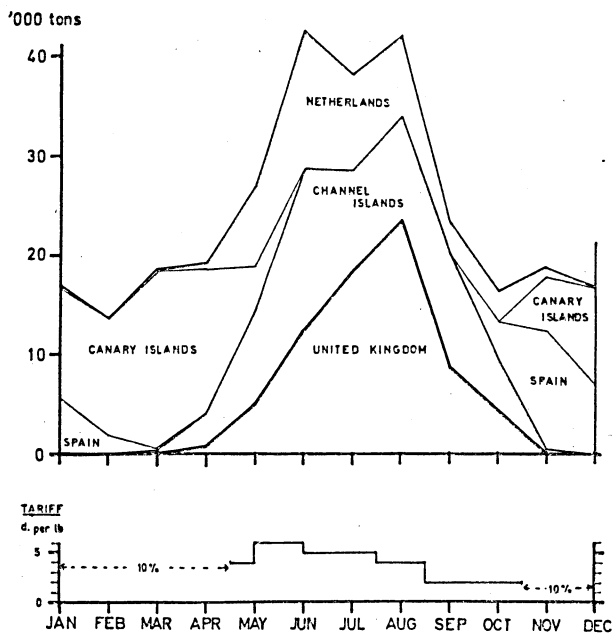


Figure 4. U.K. Tomato Supplies and the Tariff 1966

English tomatoes are on sale from April to November with peak supplies in July and August. During these months the English producer faces fair competition from the Channel Islands and severely restricted competition from the Netherlands. Prices over the season are shown in Figure 5. From this it is seen that the English tomatoes command a premium over the Channel Islands product for the whole season of common supply, and a somewhat lower price premium over the Dutch for all but the end of the season when English supplies are mainly from cold glass.

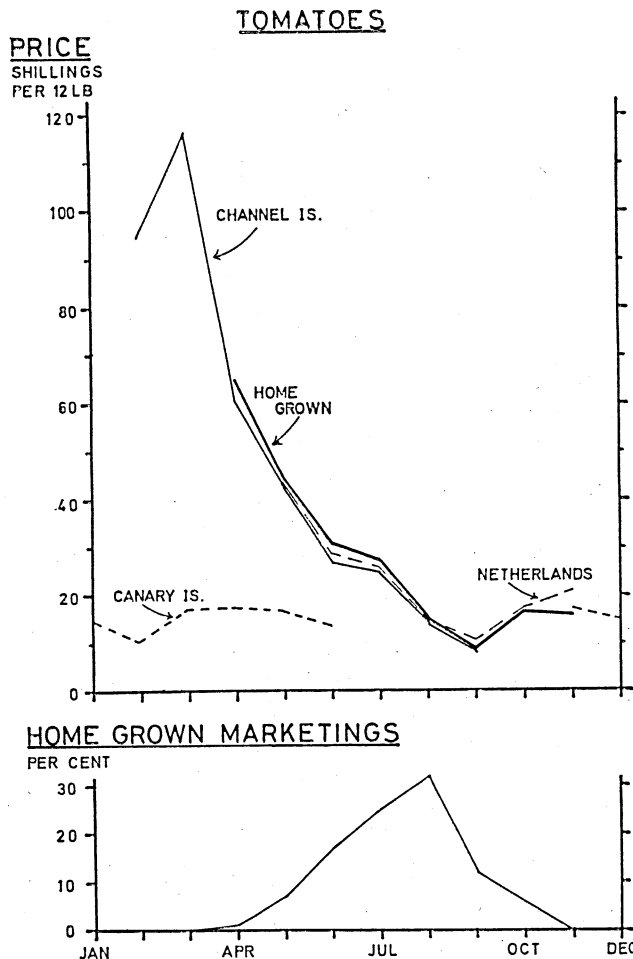


Figure 5. U.K. Tomato Prices over the Season 1966 and proportion of Home Grown marketed each month

Holland has doubled her glasshouse acreage since 1955, and trebled her production of tomatoes. Total production at present is 312,000 tons of which exports total 262,000 tons. By 1970 the Dutch production is expected to rise to 325,000 tons, and exports to 280,000 tons. Two-thirds of the Dutch exports go to other members of the E.E.C., no less than 175,000 tons to Western Germany. Exports to the U.K. in 1956 were 25,000 tons, but these have increased steeply, reaching a peak in

1965 of 52,000 tons. We are not alone in receiving increased exports of tomatoes from the Dutch. Exports to Western Germany increased by 50 per cent from 1963 to 1965.

It is argued that the incidence of the tariff is not so high as it appears to be, because of the high price of Dutch tomatoes during certain months in which the specific tariff is levied. This is a matter of opinion, but the actual incidence of the tariff on Dutch tomato imports in recent years which is given in Table 21 below, leaves no doubt as to the very high level of protection given to English tomatoes and the great obstacle which Dutch growers successfully overcome.

Table 21. The Incidence of the Tariff on Dutch Tomatoes

Month(s)	Year(s)			
	1962-4 %	1965 %	1966 %	1967 %
May	17	25	16	23
June	26	31	34	31
July	38	32	40	39
August	40	40	44	36
September	22	15	20	21
October	17	20	15	17
November-April ..	10	10	10	10

Source: Fruit Intelligence, Commonwealth Secretariat.

It is true that the incidence does not reach its limit in May and June when the tariff is highest, but from May to October the incidence is much more than ten per cent. The actual rate of duty is 4d lb. first half of May, 6d per lb. second half of May and first half of June, then 5d per lb. until the end of July, then 4d per lb. for the whole of August and finally 2d per lb. for September and October inclusive.

The ability of the Dutch to penetrate our market so successfully is the result of economic and social factors which raise the Dutch glasshouse industry as a whole to a much greater level of efficiency compared with that of our industry as a whole. The typical glasshouse unit is more economic to run and output per man is higher because of the predominance of the family business. Dr. R. R. W. Folley in his considerable comment on this topic draws attention to the influence on efficient production of the Dutch emphasis on both business and production aspects, as well as the part played by both the social and investment aims of Dutch growers.

There is no doubt that, if tariffs were relaxed, imports of tomatoes from Holland would increase and if the change were too sudden at least short term difficulties should be expected for our diversifying glasshouse industry. The actual increase in imports depend on the potential of Dutch production, her other markets for tomatoes and on the rate of adjustment in production made by English growers. Dutch exports are not expected to rise appreciably by 1970, 280,000 tons then as compared with 262,000 tons now. Much depends on the huge German market and the relative purchasing power of the British and the German housewife. Changes in demand in Germany caused the Dutch growers to increase production in the early season which in turn gave Holland a bigger share of the U.K. market. Few of our growers seized the opportunity to supply the growing early market in Britain, but more will do so as they are equipped to supply it. The future would become increasingly difficult for all but the most efficient grower and flower production under glass is likely to increase.

Cucumbers

While annual production of cucumbers in England has remained at 30,000 tons or so for the last ten years, consumption has increased by 67 per cent. As a result, imports have increased from a negligible amount to half our needs. Supplies over the year from the various sources are shown in Figure 6. Seventy-one per cent of imported supplies now comes from Holland, whose exports have increased threefold in the last four years. In effect, all other cucumber imports are from the Canaries, whose supplies have increased from 100 tons to 6,400, in the last seven years. Less than one per cent comes from other countries.

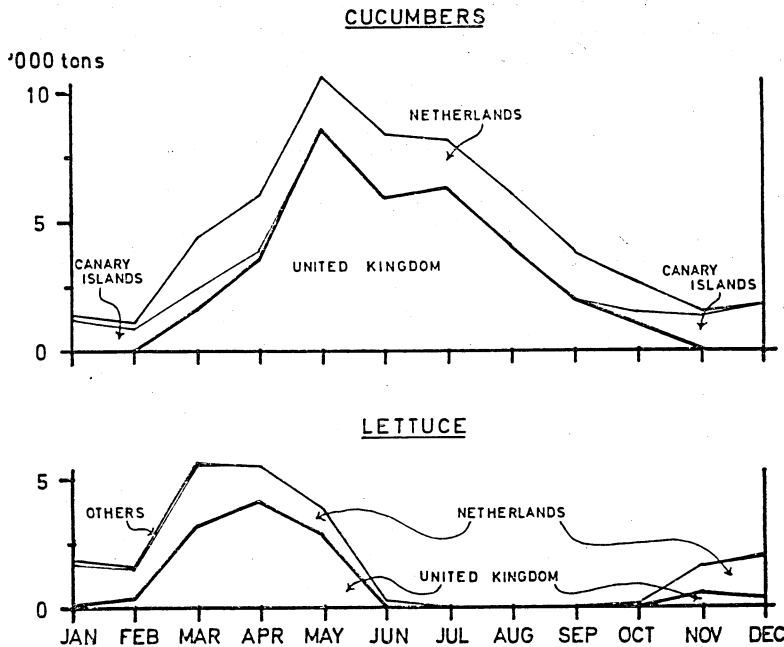


Figure 6. U.K. Cucumber and Lettuce Supplies 1966

As with tomatoes, Canary Island supplies are important and a large proportion arrives from October to March when the home crop is not available. Dutch supplies are also prominent from August to April when the home grown product is in short supply. Indeed their absence during the summer months would leave demand considerably unsatisfied. The U.K. tariff applies both to Canary Island and Netherlands' cucumbers. Since 1953 the tariff has been £1 a cwt. from March to September inclusive, and ten per cent *ad valorem* over the rest of the year. The specific duty applies over virtually the whole of the season of home production.

Prices over the season quoted only for the Netherlands and for home grown cucumbers, shown in Figure 7, indicate a premium on early English cucumbers as compared with imports, but they also disclose the somewhat inferior prices of English cucumbers in the middle and late season of supply.

CUCUMBERS AND LETTUCE

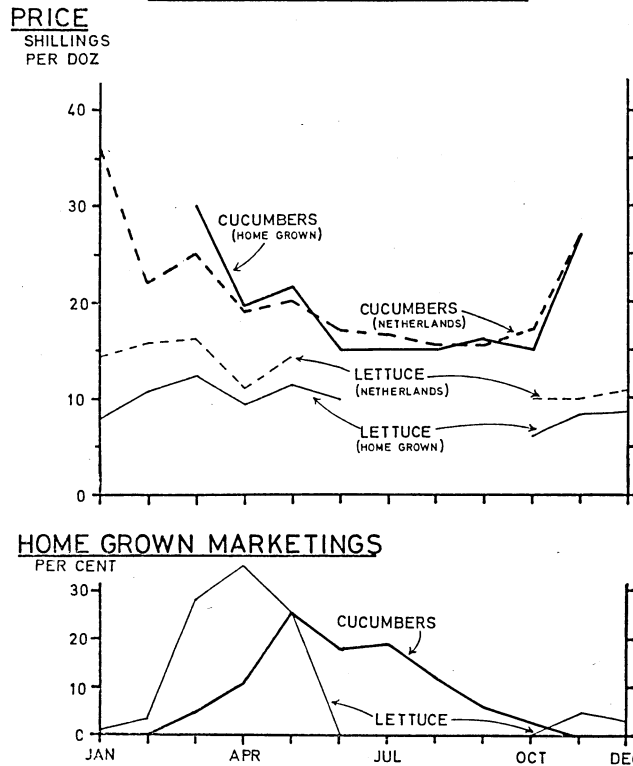


Figure 7. Cucumber and Lettuce Prices over the Season 1966 and proportion of Home Grown marketed each month

Dutch production of cucumbers has trebled in the last ten years, with a sharp increase since 1962, reaching a total of 193,000 tons in 1965. By 1970, production is expected to increase by a quarter; but exports, 140,000 tons in 1965, are expected to increase by more than a third. As with tomatoes, Western Germany is Holland's greatest market and Britain is second. Demand for cucumbers is strong in Britain and in future, short of a sizable increase in production in Britain, we will buy all the Dutch cucumbers we can afford to pay for.

Lettuce

English production of lettuce has been fairly static, at 9,000 to 11,000 tons a year over the last ten years. Since 1956, total consumption has increased by 50 per cent but the proportion home grown has fallen from 67 to 54 per cent. Again, the deficiency in our home supply is met by Holland whose exports of lettuce to this country have increased five times in the last ten years. Ninety per cent of our lettuce imports now come from the Netherlands, and supplies from France and Italy, never very great, have dwindled to nothing. (Endives are included with lettuce as the data does not distinguish between them.) Four per cent of our imports come from the Channel Islands, another four per cent from Spain, and two per cent from other countries. Supplies of lettuce over the season are shown in Figure 7. Most winter lettuce comes from Holland, while most of the spring supplies are home grown.

The present tariff on lettuce per hundredweight is as follows: March and April 30s, May 20s, June to October inclusive 16s, end November to February 10s. Should this comprehensive tariff be relaxed together with the tomato tariff, many of our glasshouse growers would be in difficulties. The marked superiority of Dutch over home grown lettuce is apparent in Figure 7 which shows that Dutch lettuce prices are at least 20 per cent higher during most of the season.

FLOWERS

U.K. Production of Flowers and like crops

The output of flowers in Britain, both outdoor and glasshouse together, has almost doubled in the last ten years and now amounts to 22 per cent of horticultural output, or £40m. In this time the value of flowers grown under glass more than doubled and that of flowers grown in the open increased by 75 per cent. The growth in the production of flowers in Britain can be expected to continue, though perhaps not quite so rapidly. Not only is the buying of flowers becoming more general as the national income rises and becomes more evenly distributed, but habits are changing to make the purchase of flowers more frequent.

Flowers grown under glass now account for 46 per cent of total flower output compared with 40 per cent ten years ago. In future, glasshouse flowers will become yet more important. Flowers grown in the open, or field flowers include, nursery stock, which comprise rather more than three-quarters of the total of outdoor flowers in value. Cut flowers account for somewhat less than a quarter of the outdoor flowers and the remainder are bulbs. While a large proportion of the flower output is 'consumed' by urban dwellers with no garden, an equal amount is demanded as plant material by those with gardens. Indeed, keeping a garden, of whatever kind, is a traditional aspect of British life of great significance to those engaged in the commercial flower growing industry.

Table 22. U.K. Production of Flowers and Nursery Stock 1955/6 and 1965/6

Type of Flower Production	1955/6		1965/6	
	£m	%	£m	%
Flowers grown in the open	5.7	27.4	4.5	11.3
Bulbs for sale as bulbs	0.3	1.4	0.7	1.8
Nursery stock	6.3	30.3	15.9	40.1
Flowers grown under glass	8.4	40.4	18.3	46.1
Flowers not grown for sale	0.1	0.5	0.3	0.7
Total Flowers	20.8	100.0	39.7	100.0

Source: M.A.F.F. Statistics.

The composition of the output and the changes from 1955/6 and 1965/6, are shown in Table 22. Nursery stock and flowers grown under glass comprise most of the present output. Flowers grown in the open are declining in importance. Flowers in the open include bulb flowers which are cropped from half the area of bulbs grown. Bulbs of various types now account for 40 per cent of the total area under open ground flowers. Outdoor flowers as such account for only 16 per cent of this area, and nursery stock occupies the remaining 44 per cent of the area. It is estimated that farmers and market gardeners share the market for field flowers equally, whereas most glasshouse flowers are grown by men who are specialists.

Bulb production tends to be concentrated in certain areas. Nearly 80 per cent of the bulbs are grown in the Fens, where a notable proportion of the outdoor flowers are also grown. Apart from this, flower and nursery stock production is widely dispersed and it follows closely the pattern of urban development. Because of their mild climate, however, Devon and Cornwall and the Scillies are important 'exporters' of cut flowers.

The transition from vegetables to growing flowers under glass is well illustrated by the Lea Valley, still the most important centre of glasshouse production. Between 1961 and 1966 the area of tomatoes fell by 23 per cent. whereas flowers increased by 19 per cent. Together these crops occupied two-thirds of the area under glass in each year, but the acreage of tomatoes still exceeds that of flowers. Over the same period the July acreage of glasshouse flowers in England and Wales nearly trebled.

HOME PRODUCTION AND IMPORTS OF FLOWERS

As might be expected, Britain is reasonably self-sufficient in supplies. Rather more than 80 per cent of the cut flowers and nursery stock are home grown but only 12 per cent of the bulbs and plant material. Home production and imports are given in Table 23.

Table 23. Home Production and Imports of Flowers 1965/6

Type of Flower Production	Home Production £m	Imports		Total Supplies £m	Proportion Home Grown %
		Channel Islands £m	Other £m		
Cut flowers	23.1	3.9	1.2	28.2	81.9
Bulbs	0.7	0.1	5.3	6.1	11.5
Nursery Stock	15.9	0.3	3.3	19.5	81.5
Total Flowers	39.7	4.3	9.8	53.8	73.8

Source: M.A.F.F. Statistics.

Tariffs are in operation for such produce and the duty is either ten per cent *ad valorem* or a specific charge on a given quantity. Friesias, either as growing plants or cut flowers attract a 25 per cent tariff from September 1st to April 30th. Another obstacle to free trade with particular significance for flowers and live plants is the restriction on imports under the Plant Health Act.

The Channel Islands supply a quarter of our imports of flowers, mainly cut flowers, which of course enter duty free. Other imports accounting for £9.8m out of a total of £14.1m come almost entirely from Holland and consist mainly of plant material. The high standard of the Dutch in this trade is perhaps even higher than the outstanding quality of Dutch horticultural produce in general. Much of this trade is with commercial growers here who rely on it for supplies of plant material. Imports of Dutch flowers of all types will continue to be significant. The quantity of cut flowers imported will depend on how far demand can be satisfied from home sources, but if tariffs go, imports of cut flowers will increase more than other categories in this group.

THE OUTLOOK FOR GLASSHOUSE PRODUCE AND FLOWERS

The outlook for much of the glasshouse industry in Britain, much of which is obsolete and burdened by too many small units, is a poor one. This statement does, however, require qualification, for out of the shell of the existing industry is emerging a new and viable industry, markedly different from the old one. At the same time, many of our redundant glasshouses lie in the path of urban development, and a demand for land for building will solve the difficulties of some growers who cannot compete. It is fair to add that had the Dutch restrictions on entering glasshouse production been in effect in Britain, the small grower problem would have been less significant. It is not suggested that inefficiency is confined to the smaller nurseries or is entirely the fault of the growers concerned but different factors have contributed to make a portion, as much as one-sixth of the glass area, uneconomic.

The building of new glass, technically suited to economic production, is going ahead. This development in fact results from economic pressures that would certainly increase if the tariff were to go. It is, however, also being encouraged by the generous provision of capital grants under the Horticultural Improvement Scheme. One consequence of these developments is the increase in size of the glasshouse unit. Already, growers with one acre of glass or more, some 8 per cent by number, operate over half the glass area, while those with two and a half acres or more operate one-third of the total area. It does not, however, follow that the industry will fall into the hands of a few large businesses. Some of the smaller growers can survive out of sheer skill, and others can do so because they have retail outlets and higher receipts. There is also a trend for rebuilding to move south.

The form and the rate of the economic growth within the industry is being shaped by the economic pressures on it. Indeed, the industry would be more viable today had economic forces had free play for the last decade or two. The future will probably see a smaller, highly capitalised and well managed glasshouse industry in Britain with costs low enough to stand competition from any quarter and with an output per acre large enough to pay for high wages and leave a worthwhile profit for the nurseryman. Changes in the economic environment must continue to bring about changes in production of the kind which has been accomplished in the glasshouse industry in recent years. Britain can support only an efficient glasshouse industry and this means fewer growers than at present.

The demand for glasshouse produce and flowers depends on economic growth and the rise of incomes in Britain. Reliable demand estimates are limited for glasshouse vegetables and there are none for flowers. The income elasticity of demand for tomatoes at 0.6, is quite high. It is estimated that with an economic growth rate of four per cent, demand for tomatoes will increase by 1980 by 32 per cent. With a lower growth rate of two per cent, an increase of 25 per cent can be expected by 1980. The increase for other salads is even greater, 76 per cent and 52 per cent by 1980 respectively. The demand for flowers is even more sensitive to economic prosperity because flowers are more of a luxury than food, but given no setbacks in the trend of rising real income per head, the demand for flowers, based on the experience of the last ten years, should increase substantially in future.

Shifts in production or outright efficiency, or both, should, if they have the will, give British growers of glasshouse produce and flowers an important share of the market. They have advantages over all competitors in both freshness and quality and these must be exploited. A high level of prosperity for all growers throughout the industry, year in year out, while business ability is not equal, is however, quite inconsistent with competition in the industry, albeit restricted as it is at present.

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CHAPTER 4

Fruit

U.K. FRUIT PRODUCTION

Although the output of fruit in Britain has increased by 21 per cent in the last ten years, we are more dependent on imported supplies of temperate fruit than before. The U.K. demand for temperate fruit, has in fact expanded beyond the present capacity of our own industry. Table 24 below shows the changes in the last ten years. As the two years quoted are typical of the periods concerned, the ten-year comparison is valid.

Table 24. U.K. Fruit Output 1955/6 and 1965/6

Type of Fruit	1955/6		1965/6	
	£m	%	£m	%
Strawberries	4.9	12.9	5.3	11.4
Raspberries	2.2	5.8	1.8	3.9
Blackcurrants	2.2	5.8	3.1	6.7
Gooseberries	1.0	2.6	1.0	2.2
Other soft fruit	0.4	1.1	0.4	0.9
Total soft fruit	10.7	28.2	11.6	25.1
Dessert Apples	12.1	31.9	17.0	36.7
Cooking Apples	6.5	17.2	7.7	16.6
Pears	3.3	8.7	3.6	7.8
Plums	2.2	5.8	3.6	7.8
Cherries	2.5	6.6	1.9	4.1
Other orchard fruit	0.6	1.6	0.9	1.9
Total orchard fruit	27.2	71.8	34.7	74.9
Total fresh fruit	37.9*	100.0	46.3*	100.0

*Excludes £0.4m fruit not grown primarily for sale in both years.
Source: M.A.F.F. Statistics.

Overall soft fruit shows only a small increase—increases in the yields of strawberries and the acreage of blackcurrants being balanced by a decline in raspberries and other soft fruits.

Orchards now supply three-quarters of the total output of fruit, and the proportion will increase as the dessert apples and pears planted in the early post-war years come into full bearing. The production of cooking apples is falling off mainly because existing orchards are not being replaced.

Soft Fruit

Almost 80 per cent of the soft fruit is grown in England and Wales, though Scotland is prominent only for raspberries for which the climate is favourable. Soft fruit is rarely grown on specialised holdings but is common on farms with orchards, and blackcurrants are frequently found on arable

farms. In England and Wales nearly 13,000 holdings have soft fruit, mainly small holdings, but farms of 50 acres or more grow nearly two-thirds of the acreage. The majority of the holdings have a very small acreage, so that nearly half by number account for only seven per cent of the total acreage.

Most strawberries and gooseberries are grown on holdings with less than 10 acres of the crop, and most raspberries on holdings with less than 3 acres. The production of blackcurrants, however, is on a larger scale. Half of the strawberries, most of the gooseberries, and almost all the blackcurrants are processed. The production from small holdings, however, is mainly sold on the more lucrative fresh market.

Production of soft fruit in the U.K. adjusts itself to demand fairly readily, though not as promptly as annual crops. Strawberries, the most important crop, are in the ground for no more than three or four years. Crops like blackcurrants are down for a longer period, but most blackcurrants are planted under long term contract arrangements.

Orchard Fruit

Apart from a significant acreage of cooking apples in Northern Ireland, virtually all the orchard fruit is grown in England and Wales, where between 1960 and 1966 the number of holdings with orchards fell by no less than 35 per cent. This does not imply a contraction of the industry but it gives recognition to the shedding of uneconomic units. The distribution of the orchard acreage is given in Table 25 below.

Table 25. Distribution of the Orchard Acreage in England and Wales

Orchard Size Group	Type of Orchard					
	All Orchards		Commercial Orchards		Non-commercial Orchards	
	% Holdings	% Acreage	% Holdings	% Acreage	% Holdings	% Acreage
Under 10 acres	85.7	26.9	72.3	15.8	95.6	69.7
10-19½	6.6	11.6	11.0	10.5	3.3	15.6
20-49½	4.7	19.3	9.8	21.5	1.0	10.5
Over 50 acres	3.0	42.2	6.9	52.2	0.1	4.2
Total orchards	100.0	100.0	100.0	100.0	100.0	100.0
Total number of holdings	24,919 (100%)		10,588 (42.5%)		14,331 (57.5%)	
Total acreage of orchards	187,750 (100%)		148,928 (79.3%)		38,822 (20.7%)	

Source: Orchard Census England and Wales 1966.

Table 25 shows that so typical of British Horticulture, a majority of the growers of orchard fruit farm only a small part of the acreage. Under half the orchards by number, mainly in the large size groups, is commercial. The proportion of non-commercial orchards does not mean that orchard fruit production is in a decline. Most of the orchards are well managed, although individual farms vary in their level of management and in the degree to which orchards are up-to-date. Fruit stores have been modernised and the capacity increased in recent years to take 40 per cent of the output of apples and pears. This has added greatly to the economic strength of the industry.

Table 26 shows the high proportion of uneconomic cooking apple orchards and the much better state of dessert apple and pear orchards. Again the situation on one farm varies greatly from another, and the composition of the fruit farms by type of orchard varies.

Table 26. Type of Orchard. Percent of the acreage
Commercial and Non-commercial

Type of Orchard	Commercial	Non-commercial
Dessert Apples	95.4	4.6
Cooking Apples	82.3	17.7
Pears	95.9	4.1
Plums	90.3	9.7
Cherries	93.3	6.7

Source: Orchard Census England and Wales 1966.

Orchard fruit production requires much capital and long term investment. The growers most exposed to economic risk are those that specialise in dessert apples and pears on small farms. Fruit production on mixed farms, especially the larger ones with hops, runs far less risk. The risk of loss for the specialised grower can be minimised only through sustained high yields which demands still more investment, but some existing orchards are not suitably sited for this purpose. The larger specialised dessert apple and pear farms do, however, have important economies of scale over their smaller counterparts.

Since the economic life of an orchard spans up to 50 years, the orchard age structure has considerable bearing on the economic strength of the industry. The age pattern for the commercial orchards in England and Wales is given on Table 27 below.

Table 27. Commercial Orchard Acreage and the Age Structure

Type of Orchard	1966 Acreage	4 years or less %	4 to 25 years %	Over 25 years %
Dessert Apples	54991	13.7	63.7	22.6
Cooking Apples	28996	7.5	20.3	72.2
Pears	14593	13.4	62.4	24.2
Plums	17690	12.7	39.7	47.6
Cherries	9116	5.2	36.6	58.2

Source: Orchard Census England and Wales 1966.

Dessert apples and pears, which account for over half the output of orchard fruit in the U.K., show a well balanced age structure which puts these types of production on a sound basis for the future. Built into the present age structure, however, is a trend for rising yields. This, together with the possibility of big increases in imports of apples and pears if the quotas become less restrictive, does make the future for producers one of real uncertainty. The outcome will be more serious if consumption does not increase appreciably in Britain over the next decade.

The situation for cooking apples is very different. Replacement has been falling off, and since a large proportion of the trees are more than 40 years old or more, many of them will be grubbed in the next 10 years, leading to a big fall in production. It is questionable, however, whether the

decline in production will more than match the fall in consumption. Women who expect more leisure or who work outside their homes, have no time to deal with cooking apples. More are needed, however, for manufactured pies and for canteen meals. Imported supplies, negligible in most seasons, are unlikely to increase.

Plums and cherries are declining in acreage and replanting is slight. The acreage has halved since 1951, and the age structure suggests that the decline will continue, particularly for cherries. We are likely to rely in future more on imported supplies of plums and cherries.

HOME PRODUCTION AND IMPORTS

Mainly on account of the need for regular supplies of apples and pears throughout the year we import nearly half of the temperate fruit consumed in Britain. Home and imported supplies of fruit in 1965/6 are shown in Table 28.

Table 28. U.K. Fruit Production and Imports 1965/6 and the Proportion U.K. Production of Total Supplies

	<i>Home Production £m</i>	<i>Imports £m</i>	<i>Total Supplies £m</i>	<i>Proportion Home Grown %</i>
Dessert Apples	17.0	28.5	45.5	37.4
Cooking Apples	7.7	n.g.	7.7	100.0
Pears	3.6	6.8	10.4	34.6
Cherries	1.9	0.5	2.4	79.2
Plums	3.6	1.8	5.4	66.7
Others	0.9	0.1	1.0	90.0
Total orchard fruit	34.7	37.7	72.4	47.9
Soft fruit	11.6	1.3*	12.9	89.9
Total fresh fruit	46.3	39.0	85.3	54.3

Excludes £0.5m fruit not grown primarily for sale.

*Soft fruit imports for 1965/6 were 900 tons Strawberries, 1,500 tons Bilberries and 400 tons Other berries.

n.g. negligible.

Source: M.A.A.F. Statistics and Fruit Intelligence, Commonwealth Secretariat.

The perishability of soft fruit means that little is imported fresh. We thus produce 90 per cent of our supplies. Imported dessert apples and pears greatly exceed home supplies because home production can fully meet demand in only a few months of the year. Most imported apples and pears come from the southern hemisphere and appear when home supplies are scarce or absent.

Soft fruit and Stone fruit

Figure 8 shows the monthly imports of strawberries, cherries and plums, for the years 1964 to 1966. Imports of fresh strawberries are less than two per cent by weight of the total supply. As imports of fresh soft and stone fruit arrive early in the season when prices are high, the proportion by value is higher than this figure would indicate. Three-quarters of the strawberries imported come from E.E.C. countries, mainly from France. Since most of these strawberries arrive as the first of our own crop is reaching the market it is the growers of early strawberries here that would suffer from French imports if we joined the Six. The tariff on fresh strawberries is 4d per lb. from June 1st to June 9th, then 6d per lb. for the rest of June and July, and ten per cent *ad valorem* for the rest of the year.

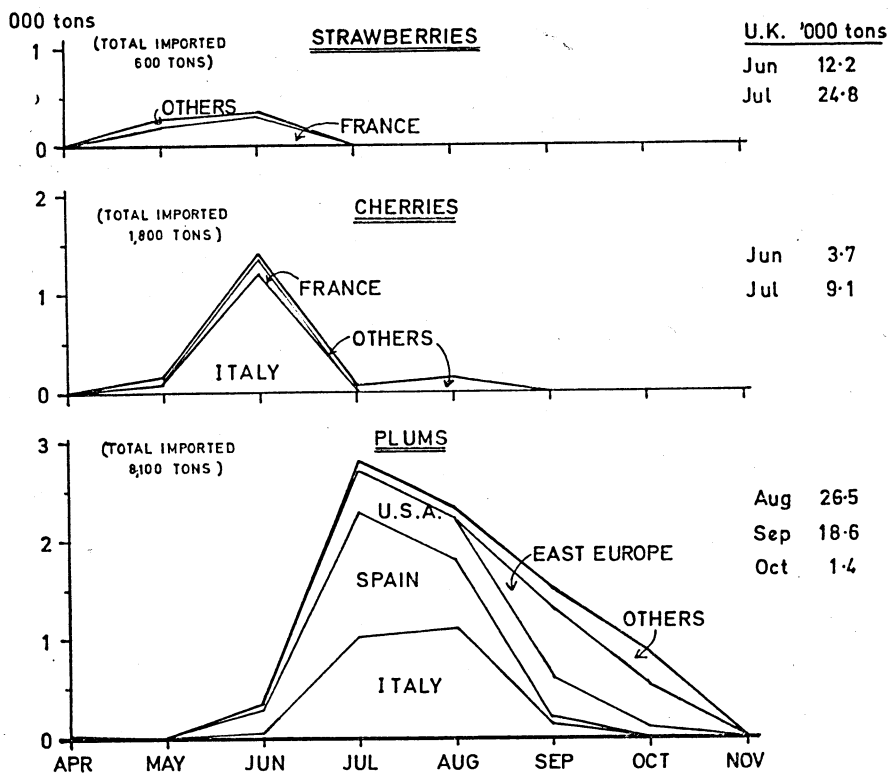


Figure 8. U.K. supplies of Strawberries, Cherries and Plums
Monthly imports and home supplies 1964-66

Imports of pulped soft fruit are mainly strawberries. Between 1961 and 1964 imports ranged from 4,000 to 7,000 tons, with more than half of them from the Netherlands. Quotas restrict the import of fruit pulp from Eastern area (Eastern European) countries.

Rather more than a quarter of our supplies of stone fruit by value are imported. Almost all imported cherries come from Italy and France. Most of them arrive well before the main home marketings are underway, and they are only 12 per cent by weight of our total supply. The tariff on cherries is 4d a lb. from June 1st to August 15th. More plums, 18 per cent of supplies by weight, are imported, but only a quarter come from E.E.C. countries. Italy and Spain are the principal sources, but a small proportion comes from other countries, including the United States. Peak imports arrive in July before our crop is picked. The tariff on plums is 16s 9d per cwt., or roughly 2d per lb. from July 1st to October 31st. At other periods ten per cent *ad valorem* applies.

APPLES AND PEARS

Forty-five per cent by value of the apples and pears consumed in Britain are home grown. Since imports of cooking apples are insignificant, the imports of apples may be taken as dessert apples. This means that we are appreciably less self-sufficient in the supply of dessert apples and pears. Table 28 shows that by value we supply 37 per cent of the dessert apples and 35 per cent of the pears. As these dessert apples and pears comprise well over half the orchard output and as both home and imported supplies are likely to increase, the situation merits close attention.

Dessert Apples

Figure 9 shows the supplies of dessert apples by country of origin for the three seasons 1963/4 to 1965/6. Home supplies dominate the market from August to December, while imports from the southern hemisphere supply the market from April to July. The main competition for our growers comes from northern hemisphere producers. It is clear from Figure 9 that imports principally from France, Italy, and North America, compete with our own crop chiefly in January, February and March. This raises the question of storage and quotas which will be discussed later.

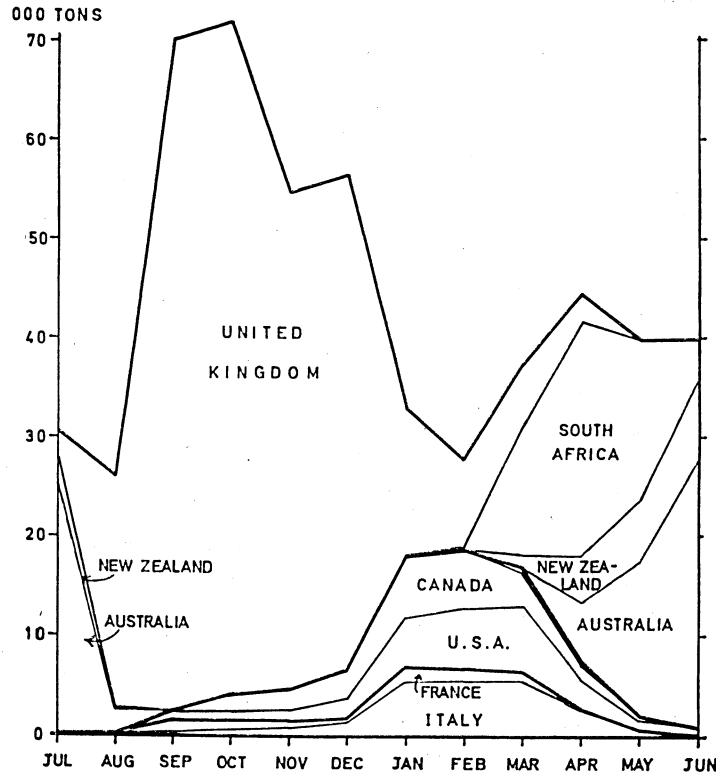


Figure 9. The market for Dessert Apples in the U.K. Monthly supplies from all sources 1963/4-1965/6

The present position of dessert apple supplies by weight is as follows:

Percent Supplies	U.K.	E.E.C.	Commonwealth	Other Countries	Total
Northern hemisphere	77.8	7.8	6.5	7.9 (U.S.A.)	100.0
Southern hemisphere	—	—	99.7	0.3 (Argentina)	100.0
Total	54.8	5.5	34.0	5.7	100.0

Northern hemisphere supplies are 70% of total supplies.

The prices of dessert apples in any one season is largely determined by the size of the home crop. Prices for the main varieties for 1965/6 are shown in Figure 10. Home-produced Cox secures a marked premium over the less plentiful Worcester, though Worcester fetches good prices in the early season when it is the only home-grown apple of note on the market. Prices for Worcester and Cox tend to rise as the storage season progresses. South African Delicious and Australian

Sturmer (both southern hemisphere) fetch prices similar to British Cox, but the price of Australian Sturmer rapidly adjusts itself to Worcester when the home crop is ready in August and September. Of particular significance is the large premium that French Golden Delicious and Italian Delicious secure over U.K. Cox. This comes about mainly because less than one-fifth of the total quota may enter Britain in the July–December period, but it is also related to the quality of the fruit supplied. The steep drop in the premium on French Golden Delicious over the price of Cox in the new year, reflects the considerable enlargement of the quota on imports of apples in the major quota period, January to June, inclusive. In consequence, Italian Delicious, a less favoured variety than Cox at this time of the year, falls in price well below that of Cox. The large increase in imports of dessert apples from Europe and North America in the new year, all subject to the Quota, is shown in Figure 9.

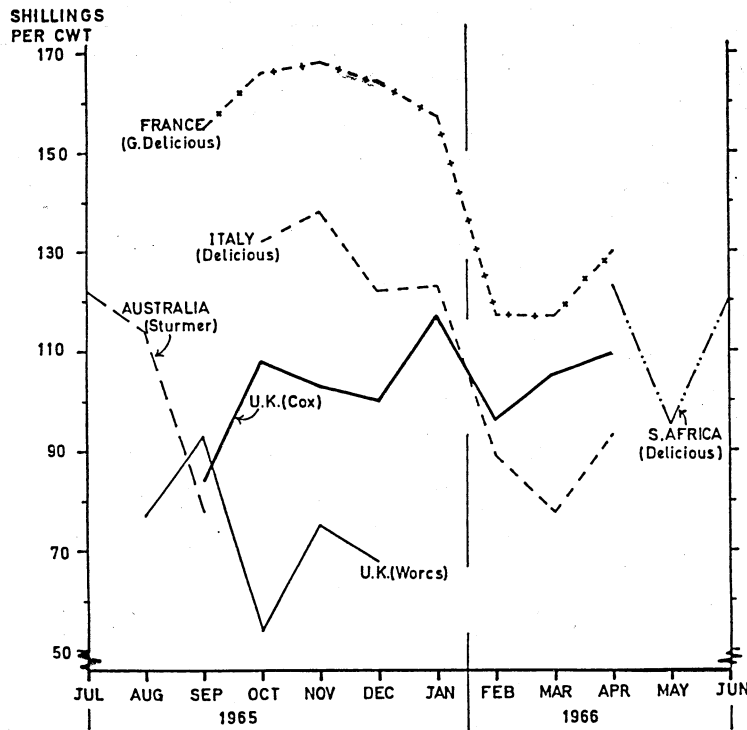


Figure 10. Monthly prices of Home Grown and Imported Apples 1965/6

The tariff on apples is 4s 6d a cwt., or rather less than $\frac{1}{2}$ d a lb. from April 16th to August 15th. As it does not apply to the rest of the year, when home-grown apples are available, the tariff is of little consequence as a form of protection to British growers. Imports from Commonwealth countries are free of duty.

The quota, of considerable consequence to our growers, arose from balance of payment difficulties in the late 1940s. It now applies to imports from Western European countries, Yugoslavia, and the Argentine, and from the dollar area, which, in practice, means the U.S.A. and Canada. All countries compete equally for the quota. The annual quota since 1960/61 has been 83,950

tons which compares with the U.K. yearly apple production of some 500,000 tons. The quota is in two parts:

July-December	15,200 tons	Minor quota half-year
January-June	68,750 tons	Major quota half-year

With the consent of the Board of Trade, part of the major quota may be used in the minor quota period, but the total cannot be exceeded unless the home crop is exceptionally short.

The level and the pattern of imports under the quota is shown in Figure 11. It can be seen that part of the major quota is frequently used in the minor quota period. The affect of allowing the quota to be exceeded in 1961, when the home crop was unusually small is also apparent. Of particular interest in the minor quota period is the increasing share taken by France in recent years and the relatively small share taken by Italy, except for 1961. Again in the major quota period, France, whose annual imports are quite small at present, is seen to be increasing her share. The main suppliers, Italy, the U.S.A. and Canada, rely heavily on the major quota, but they all have an important share in the minor quota too. They all compete keenly for a share of the quota which in normal years is fully taken up.

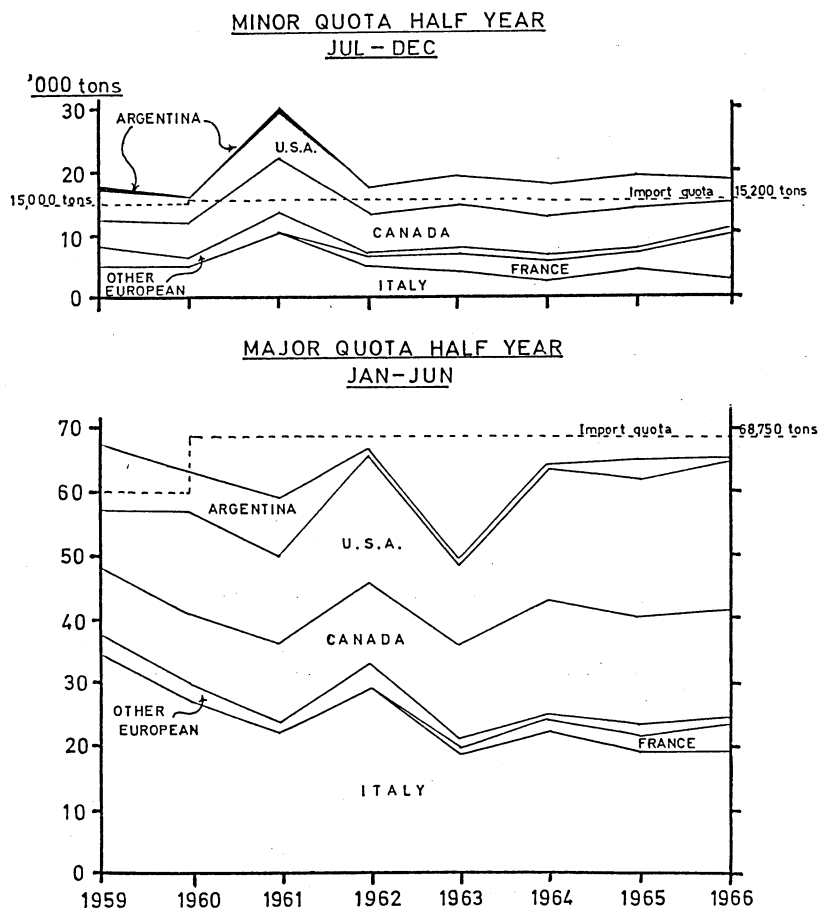


Figure 11. U.K. Apple Imports under quota 1959 to 1966. Minor quota half year July to December

Pears

The supply position for pears is shown in Figure 12. Home supplies are dominant from August until the end of the year, but supplies from Europe, and Italy in particular, are very important from August until October inclusive, when supplies from the U.S.A. begin. From January to July inclusive, the southern hemisphere imports represent almost the whole supply. In fact home and other north temperate supplies soon end in the new year. As with apples, imports of pears from the northern hemisphere compete with the home crop whereas imports from the southern hemisphere compete little.

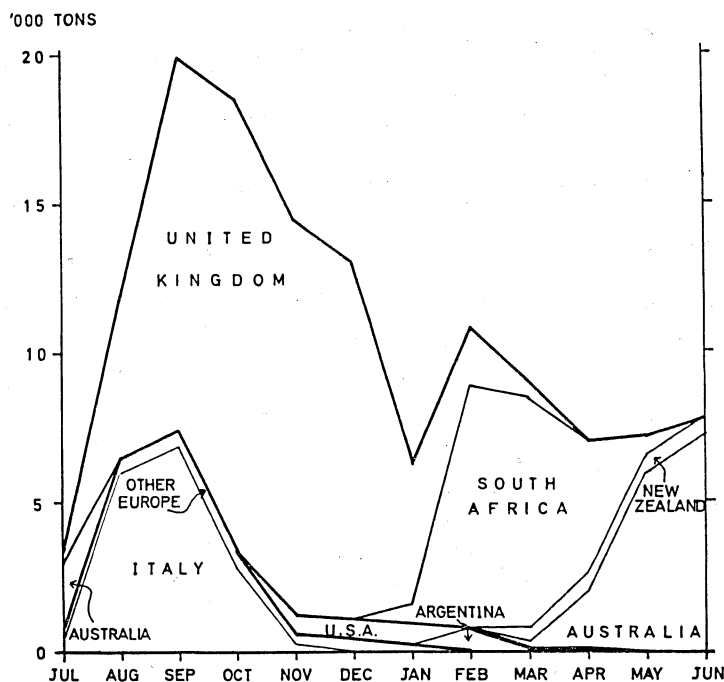


Figure 12. The market for Pears in the U.K. Monthly supplies from all sources 1963/4-1965/6

The present position of pear supplies by weight is as follows:

Percent Supplies	U.K.	E.E.C.	Commonwealth	Other Countries	Total
Northern hemisphere	75.2	22.0	0.2	2.6 (U.S.A. & Spain)	100.0
Southern hemisphere	—	—	97.8	2.2 (Argentina)	100.0
Total	51.1	15.2	31.5	2.2	100.0

Northern hemisphere supplies are 68% of total supplies.

The E.E.C. have a bigger stake in the U.K. market for pears than they have in the apple market because our own supply is small and because pears are important in Italian trade. Associated with this is the difference in the quota regulation for pears. Most of the northern hemisphere

imports of apples come to Britain in the late season after storage, whilst almost all the pears apart from those sent from the U.S.A., come early in the season.

The price of the main U.K. pear variety, Conference, is shown for the season against that of imported pears in Figure 13. All the imported varieties obtain a higher price than Conference. This is partly due to the strict selection for quality which exporters are obliged to make. The price is also enhanced by the relative scarcity of pears, and the popularity of individual varieties when in season, particularly of those available when home supplies are scarce.

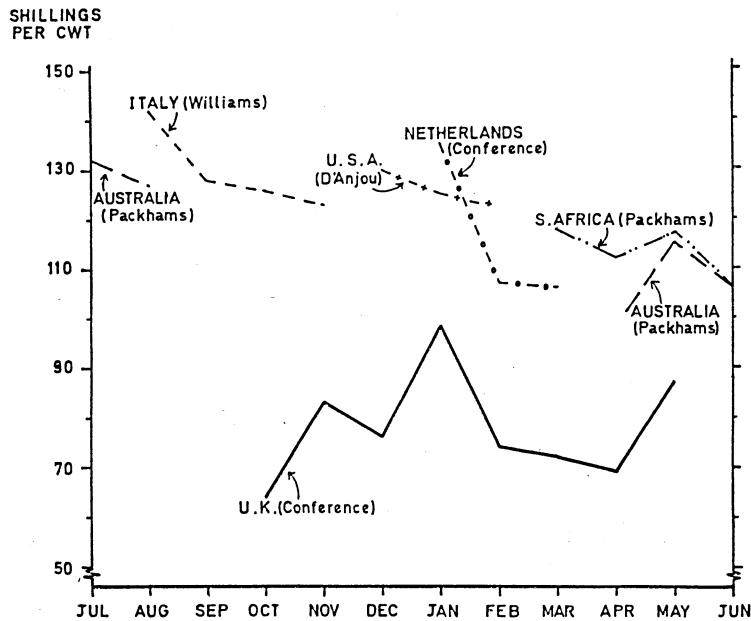


Figure 13. Monthly Home Grown and Imported Pear Prices 1965/6

The tariff on pears is 3s 0d a cwt. or rather less than $\frac{1}{3}$ d a lb. from August 1st to January 31st, the period when almost the entire home crop is marketed. From February 1st to July 31st the tariff is higher, 4s 6d a cwt., or nearly $\frac{1}{2}$ d a lb.

Since 1960/61 the quota on imported pears has been 28,000 tons annually. This compares with home production of about 60,000 tons. Imports under quota are shown in Figure 14. The countries that supply pears under quota are the same as for apples, and again they compete on an equal footing for a share of the quota. Since the pear quota is on an annual basis it interferes far less with the market than the seasonal apple quota. The share of the pear quota secured by Italy and, to a lesser extent, by the Netherlands and France (with other European), is about three-quarters of that taken up by all the countries throughout the period shown on Figure 14. If the quota were removed, imports from Italy must be expected to increase appreciably. Figure 14 shows that the pear quota, like the January to June quota on apples, is not completely used every year. This, however, is due to a lack of supplies in the off-season. Most of the pear imports, in fact, enter Britain during the home season.

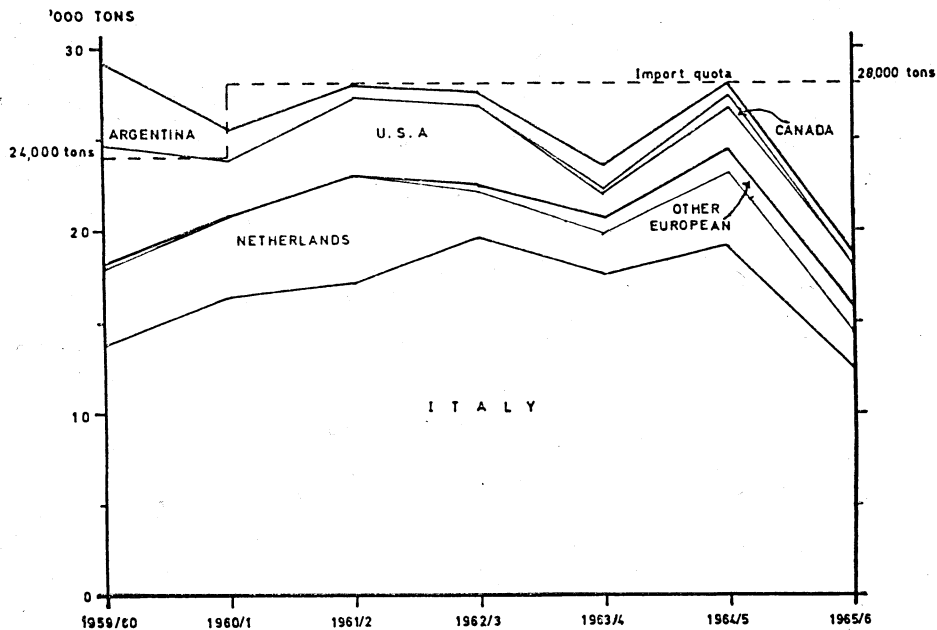


Figure 14. U.K. Pear Imports under quota 1959/60 to 1965/66, July to June

THE OUTLOOK FOR FRUIT

Given trade liberalisation, some increase in the imports of soft fruit, and plums, and cherries, is bound to result as the market for these fruits is unsatisfied in the early season. This might benefit our growers by developing a demand that our producers could exploit later when their crops are ready. If, as expected, home production of plums and cherries falls off in the next two decades, the consequences for British growers of this fruit, never a large proportion of the farm income, can hardly be serious. The price of home-grown plums and cherries is in fact likely to rise because imports are not available to maintain the present level of supply in the home season. Strawberry growers, on the other hand, will meet with more competition from imported fresh and pulped produce. The small specialist grower will be most affected. The larger grower with alternative crops and sources of income will not be hit so hard. Most exposed to increased competition is the grower of early strawberries in such counties as Hampshire. They must expect considerably more competition from France.

Of much more moment, is the effect of trade liberalisation on apple and pear producers in Britain. Here the durability and the value of dessert apples and pears justify their freight charges over thousands of miles. France and Italy, both rather nearer home, are poised to send more apples and pears to us as soon as the trade barriers are lowered. At the same time, home production of dessert apples and pears, will continue to expand rapidly in the next decade. Demand, however, is not likely to expand enough to absorb home production in a good year. This will create a formidable problem for the British producer which can be relieved only by a sizable increase in demand and by greater efficiency in production. The industry, on the whole efficient at the prevailing price level for fruit, would be put to a severe test if prices fell. While producers

as a whole would be hit, the bigger growers, who produce the larger part of the total output, would suffer least because of their size. Worst hit would be small growers, with unproductive orchards of unwanted varieties, who have not obtained sufficient profits in recent years to modernise their orchards.

U.K. production in one thousand tons for 1964-6 and the writer's estimate for 1975 is as follows:

	1964-6	1975 Estimate	Increase or Decrease
	'000 tons	'000 tons	%
Dessert Apples	288.2	375.0	30.1
Culinary Apples	231.3	167.0	-27.8
Pears	58.6	98.0	67.2

Given this situation, growers who depend on dessert apples and pears, must look upon the future with concern, unless demand can be stimulated to take up this increase in production. If imports were to remain at the 1964-6 level, and accepting the official estimates of population trends, an increase in demand of 2 lb. over the present level of 22½ lb. per head would be needed to absorb the supply of dessert apples in 1975. A larger increase in the demand for pears would be needed, an extra 1½ lb. more than the present level of 5 lb. per head.

To increase demand is the problem which confronts the Apple and Pear Development Council. It would be more difficult if there were a drop in real incomes per head in Britain, or if we went into Europe and imports were therefore to increase.

E.E.C. countries supply less than 8 per cent of the dessert apples marketed at the same time as our own, and about one-fifth of the pears. In 1966 France, for the first time, sent more apples to Britain than did Italy. This is explained by the startling increase in French production, which reached 1,000,000 tons in 1961-4 and is expected to be 1.9 million tons, by 1970, and to go on rising for at least another ten years. The need of France to export considerably more apples will also increase, and it is only the quota that limits her exports to Britain at present. Given trade liberalisation, the position of French and home producers in the British market will be largely determined by the consumers' opinion of French Golden Delicious as compared with English Cox, and on the quality offered. A 'Buy British' advertising by our producers would be a justifiable investment.

Apple production in Italy, still greater than in France, and estimated to be 2.5 million tons in 1970, is now expanding at a slower rate than in France. Italy's need to find new markets will, however, continue for some years and she too will wish to send more apples to Britain. It is of course, the higher yields and consequent lower costs of production in France and Italy, which give rise to the fear of British growers.

Nearly all the pears imported in the home season come from the E.E.C. Italy, the biggest pear producer in the world, sends by far the most, while the Netherlands comes next followed by France. Pear production in Italy, now about 550,000 tons, is expected to increase to 600,000 tons by 1970 but exports are not expected to rise above the present level. (More pears are expected to be used for processing in future and home demand is expected to increase.) It is estimated that the production of pears in the Netherlands, now 86,000 tons, will increase to 140,000 tons by 1970, and there will be considerably more for export. Trade liberalisation would certainly result in heavier imports of pears, and even if conditions were to remain as now, more of the quota will be regularly taken up.

If trade policy remains unchanged countries from the southern hemisphere sending apples and pears will probably send more. This will not affect the home producers adversely because Britain is undersupplied in the spring and early summer, and more off-season purchases would stimulate

demand over the whole year. If we joined E.E.C., however, Canada would be put at a serious disadvantage as her place would be more than filled by France, Italy and the Netherlands.

Table 29. Income Elasticity of Demand and Expected Increase in Requirement by 1980

<i>Product</i>	<i>Income elasticity</i>	<i>Increase in Demand ‡ 1980 over 1961</i>	
		<i>Low growth rate*</i>	<i>High growth rate †</i>
Apples	% 0.74	% 35.1	% 52.6
Dessert	1.00		
Cooking	0.35		
Pears	1.00	51.6	75.8
Soft fruit	1.00	41.4	57.8
Other orchard fruit	1.00	48.3	71.9

*2% growth rate.

†4% growth rate.

‡Increase demand is adjusted for population trends.

Source: G. T. Jones, Agricultural Economics Research Institute, University of Oxford.

The expected demand for fruit, as forecast by G. T. Jones, is high, and given a reasonable rate of economic growth our growers should secure for themselves a good share of the increased market. Should dessert apples and pears in the future become priced according to the level in the European market that is at lower prices, however, then a number of growers will be no longer competitive.

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Summary

We import two-fifths of the temperate horticultural produce consumed in Britain. A policy of tariffs and quotas on imports can protect the British grower against much of this competition and to some extent has done so in the past. In future, however, such a policy may be consistent neither with Britain's role in the Common Market nor with other agreements on tariffs and trade. Given a choice between serving the interests of the horticulturist on the one hand and the consumer who wants cheap food or the industrialist who wants freer trade on the other, the Government may feel bound to prefer the latter. It is for this reason that the removal of these restrictions is now threatened and with it the livelihood of many of our producers.

The E.E.C., the Commonwealth, and other countries, each supply one-third of the imports, but geography and specialisation puts British growers more at a disadvantage with producers in the Six, particularly Holland, Italy and France. (One-fifth of the imports come in our off-season and do not compete.) The greatest menace, if we join the Common Market (and even if we do not), is Holland which sends two-thirds of our imports from the Common Market and ten per cent of total supplies of horticultural produce. Of equal importance in the event of quota relaxations is the threat to apple and pear production from Italy and France.

Horticulture as a whole has been strengthened to meet this competition but individual growers vary greatly in their economic viability. For Government grants to be most effective there is now a case for changing their structure so as to make them more selective. The degree of competition to be expected and our chances to compete vary with the type of horticulture concerned and the size of business, and recognition should be given to this. In addition, more might be achieved in horticultural policy by making economic measures more distinct from social measures. No amount of financial assistance to horticulture, however, is likely to keep out fruit and vegetables produced at a lower cost than our own. To interfere with this flow would be to deny the principle of comparative advantage and to encourage increases in food prices and a restriction of consumers' choice.

Producers must now be prepared to meet this competition. The new situation would mean that a number of growers will go out of business and it will hasten the rate of adjustment in horticulture. Structural features of horticulture have an important bearing on its future. Less than two-thirds of the growers of horticultural produce are wholly dependent on it and two-thirds of the output is produced by only a tenth of the growers. The advantage seems to lie with large units but these carry more risk. Smaller growers will still succeed in business when they possess particular advantages in production and marketing but the low income problems of this group will increase.

The British grower has a number of advantages: he often operates on a larger scale which may lower growing costs, he is close to the market which can save transport costs and he can deliver high-quality produce fresh to the market.

The future demand has an important bearing on the prospects for horticulture. Horticultural produce varies greatly in type. Some vegetables are staple foods with a steady and inelastic demand. Some, such as fruit and salad vegetables, are semi-luxuries, the demand for which can expand greatly with increasing affluence. Some, such as flowers, are a luxury whose sales are highly sensitive to changes in income. On the whole, however, the income elasticity of demand for produce is high. The future of British horticulture thus depends on the purchasing power of the British public and this in turn depends on the success of the national economy. Given prosperity at home there will be a good market, which the Six may share on an equal footing. But should

Germany, for instance, be more prosperous than Britain, Dutch tomatoes and Italian apples will go there and relieve the pressure on horticulture in Britain. Added to this is the effect of devaluation which will make produce from Europe more expensive and tend to reduce competition from Europe.

In any likely future situation, however, horticulture needs to increase its competitive power. A good market in Britain will attract more supplies from abroad while a poor market in Britain will restrict consumption, particularly for those products with a sensitive demand, and may result in lower prices.

R. I. Severs Ltd, Cambridge