



IMPERIAL ECONOMIC COMMITTEE.

REPORT

OF THE

IMPERIAL ECONOMIC COMMITTEE

ON

Marketing and Preparing  
for Market of Foodstuffs  
Produced within the Empire

SIXTH REPORT—POULTRY AND EGGS

AND

SEVENTH REPORT—HONEY.

Presented by the Secretary of State for Dominion Affairs  
to Parliament by Command of His Majesty,  
January, 1928.

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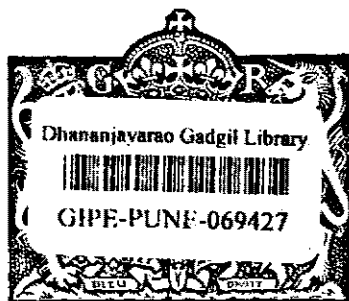
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REPORT

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*Note.*—The expenses of the Committee in connection with the preparation of these Reports amount to £460. In addition, the cost of printing and publishing the Reports is £160.

**REPORT**  
ON THE  
**METHODS OF MARKETING AND PREPARING FOR  
MARKET WITHIN THE UNITED KINGDOM OF  
FOODSTUFFS PRODUCED WITHIN  
THE EMPIRE.**

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**SIXTH REPORT.—POULTRY AND EGGS.**

**SEVENTH REPORT.—HONEY.**

- TO THE RIGHT HONOURABLE STANLEY BALDWIN, M.P.,  
Prime Minister and First Lord of the Treasury.
- TO THE RIGHT HONOURABLE W. L. MACKENZIE KING,  
C.M.G.,  
Prime Minister of the Dominion of Canada.
- TO THE RIGHT HONOURABLE S. M. BRUCE, M.C.,  
Prime Minister of the Commonwealth of Australia.
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Prime Minister of the Union of South Africa.
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Prime Minister of Newfoundland.
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Premier of Southern Rhodesia.
- TO THE RIGHT HONOURABLE THE EARL OF BIRKENHEAD,  
Secretary of State for India.
- TO THE RIGHT HONOURABLE L. C. M. S. AMERY, M.P.,  
Secretary of State for Dominion Affairs and for the  
Colonies.

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# REPORT OF THE IMPERIAL ECONOMIC COMMITTEE

ON

## Marketing and Preparing for Market of Foodstuffs produced within the Empire

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### SIXTH REPORT—POULTRY AND EGGS.

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We, the Imperial Economic Committee, appointed by the Governments of the United Kingdom, Dominions, India and the Colonies and Protectorates and acting under our Terms of Reference published on the 6th March, 1925, beg leave to present to the Governments of the Empire this our Sixth Report—The Marketing and Preparing for Market of Poultry and Eggs.

#### I.—Introduction.

1. In our earlier Reports we have dealt with Meat, Fruit, Dairy Produce and Fish—products which are the result of the efforts of definite industries, those of the farmer, the fruit-grower and the fisherman. We now come to a different kind of industry; a large number of people—many of them little more than amateurs—are interested in the production of fowls and eggs. The specialised breeder, the commercial egg farmer, the general farmer, the cottager and the suburban householder all keep fowls and all thereby contribute to the supplies of eggs and table poultry. The subject, therefore, has a wide appeal. We have in our Report dealt chiefly with fowls and their eggs, only referring incidentally to ducks, geese and turkeys which form a minor portion of the total trade in poultry and eggs.

2. We have derived great assistance in our enquiry from two Reports issued in 1926 by the English Ministry of Agriculture and Fisheries on Egg Marketing in England and Wales and on the Marketing of Poultry in England and Wales. These Reports, numbers 10 and 11 in the Economic Series now under issue by the Ministry, deal very exhaustively with their subject and we commend their study to all those who are interested.

Reports of  
the English  
Ministry of  
Agriculture  
and  
Fisheries.

We have examined a number of witnesses representing both producing and marketing interests. We have further had the advantage of consultation with experienced officials both of the

Witnesses.

United Kingdom and Oversea Governments and with men of scientific eminence. We thank them and all those who have appeared before us as witnesses for their skilled assistance.

Arrange-  
ment of the  
Report.

3. We have dealt with poultry and eggs in one Report because the production of poultry and the production of eggs are closely related and in popular thought are frequently considered to constitute one trade. We would, however, emphasise that they form two branches of an industry each possessing its own distinct problems; and in the most advanced commercial practice specialisation in one branch or the other takes place at an early age in production. Therefore after dealing briefly with certain aspects common to both branches, we propose to treat each separately, taking eggs first, as they enter more largely into international trade, than do poultry.

## II.—The Foreign Trade in Eggs and Poultry.

Magnitude  
of the trade.

4. It might appear that after reporting on meat, dairy produce, fruit and fish, each of which is a staple article of diet, the Committee had turned to a subject of very minor interest in preparing a report on eggs and poultry. Such an assumption would however be based on a misapprehension. Widespread as is poultry keeping, the magnitude of the trade in eggs and table poultry is often overlooked.

Notwithstanding the fact that the United Kingdom produces nearly half the eggs which it consumes no less a sum than £19,000,000 was spent in 1925 on imported eggs and £2,250,000 on imported poultry from all sources, Empire and foreign. Taken together these payments were one-fifth of the expenditure in that year on imported meat and one-third of that on all imported dairy produce. They were nearly twice the expenditure on all imported fish. The hen may rank among the humblest of farm stock, but it is a striking fact that in 1925, and again in 1926, the import trade in poultry products into the United Kingdom surpassed in value that of all the exports of motor cars, motor cycles, cycles and rubber tyres.

Extent of  
United  
Kingdom  
demand.

5. The United Kingdom requires annually somewhere about 5,700 million eggs, which in 1925 were supplied approximately as follows :—

	From Empire sources.	From foreign sources.	Total
	Figures in millions.		
Estimated production in the United Kingdom.	2,500	—	2,500
Imported in shell ... ..	620	1,980	2,600
Imported, dried or liquid, estimated as equivalent to	—	680	—
<b>Total ... ..</b>	<b>3,120</b>	<b>2,660</b>	<b>5,780</b>

Out of every 1,000 eggs utilized in that year, 540 were of Empire origin distributed thus :—

- 433 produced in the United Kingdom.
- 95 from the Irish Free State.
- 5 each from Canada and South Africa.
- 3 from Australia.

and 460 were of foreign origin distributed chiefly as follows :—

- 138 from China.
- 121 from Denmark.
- 47 from Russia.
- 35 from the Netherlands.
- 22 each from Egypt and Poland.
- 21 from Belgium.
- 11 from Italy.
- 11 from Latvia and Lithuania together.
- 10 from Argentina.

6. The share of the Empire overseas in the supply of eggs and poultry to the United Kingdom is but small compared with the imports from foreign countries. About 20 per cent. of the imports of eggs and 31 per cent. of those of poultry come from the Irish Free State, but all the other parts of the Empire contribute only 3 per cent. of the eggs imported and 2 per cent. of the table poultry. It is evident, therefore, that there is room for voluntary preference on the part of consumers in the United Kingdom in favour of Empire eggs and poultry. The exercise of such voluntary preference should benefit more particularly the British and Irish producer. We stated in our first report that we were unanimously in favour of the British consumer giving precedence in his purchases of foodstuffs in the following order :

- First—Home Produce.
- Second—Produce from the Empire Overseas.
- Third—Foreign Produce.

If voluntary preference in regard to poultry products operated in that manner we should be well satisfied.

7. In the winter months local supplies are small and this fact provides an opportunity for imports from South Africa, Australia, and New Zealand at a time when production in those countries is at its seasonal height. Under proper precautions eggs can be and are transported in cold storage without losing quality or acquiring any deleterious flavour. In the United Kingdom itself eggs stored or preserved in summer are largely held over for use in the late autumn and winter, but the high price which is given for new laid eggs in the latter months of the year is an indication of the consumer's preference for eggs which have been recently laid. While, therefore, we think there is scope for eggs from South Africa, Australia, and New Zealand in place of those from foreign countries we are, none

Empire share  
of supply.

Voluntary  
preference.

Opportunity  
for the  
Southern  
Dominions.

the less, persuaded that the producer in Great Britain would retain an ample market at that season of the year when his production commands the highest price.

Foreign  
competition  
to be met.

8. The overseas producer must also recognise that the foreign producer in the Continent of Europe, who is immediate neighbour to Great Britain, has an advantage based largely on the belief that eggs, which have been sent long distances by sea, cannot be as acceptable to the consumer as those which have come from nearer though foreign sources. Trade conservatism will, of course, reinforce this belief and therefore the Dominion producer must be prepared for some delay in the operation of voluntary preference which must be encouraged by favourable quality and prices as well as by publicity.

Position of  
poultry in  
farm  
economy.

9. Poultry keeping occupies a peculiar position in the economy of the farm. It furnishes marketable produce in every month of the year and notably during the flush of the egg season in spring and early summer, before the main crops come to harvest. It forms a variable adjunct to ordinary farm activities. This feature is illustrated in the published costings of thirteen East Anglian farms for each of the years 1923 to 1926\*. In these accounts poultry is the only branch of livestock which has never shown a loss on any farm in any year. We have received evidence from representatives from many parts of the Empire, that, whereas the farmer formerly often treated the poultry yard as a somewhat inconvenient side line to be left to the women of the household, he is now realising its value in increasing degree and is taking a direct interest in its results. It is not, however, only to the general farmer and the specialist that poultry keeping is of importance. It is peculiarly suitable for running in conjunction with schemes for closer settlement, whether the primary objects of such farming be fruit, dairy produce or pigs. It provides a return whilst the holder is becoming established and fits in with his other work when established. This is notably the case in regard to fruit both whilst the trees are growing and when the orchard comes to bearing. Moreover poultry also manure the ground and aid in keeping down insect pests. Successful close settlement also usually connotes favourable transport conditions for getting produce regularly to market, a necessity, if poultry products are to reach the market or assembling point in prime condition. The extended sale in the United Kingdom of Empire poultry products should therefore not only assist the producer in the British Isles, be he farmer, specialist or small holder, but should also directly favour closer and more intensive settlement in the Empire Overseas, on the advantages of which it is unnecessary to dilate.

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\* Reports 1, 3 and 6 of Farms Economic Branch, School of Agriculture Cambridge University.

10. For these reasons, firstly, that there is a great import from foreign countries especially of eggs and, secondly, that the poultry industry plays an important part in farm economy, we are of opinion that a special case exists for voluntary preference in the United Kingdom in the buying of eggs and poultry. It would benefit every class of the farming industry throughout the Empire, except the large pastoralist in the more remote parts of the Dominions. But in our first report we emphasised that such a policy would fail, even when backed by a well-directed publicity campaign, unless the consumer were satisfied in regard to price and quality, and sufficiency, continuity and regularity of supply. Therefore whilst we desire to draw attention to the importance of poultry in the agricultural economy of the Empire and to the fact that eggs and table poultry are suitable commodities for the exercise of voluntary preference, we have in our enquiry devoted much thought to the nature of the foreign competition in the United Kingdom market and to the efforts which are being made to increase and improve Empire production, and to improve the methods of marketing in the Empire.

A special case for exercise of voluntary preference.

### III.—Stocks of Poultry in Empire and other Countries.

11. Whether voluntary preference can be made effective on a big scale for the substitution of Empire for foreign produce in this trade must depend on the practicability of greatly increasing the output of eggs and table poultry both in the British Isles and in the more distant parts of the Empire. We have been unable to obtain statistics for all Empire countries to show the rate at which poultry stocks are increasing, but the general evidence is that increases are taking place. In England and Wales, stocks decreased during the War, but the loss was more than made good by 1924, and since that year the numbers have been increasing by about three millions a year. In the Irish Free State, the increase between 1925 and 1926 was four millions, and it is estimated that the poultry stocks of the Ontario Province of Canada alone are at present rising by about three-quarters of a million birds a year.

Increasing stocks in the Empire.

12. A census of stocks of poultry in the principal countries of the world is difficult to present. Figures for the same years are not available for all countries. In most returns the figures reported include some estimate for the stocks of the small scale poultry keeper; and much depends on the time of the year to which the return relates. The following table reproduces one published in the Report on the Marketing of Poultry (Economic Series No. 11) issued by the English Ministry of Agriculture and Fisheries with corrections made where later figures have become available.

Comparisons with other countries.

Country.	Fowls in thousands.	Other poultry in thousands.	Year.	Birds per person of population.
United States ... ..	678,300	?	1921	6.4
Northern Ireland ... ..	6,768	1,148	1926	6.3
Denmark ... ..	20,284	216	1921	6.3
Irish Free State ... ..	13,026	4,253	1925	5.8
Canada ... ..	43,708	4,431	1925	5.
New Zealand ... ..	3,491	500	1921	3.3
South Africa ... ..	9,419	808	1921	1.9
England and Wales ... ..	48,800	4,000	1926	1.4
Germany ... ..	63,439	9,008	1921	1.2
Scotland ... ..	5,015	411	1926	1.1
Poland ... ..	19,148	6,045	1921	.9

Some of the figures in the foregoing table are based on returns now six years old, and understate the position in some countries, especially in those undergoing rapid development, such as South Africa, where special attention to poultry keeping is a post-war development.

Rapid expansion in United States.

13. The position of the United States, for which figures of fowls only are available, is remarkable, and if figures more recent than those of 1921 could have been quoted, they would doubtless have been still higher, as the following extracts from the official American Year Book of 1926 would indicate:—

“ The value of poultry and eggs in 1925 was estimated to be somewhat over \$1,000,000,000—about the same as that of cattle.” This figure of value may be compared with that of the value of all woollen and worsted goods in the States in 1923—\$1,063,000,000. Again “ A decided expansion has taken place since 1920 ” . . . The increases are greatest in the States in which specialised poultry farms are most common ” such as the “ States of New Jersey, Washington, Connecticut and California all of which show large increases.” Of the four States mentioned, two—New Jersey and Connecticut—are amongst the most densely populated States in the Union, two—California and Washington—are sparsely populated, remote from the clusters of large towns, but noted as fruit growing areas.

The same report throws light on the causes which are aiding this rapid development of the poultry industry in the U.S.A. “ The development of the baby chick industry has had a marked influence on the poultry industry. It is estimated that from 400,000,000 to 500,000,000 chicks are being produced annually in the commercial hatcheries for sale to poultry men and farmers.” “ There is a definite trend to more stable egg production throughout the year ”—“ The object is to increase production in the fall and early winter months when egg prices are at their highest, and success in this particular is generally accompanied by a lower production in the spring or summer.” “ Replacement of mongrel by improved stock, better feeding



and care of poultry, a better handling of the products on their way to market, and better grading and standardisation have resulted in a higher average of quality on the terminal markets."

14. In view of the present big gap between Home production and Home demand and of the fact that poultry keeping is already widely practised in Great Britain, it may be thought, that, even under the most favourable conditions, poultry production in the British Isles could not be so expanded as to supplant to any appreciable extent imports from foreign sources. We are convinced, however, that scope for increased production exists. The following table, which has been put together from information supplied by the various 'Agricultural Departments in the British Isles, shows that there are extraordinary differences in the number of poultry in different parts per 100 acres of cultivated land.

Scope for expansion in the United Kingdom.

Number of poultry of all kinds per 100 acres of crops and pasture :—

Northern Ireland	...	...	...	...	...	321
Irish Free State	...	...	...	...	...	176
England and Wales	...	...	...	...	...	133
Scotland	...	...	...	...	...	121

It is possible that the smaller average size of the holdings in Ireland permits of more time being given to poultry than in Great Britain, but there is a big difference between Northern Ireland and the Irish Free State, and Great Britain is still further behind. When we turn to statistics of egg production great contrasts are also found between different areas. Thus the English Ministry of Agriculture and Fisheries states that the average number of eggs laid per hen in England is greatest in Lancashire and Hampshire, being in each case about 15 per cent. above the general average for the whole country. These counties differ so widely in ordinary character that it is impossible not to conclude that there is scope in many other areas for an equivalent considerable improvement.

15. Although, therefore, it is true that the stocks of poultry in Empire countries are steadily being increased, yet the table in paragraph 12 shows that many parts of the Empire lag far behind the United States, Ireland, Denmark and Canada. The question at once arises—What action is being or can be adopted to effect a change? In this connection, it is important to remark that the conditions of the poultry industry favour progress as the result of technical instruction and demonstration, often in large measure initiated by the State. The variety of people engaged in poultry keeping—the specialist breeder, rearer or fatterer of poultry, the commercial egg producer, the general farmer, the smallholder and the suburban dweller—is such that it is often difficult to induce local producers to take concerted action or to adopt agreed standards for marketing their produce. It has, however, given great opportunities to Departments of Agriculture and to the large unofficial societies to develop educa-

Widespread nature of instruction in poultry keeping.

tional and demonstrational field work for instructional purposes. The methods followed must be adapted to local conditions, but as the experience obtained in one part of the Empire may afford suggestions to those at work in other parts, we have summarised in a Note in Appendix I the facts which have been brought most prominently to our notice. We will quote here only two instances illustrative of such official intervention. In Northern Ireland, which covers a smaller area than the county of Yorkshire, 274 egg-distribution centres and 280 turkey stations received financial grants in 1926-27 in return for submitting to official inspection and conforming to official regulations. In South Africa special funds for poultry improvement have been provided since 1922 by the levy of a small duty on all eggs exported, at the rate of 9d. per case of 360 eggs.

Variations in objectives.

16. The progress resulting from such efforts is, however, very uneven between different regions, and the general objectives appear also to vary. In some places, notably in Canada and Ireland, the trend is towards the establishment in fairly wide-spread tracts, of flocks similar in general characteristics. In England, on the other hand, the tendency has been towards an increase in the proportion of birds of high egg-laying capacity at some expense possibly of the average size of the egg laid, and in the maintenance of a large number of pure breeds of poultry. Great Britain derives certain obvious commercial advantages from a high reputation for the purity and number of its breeds of poultry, but we believe that a multiplicity of varieties in the same locality may also entail certain definite commercial disadvantages.

Importance of standardisation.

17. The Linlithgow Commission laid special stress on the importance of standardisation in agricultural products. They stated, "Standardisation is a first principle of modern commerce. It enables goods to be bought and sold on the faith of their description; it renders valid comparison between lot and lot, between market and market; it is the essential foundation of advertisement."

Poultry products possess special characteristics which demand that this standardisation takes place at an early stage in production. The consumer likes to believe that the egg he buys has been recently laid; and repeated handling and examination for resorting of table poultry is detrimental to its delicate qualities. Thus, it is desirable that both eggs and poultry be sorted and packed in a manner in which they can pass through the wholesale market to the retailer, with the minimum of rehandling and resorting. This indicates that the final packing and sorting should be done as near to the source of production as possible; in other words, at the time of the first general assembling of the produce. This means, in effect, at the first local market. It is clear that the more uniform the general run of the produce is at this stage, the more efficiently and cheaply can such sorting and packing be arranged. This points

to the desirability of the establishment through large well-defined areas, of types of birds of similar general characteristics. We, therefore, suggest that, generally in the Empire and notably in the United Kingdom, the true commercial advantage lies in endeavouring to establish throughout considerable areas a great measure of uniformity in the stocks kept. In saying this we do not wish to imply that breeds which yield similar produce may not be kept alongside of one another; the test should be the uniformity of the produce for marketing. Nor do we suggest that the day for developing new strains has passed. The enterprise of the breeder directed definitely towards evolving strains of greater "utility," and possessed of characteristics whereby the quality of "utility" may be most readily recognised, was probably never more needed than at present. If modern commercial conditions press constantly in the direction of standardisation and large production, they equally demand that the attention of the producer should be concentrated on the article economically most profitable. But this production of new breeds and strains is a speciality in itself and should not be regarded as incidental to staple production for the market.

#### IV.—Empire Production.

18. Increases in total poultry stocks are but one factor towards increased egg production. The other factors equally important are good management and feeding, and improvement in the fecundity of the stock, by the encouragement of strains of greater egg-laying capacity. We have received much general evidence that special attention has been given to these factors in the last 20 years in most parts of the Empire. Though we were told in evidence that the average size of the eggs produced in England and Wales has fallen, yet there is no doubt that the average number of eggs per fowl laid annually has increased very substantially. In 1908 the English Ministry of Agriculture and Fisheries estimated the average annual production per hen at 72 eggs; they felt justified in 1913 in adopting the figure 75 and in 1925 of 100 per hen per year. The Canadian Department have also supplied us with estimates of a similar character though extending over a shorter range of years. Whereas 78 eggs per hen was considered a fair estimate in 1921, this was raised to 82 in 1925, though in that year the figures for the Indian reserves were for the first time included. As poultry keeping has been developing most rapidly in Ontario and British Columbia, the inclusion of the Indian reserves for the first time will probably make the improvement appear less than it really has been. In any case, changes are taking place so rapidly that the figure for 1927 will almost certainly be somewhat above 82. Thus it seems fair to conclude that not only are stocks of poultry increasing but better stocks, as judged by the number of eggs laid, are being kept.

Empire  
production  
increasing.

19. Figures purporting to give the total annual production of eggs in any country must clearly be based on estimates to an even greater extent than figures of the poultry stocks, and not all countries attempt to supply them. But where they are available for Empire countries, they show very substantial increases. Thus, if the estimated annual production of eggs in 1908 and 1926 be compared, the figure for England and Wales has risen from 1,300 millions to 2,000 millions and for Scotland from 185 millions to 250 millions. In Canada from 1,000 millions in 1901 to 3,100 millions in 1926. The Irish Free State estimate a 25 per cent. increase in 1926 as compared with 1925.

In other parts of the Empire export figures indicate that a considerable expansion of production is in progress. Thus, as between 1921 and 1926, exports of eggs from South Africa and Australia increased from 22 millions and 5 millions respectively to 30 millions and 8½ millions, and in 1924 the net exports from Northern Ireland reached the high figure of 211 millions worth over £1¼ millions. This approaches the total production of all Scotland.

Thus, it is fair to infer that the production of eggs within the Empire is increasing more rapidly than the stocks of poultry, though those also are expanding. The large differences between the number of poultry kept and the average egg production per hen in different parts of the Empire—and also in different parts of the same country—clearly indicate that further rapid expansion could take place if the market for eggs produced within the Empire could be further stimulated.

#### V.—Imports into the United Kingdom.

Eggs not  
in shell.

20. Imports of eggs are divided in the trade returns into two large classes, according as they are imported in the shell or not. The last include imports of eggs in liquid form, of egg albumen and yolk, of dried eggs and of egg powder, and in 1925 these imports were valued at £2½ millions as compared with £16½ millions, the value of imports of eggs in shell. The eggs not in shell come almost entirely from China (98 per cent.). They represent a smaller and cheaper egg than those usually imported in shell and the 23,900 tons of these articles imported and consumed in the United Kingdom in 1925 may be taken, roughly estimated, as equivalent to 680 million eggs. It is possible that the stricter regulations introduced into Great Britain in 1926 for controlling the use of preservatives in food may diminish this trade or cause a greater proportion of the Chinese eggs to be despatched frozen in the shell. The only part of the Empire which in present conditions might compete in this trade is India, and the possibility of India obtaining a share would seem worthy of detailed examination in view of the disturbed conditions in China. The main import trade in eggs is, however, in eggs in shell, and it is with that that we deal in the rest of our report.

21. Imports of eggs in shell are recorded in numbers of great hundreds (120). The statement in Appendix I shows the sources of imports of eggs in shell for two five-year periods before the War and for the years 1923 to 1926 inclusive. This table shows how small are the imports from parts of the Empire other than the Irish Free State. In 1926 the figures were as follows :—

*Imports of eggs in shell into the United Kingdom in 1926.*

<i>Origin.</i>	<i>In thousands of Great Hundreds. (120's).</i>	<i>Per cent. of total imports.</i>
British Empire :		
Irish Free State ... ..	4,428	20
Other Empire Countries ...	758	3.4
Foreign Countries ... ..	16,939	76.6

Shipments from the Irish Free State were only treated as imports from 1923 onwards and if, for purposes of comparison with pre-war years, these be excluded, the figures in the Appendix show that :

(i) Imports of eggs in shell are less than they were before the War ;

(ii) The imports from Empire sources (other than the Irish Free State) represent about the same percentage now as they did in 1900-1904—say, 3.2 per cent.—although imports from Australia and South Africa have increased and those from Canada decreased ;

(iii) Whereas just prior to the War, Russia supplied 50 per cent. of the imports and Denmark 20 per cent., now Russia, Latvia and Lithuania send only a small proportion, whilst Denmark, Poland, the Netherlands, Belgium and China have substantially increased their share and, taken together, represent 80 per cent. of the trade from foreign sources.

Deductions from import statistics.

22. Increased production in the British Isles has in the main made up for the decline in the volume of imports as compared with that declared before the war. The appearance of Australia, South Africa, and New Zealand on the British market is a post-War development ; the decrease in imports from Canada is probably a temporary feature due to the extraordinary expansion which has recently taken place in the Canadian home consumption of eggs with which we deal later in paragraphs 42 to 46. The displacement of Russia by Denmark, the Netherlands and Belgium involves more than the substitution of one source of supply for another. The eggs coming from these three countries are generally superior in quality, grading and packing to those which were received from Russia in pre-War days, and command prices in London comparable with those of English eggs. Further, the introduction of marketing and

Post-war changes in sources and quality of imports.

export regulations, in the Irish Free State, Northern Ireland, South Africa and Australia in the last three years has caused a marked improvement in the eggs received from those sources. It is thus generally true that the average quality of eggs imported into England and Wales has substantially improved since the War, and the indications suggest a further improvement. This means severer competition for the British producer in the matter of quality, and quality is the key to the British wholesale market.

#### VI.—Seasonal Production and Import Flow of Eggs.

Production  
—seasonal.

23. Although efforts are being made in many countries to increase the stocks of poultry laying well into the winter, egg production in all countries varies with the seasons. According to the Report on Egg Marketing published by the English Ministry of Agriculture and Fisheries, the estimated percentage production in England in each month of the year is as follows :—

##### *English Production.*

	<i>Per cent.</i>		<i>Per cent.</i>		<i>Per cent.</i>
January	... 7·8	May	... 11·8	September	... 5·8
February	... 8·9	June	... 8·6	October	... 4·3
March	... 13·4	July	... 7·8	November	... 3·9
April	... 13·9	August	... 7·8	December	... 6·5

Thus 48 per cent. of the annual production is produced in the four months March to June as against 20 per cent. in the four months, September to December.

Flow of  
imports  
uniform.

Imports on the other hand are more uniformly distributed throughout the year—as shown in Appendix II.

##### *United Kingdom Imports.*

Percentage of imports entering the United Kingdom each month, being the averages of imports in the three years 1924-26.

	<i>Per cent.</i>		<i>Per cent.</i>		<i>Per cent.</i>
January	... 6·72	May	... 10·05	September	... 8·07
February	... 6·92	June	... 8·99	October	... 8·77
March	... 8·75	July	... 8·40	November	... 8·32
April	... 9·10	August	... 7·67	December	... 8·31

Thus 37 per cent. of the imports arrive in the four months, March to June, when production in the United Kingdom is at its height, and prices are at the lowest, and only 33 per cent. in the four months, September to December, when home supplies are lowest and prices are at their highest.

There seems no doubt that many of the eggs imported in the spring months are stored or preserved for sale in winter.

#### VII.—Consumption.

24. Eggs consumed in Great Britain come therefore from local sources, from Northern Ireland, and from Empire and foreign imports, whether in the shell or shelled. The English Ministry of Agriculture and Fisheries estimate the annual con-

sumption of eggs in shell in Great Britain at about 110 per head of population. To this figure should be added some 15 for shelled eggs so that the total consumption is about 125 eggs per head of population. Estimates of consumption in other countries are not easy to obtain, but the following have been recorded. We give them with all due reservations, since the estimates in regard to the domestically raised and consumed eggs may not have been framed on the same principles in the different countries.

*Consumption of Eggs per head of population.*

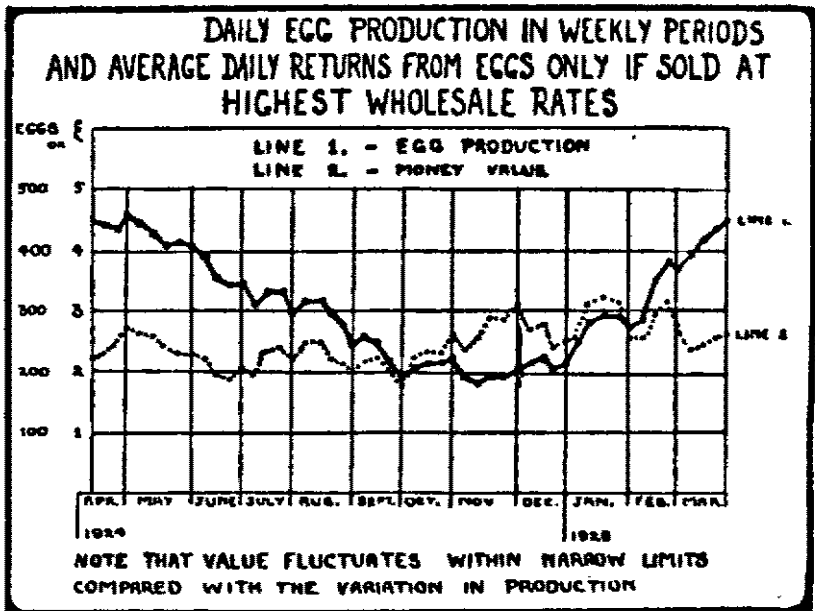
Canada	...	...	...	...	...	...	337
Belgium	...	...	...	...	...	...	213
United States	...	...	...	...	...	...	180
France	...	...	...	...	...	...	133
Great Britain	...	...	...	...	...	...	125
Germany	...	...	...	...	...	...	117
Sweden	...	...	...	...	...	...	85
Denmark	...	...	...	...	...	...	75
Norway	...	...	...	...	...	...	61

Though it would appear certain that the consumption in Canada is greater than in Great Britain we hesitate, for the reason given above, to draw any very close comparisons from these figures.

**VIII.—Annual Wholesale Price Variations.**

25. The flush of eggs in spring followed by a severe contraction in local supply in the winter months causes a regular cycle in wholesale prices, which are at their lowest in spring and at their highest in November. This is well illustrated by the chart of wholesale prices in London, printed as Appendix III; and its commercial result to the egg producer in the United Kingdom is illustrated by the following diagram, which shows the yield of eggs and the proceeds of sale on a poultry farm in 1924. It was prepared under the supervision of the Hertfordshire Agricultural Institute and is printed in the English Ministry's bulletin on Egg Marketing already referred to.

Cycle of  
wholesale  
prices.



This table shows very clearly the commercial value to the producer of the winter laid eggs.

Eggs held  
back for rise  
in price.

26. Such seasonal fluctuations in price not infrequently induce practices which must be condemned. The small dealer or collector, and sometimes also the farmer, hold back eggs from market for a few days when there is hope of a rise in price. This results not only in the offering of stale eggs but also in the mixing of fresh and stale eggs to the prejudice of the general reputation of the product.

Competition  
from im-  
ported well-  
graded eggs.

27. The chart in Appendix IV, which shows the "top" prices of eggs in the London wholesale market since 1923, also brings out the fact that Irish and Danish eggs compete very closely with English eggs whilst occasionally Danish eggs secure the highest prices. In their report on the Marketing of Eggs, the English Ministry of Agriculture and Fisheries state that both wholesalers and retailers, not only in London, but also in other large cities, are frequently prepared to pay more for graded imports of first quality than for nondescript consignments of English eggs. It may be that the average quality produced in these countries is no better than the average in England, but it is the best of their production, well graded, well packed and reliable, which reaches the English market. It is with produce of that nature that the British producer and the Dominion exporter have to compete.

### IX.—Market Requirements.

Weight,  
freshness  
and colour.

28. The saleability of eggs on the British wholesale market depends on their appearance, colour, weight, freshness, and packing. Of these qualities weight and freshness are of first



practical importance, though the inclusion of dirty eggs considerably reduces the sale value of a parcel. The sorting of eggs for cleanliness is, however, so simple that failure in this matter denotes gross carelessness. Certain sections of the public in England display a marked preference for a brown egg. To meet this demand the output in some districts of the Continent, which cater for the English trade, has in recent years changed over from white or lightly tinted eggs of poor size to large deep brown eggs. Colour grading is, however, of minor importance as compared with questions of weight and freshness. Countries and trade organizations which have adopted standard grades for the marketing of eggs base them on weight and quality.

29. Grade weights are defined by the weight in pounds of the "great" hundred or 120 eggs; thereby the sale of eggs on a weight basis is secured instead of sale merely by number. It is not, however, sufficient to secure good grading that the total weight of 120 eggs conforms to a specified number of pounds; the run of eggs must be uniform in size and weight. In some countries where grading is compulsory a minimum weight per egg is prescribed for each grade and no egg below that minimum may be included in a consignment of eggs packed to that grade, or else a weight is prescribed below which the weight of any dozen eggs must not fall. Strict maintenance of uniformity in each grade is a mark of good grading and is highly appreciated on the market. It is the custom of the wholesale trade in England to allow  $\frac{1}{2}$  lb. per 120 eggs off the grade weight, to allow for shrinkage.

Grading by weight.

30. Grading by weight is clearly valueless without a presumptive standard of freshness. Many of the countries which have adopted legislation for the control of export or of internal marketing, also impose standards of quality, based on an examination of the condition of the egg contents by candling. In some countries candling\* is compulsory throughout the year, in others at all times of the year except in the flush season.

Quality—candling.

### X.—Instances of Standards enforced in certain Countries.

31. We have indicated that eggs imported into Great Britain arrive on the whole on the British market well sorted and well graded. It is unnecessary to set forth all the details of these grades and the regulations on which they rest, but their general nature can best be shown by giving in some detail the standards

Empire Countries.

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*Note.*—"Candling" is the testing of eggs before a beam of strong light to shew the condition of the air space, and the condition of the yolk and white. In doubtful cases of quality and weight eggs should be candled and graded individually; but appliances are available and are in use whereby eggs can be candled and graded without individual handling.

imposed by legislation in Empire countries, and, more briefly, those adopted in the more important foreign countries for eggs for export.

Standards have been imposed by legislation, covering in Canada all trade in eggs, wholesale and retail, in Northern Ireland all wholesale trade, in South Africa, Australia, and the Irish Free State all the export trade. The grades by weight imposed by law in these five countries are as follows :—

Australia.	Northern Ireland.	Canada.	South Africa.	Irish Free State.
Per 120 eggs. 15½ lbs.	Per 120 eggs. 18 lbs.	Per doz. 25 ounces and over (15·6 lbs. per 120).	Per 120 eggs. 17 lbs. and over	Per 120 eggs. 16 lbs. and over.
14 lbs.	17 lbs.	24 ounces (15 lbs. per 120).	16 lbs.	15 lbs.
—	15½ lbs.	22½ ounces (14 lbs. per 120).	15 lbs.	14 lbs.
—	14 lbs.	Below 22½ oz.	13½ lbs.	"Trade" eggs.
—	Smalls.	—	Smalls, not under 12 lbs.	—

Uniformity within each grade is secured by different means. The regulations in Northern Ireland contain a provision that in each grade "no 12 eggs in any of the units of 120" shall weigh less than a certain minimum which is fixed for each weight grade, at: 28 ozs., 26½ ozs., 24 ozs., 21½ ozs. In the Irish Free State no egg may be included in any one of the three first grades which would weigh per 120 more than 1 lb. less than the weight prescribed for that grade; and "Trade" eggs may not include eggs properly belonging to other grades. In Canada the grade weight is fixed by the dozen and not by the great hundred. South Africa, Australia and the Irish Free State impose a minimum weight for each grade below which no egg should fall. Quality is secured in Northern Ireland throughout the wholesale trade and in the Irish Free State in their export trade by imposing a minimum condition which all eggs must pass. In South Africa only first-quality eggs are passed for export. Canadian conditions are very severe in that four grades are imposed for interior quality more closely drawn than those in force in Ireland and these quality grades are definitely linked with the weight grades. A large egg not perfect in quality would be relegated to whatever grade was determined by its quality—possibly third or fourth—irrespective of its size. Canada has thus gone furthest in control by making all its regulations applicable to all internal domestic trade, wholesale and retail.

Foreign  
countries.

32. The standards followed in the export trade of some of the foreign countries most important on the British market in regard to eggs are as follows :—

*Grading by Weight.*

Country.	No. of grades.	Range of grades by weight of 120 eggs.	General trade opinion of the uniformity within the grade.
Denmark ...	6	From 13 to 18 lbs.	Good.
Netherlands ...	—	From 15 to 18 lbs.	Fairly uniform.
Belgium ...	Usually only one grade offered	16 lbs.	—
France :			} Varies with the packers, some packers very good.
Normandy...	—	From 15 to 18 lbs.	
Brittany ...	—	From 13½ to 16 lbs.	
Esthonia ...	3	From 14-15½, 15½-17 and 17 lbs. and over	—
Norway ...	7	From 12 to 18 lbs.	—

In Norway and Esthonia these grades are imposed by legislation. In Denmark legislation only requires that the grade weight should be declared on the package and does not specify what the grades are to be, but these have been fixed by trade custom. In France, Belgium and Holland there are no export regulations, and the grades depend on trade practice and custom. They are none the less strictly observed. The same distinction exists in regard to grading for the interior quality of the egg. In France, Belgium and Holland sorting and testing by candling is left to trade practice, but is followed. In Norway the export regulations require that exported eggs should be "absolutely fresh," but this condition is not defined in terms of candled appearance of the egg, and it is only compulsory between 1st June and 31st December. Much therefore is left to the official inspector. In Denmark and Esthonia two grades of quality are imposed dependent on the candled appearance of the egg. These quality grades can be combined with any one of the weight grades. As in Denmark, six weight grades are recognised and in Esthonia three, it follows that there are 12 possible commercial grades for Danish eggs and six for Esthonian eggs.

**XI.—Packing.**

33. The trading advantages which should accrue from good production and careful grading may easily be lost through indifferent packing. Eggs rapidly absorb any musty flavour which may linger round their packing material and hence straw and hay, unless absolutely dry, are generally unsuitable for use. Dirty or unnecessarily clumsy boxes or cases detract from the appearance and therefore from the value of the eggs and cause difficulty in handling. As a rule also many traders object to the trouble and expense of the "returnable" case. Thus countries which have paid close attention to the marketing of eggs have also paid much attention to their packing, and many of the countries which impose standards of weight and quality for exported eggs also impose standard forms of packing in non-return-

able cases. This is so in Northern Ireland, Canada, the Irish Free State, South Africa, Norway and Esthonia. In other countries standard packages have become fairly well established through trade influence. "Honeycomb" fillers and wood wool from odourless timbers are in frequent use for packing. In the great majority of the Continental packs, the eggs lie in contact with one another, but owing to the close grading and regularity of size, combined with skilful packing, breakages are remarkably few.

Rules for pickled, preserved, or cold-stored eggs.

34. The regulations and practices which have been described thus far refer to the trade in fresh eggs. Somewhat analogous rules are in force for pickled, preserved and cold-stored eggs which fall into entirely separate categories.

Saleability improved by grading.

35. Most of this legislation in regard to grading, quality and packing has been introduced since the War. We have received much trade evidence testifying to the resulting improved saleability of imported eggs and of their enhanced reputation on the market. This is notably the case in regard to Irish eggs. The diagram of prices in Appendix III also shows that the gap between the prices for the best Irish and the best English eggs has been lessening, so that in 1926-27 quotations were often identical.

Cancellation of export licences.

As illustrating the operation of these export regulations in improving the standards of the article exported and of weeding out dealers who do not scrupulously conform thereto, it may be mentioned, that, since the introduction of this legislation in the Irish Free State, the authorities there have cancelled the export licences of 40 dealers.

Necessity for grading British produce.

36. As we state in paragraph 44, many British producers do grade their eggs, but some seem to calculate that the presumption that they are selling fresh eggs will secure the market for them without the trouble and cost of a system of grading. That is no doubt true to some degree, but if the English producer is to share with the Dominion producer in ousting to some extent at any rate the foreign importer, he must conform with the now well established requirements of the English wholesale market. One thousand million eggs may perhaps be sold without grading but four thousand million eggs demand more organised effort.

## XII.—Wholesale markets—The London Egg Exchange.

Methods of sale.

37. Imported eggs are usually received for sale on consignment, the commission charged ranging from 3 per cent. to 5 per cent. Several of the important Co-operative or Producers' Societies abroad have their own representatives or agents in London and conduct their business solely through such representatives. About 75 per cent. of the Australian and New Zealand eggs are imported through the Overseas Farmers' Co-operative Federation and the rest through merchants. South African eggs are handled on a commission basis by several

brokers on the London market though a steadily increasing proportion is being marketed through the Overseas Federated Farmers Limited. Canadian eggs are usually sold firm to British importers either f.o.b. Canadian port or c.i.f. United Kingdom port. In some sections of Canada, much of the local marketing is conducted through Provincial Egg and Poultry Pools, which are large producers' organisations on a voluntary basis. Thus in 1925, the Saskatchewan Pool had over 17,000 members and marketed over 1,000,000 dozen eggs a year.

Danish supplies are largely handled by the Danish Co-operative Egg Export Association, but also by the representatives of the Danish bacon factories and by private merchants. Dealings in imported eggs sometimes take place on the Liverpool and Manchester Produce Exchanges, but the main market is in London where a definite Egg Exchange has been established. This originated in 1862, and is now a registered organisation with its own rooms in the Hop Exchange and has about 200 members, some of whom are beginning to trade also in English produced eggs. There is little or no trading in "futures." In recent years there has been a distinct movement towards a merging of the functions of importer and wholesaler; on the one hand the importer is getting into closer touch with the retailer and on the other hand the wholesaler is getting into closer touch with the supplier from overseas and so is becoming a direct importer. But where the Dominion exporters consign their eggs direct to representatives in large markets in England, it is important in their own interests that they should deal with firms and merchants of recognised standing, ability and experience.

### XIII.—The trade in eggs produced in Great Britain.

38. As shown in paragraphs 31 to 34, the exporter of eggs to Great Britain has to run the gauntlet of many regulations from which the producer in the United Kingdom is free. No regulations similar to those we have described exist in Great Britain. The commercial egg farmer usually sorts and grades his produce before sale, and where many such farmers are to be found in one district, as in Lancashire, the standards laid down by their local organisation, such as the Lancashire Egg Producers Ltd., are generally observed, but there are no standards universal throughout the country. The general farmer and the small holder on the other hand are not in the habit as a rule of grading their produce, though there are large organizations available to whose standards they may, if they will, conform. Thus it is probable that a majority of the British eggs come to market ungraded.

Absence of grading regulations in Great Britain.

39. It would take us too far to attempt to describe in detail the various ways in which locally produced eggs are sold in the United Kingdom. Reference should be made to the report of

Methods of sale of locally produced eggs.

the Linlithgow Commission and to the Report issued by the English Ministry of Agriculture and Fisheries on the Marketing of Eggs. Direct sale by producers to retailers is probably the dominant marketing method, though at the same time there is a large trade with the more distant consuming centres conducted through higglers and country dealers. Direct sales by producers to retailers take place in a variety of ways. The old fashioned method whereby the producer came to the local market on market day and sold his, or more often her produce to the inhabitants of the town still holds in some districts. In other cases producers deliver their eggs once or twice a week or perhaps more frequently to retail shops in the neighbourhood, or the retailers themselves collect the eggs when they deliver groceries or other goods to the farmers. In yet other cases the producers enter into definite contracts with more distant retailers for the regular despatch of eggs twice a week or more frequently. This practice of local sale between producer and retailer is likely always to be a feature of the English market in eggs, owing to the wide distribution throughout the country of towns of moderate size. But large cities and towns can never produce in their immediate neighbourhood the quantities of eggs they require; purely agricultural tracts on the other hand, have a constant surplus of eggs for sale. Between the two is a zone in which town and country are intermingled where the local producer has an immediate market very easily accessible. This is a convenience but it does not make for the maintenance of standards of quality, since the country retailer, who earns his livelihood among the farmers, is often unable to refuse to buy their eggs and thus there is a lack of incentive to market a clean and fresh article.

Assembling  
of produce  
for more  
distant  
markets.

40. For the regular supply of more distant markets assembling of produce is necessary and in this the higgler, the country carrier or collector, the dealer, the country wholesaler and the co-operative society all participate. Some of these, especially the co-operative societies and collectors acting for large firms, sort and grade the eggs they receive. Some of them however, especially those who are trading in a small way on their own account, may hold up their supplies for a short time in hope of a rise in the market, ignoring the deterioration of the eggs. The higglers, who buy on their own account and work on very narrow margins, are exposed to this temptation and though many of them attain to much experience in egg collection and marketing, there is always the contingency of the sudden influx of inexperienced or careless collectors, whose activities and methods are often harmful. In some auction markets auctioneers have permanently banned higglers' produce. The result is that notwithstanding the efforts of certain associations, firms, dealers and wholesalers, a large proportion of the eggs locally produced reach the retail market ungraded and unsorted for either weight or quality. In these circumstances, it is not

Large  
proportion  
of produce  
ungraded.

surprising that many large dealers and retailers in the big towns, although aware of the consumers' preference for an English egg, prefer to handle imported eggs which arrive uniformly graded, reliable in quality and conveniently packed.

41. General experience in many forms of agricultural practice has shewn repeatedly that it is the producer who ultimately suffers from defective systems of marketing. The produce of a single farm is usually insufficient for the establishment of a special mark or to make close grading worth while. It follows that the first essential for orderly marketing is that the goods of a number of producers should be assembled at some place and mixed. No doubt the produce of the individual farm thus loses its identity. But the handling of large quantities, if properly graded, eliminates the chances of malpractices by small dealers and collectors and thus ensures a reputation for reliability, which is very potent on the markets. It is the lapse from the expected standard which so frequently nullifies the undoubted preference which otherwise exists for the English produced egg. Furthermore the producer who would produce efficiently must give his time to his own proper work and save time by handing his produce over to the expert marketer at the earliest possible stage.

Need for orderly marketing.

42. Although most of the legislation regarding grading and packing of eggs which we have described, has been introduced since the war, yet in some countries uniform trading standards have been observed for much longer periods. The reaction on local production of such standards is of importance. It has been repeatedly found that in districts in which standards are only applicable to the export trade in eggs, the enforcement, either by legislation or by trade practice, of standards of weight and freshness, such as those we have just described, has a marked effect in raising the quality of the whole of the egg production no less for local consumption than for export. Several instances have occurred in which, after a few years, the export of large, well-graded eggs to Great Britain is less a question of selection than of a high average standard of local production. Further the area within which that high average is established constantly widens. Thus, although the imposition of grades for weight and quality may during its introduction appear to harass the producer, yet finally it is to his advantage. The general standard of the quality of the produce of the district is improved, the course of trade is facilitated, a reputation and goodwill is established. These, in our opinion, are among the most important and beneficial results which flow from orderly marketing of produce.

Instances of reaction of trading standards on local production.

#### XIV.—Experience in Canada.

43. We have received striking testimony as to the results of strict methods of marketing on consumption and production of eggs in Canada. In 1918 the grades and standards, which we

Extension of scope of regulations.

have described, were made compulsory by law for all exports of eggs. Some improvement in the quality of eggs intended for the domestic market was soon observed, and in addition the processes of wholesale trade were so facilitated, that the trades asked that similar regulations should be applied to long-distance traffic of eggs within the Dominion itself. In 1922 the regulations were extended so as to apply to imported eggs and to all eggs moved in car lots interprovincially. All such eggs had to be graded to Canadian standards under a certificate issued by government inspector. In 1923 these regulations were extended to the whole domestic trade, with the proviso that a producer could sell direct to a customer a small proportion of ungraded eggs. In Canada it is now an offence to sell eggs otherwise than graded according to legal standards, with the small exception just mentioned. Such a law could only be made effective gradually. It was first enforced in the larger towns, and then gradually extended to the smaller towns and villages. It must be remembered that as in Great Britain, the chief producers of eggs in Canada are the general farmers, and that small dealers and collectors, though not so numerous as in Great Britain, at one time there also played a large part in the trade.

Effect on  
quality.

44. To-day the system in Canada is that the farmers bring in the eggs which are graded by the buyer and paid for according to the grade. The price spread between the grades is usually from one to six cents a dozen according to the season and market conditions. The retail grocers in Canada display eggs for sale with the class and grade marked on the container. We have been informed that as a result of this system a great improvement has been brought about in the quality of eggs coming to the country points. The figures for production which we give in paragraph 46 certainly point to remarkable and steady growth.

Effect on  
consumption  
and pro-  
duction.

45. The consumption of eggs in Canada was always high as compared with European standards, thus in 1901 the consumption per head was 181 eggs as compared with 122 in Great Britain in 1924. But this figure of 181 at the beginning of the century gave no indication that a remarkable increase in consumption was imminent. Consumption expanded slowly, but for 20 years remained fairly steady. From 1921, when the results on the domestic trade of the export regulations were becoming apparent, it began to rise rapidly and continued to do so, as the regulations became more generally applicable throughout the whole country, with the result that the great increase in local production has so far been unable to keep pace with the local demand. A home market has been created of such magnitude that although production in 1926 was more than three times as great as it was in 1901, exports are less than one-third what they were and imports have increased more than fourfold. This is the explanation of the recent decrease in exports of eggs from Canada to Great Britain. The observance throughout the country of the laws of grading



ensures to the producer a return according to the quality of the article he produces, and at the same time gives such confidence to the consumer that he is buying the article he desires, that a home demand has arisen more valuable to the producer than any distant export market. Thus increased confidence in the quality of the article has led to increased consumption which in turn has stimulated production.

46. The figures are as follows :—

*Canada.*

Year.	Popula- tion in thou- sands.	Eggs in millions.			Con- sumption of eggs per caput.	Remarks.
		Pro- duced.	Ex- ported.	Im- ported.		
1901	5,371	1,010	136	11	181	—
1911	7,207	1,476	1	35	210	Export Regulations in- troduced in 1918.
1920	8,631	1,733	76	74	202	—
1921	8,788	2,316	65	79	264	—
1922	8,967	2,628	43	98	299	Inter-provincial grading compulsory.
1923	9,146	2,736	35	79	304	Grading universally com- pulsory.
1924	9,227	2,868	21	60	313	—
1925	9,364	2,997	30	44	322	—
1926	9,390	3,144	21	50	337	—

**XV.—Commercial Advantages of Grading.**

47. It seems clear that the full commercial benefit of grading can only be secured by the adoption of standards widely applicable, strictly observed throughout a large area and easily understood by the public. The object of grading is

Commercial  
object of  
grading.

(a) to secure to the producer an adequate return for the quality as distinguished from the quantity of his produce and thus to provide him with an incentive for improvement;

(b) to facilitate the processes of trade;

(c) to engender among dealers and consumers confidence in the article offered and by their experience of and familiarity with the grade-names to lead them to ask for a particular article.

A multiplicity of standards and of grading systems differing in small details hampers trade, confuses the public and decreases the commercial advantages which should flow from the adoption of grading. It is certainly better than having no grades at all, but is definitely inferior to the local acceptance by all of a general scheme of grading. At any rate, in those areas where there is surplus of production over local requirements, the introduction of standard grading should present no great difficulty.

Disadvan-  
tages of  
multiplicity  
of grades.

Orkney  
Egg Trade  
Association.

It is not without significance that the Orkney Islands, which are most remote from the main centres of demand, have very completely adopted common standards for the whole of their egg trade. The first co-operative society in those islands for the collection of eggs and sale to the mainland was founded in 1905. Since then 13 other societies have been formed, and in 1924 eggs to the value of £175,000 were exported from the islands. In 1927 all the dealers and producers throughout the islands joined the "Orkney Egg Trade Association," and have adopted regulations imposing inspection and uniform grades for all eggs exported from the islands.

Recom-  
mendations  
by the  
English  
Ministry of  
Agriculture  
and  
Fisheries.

48. The English Ministry of Agriculture and Fisheries definitely recommends that home produced eggs, especially those intended for the wholesale market, should be classified and graded to recognised standards and packed in standard packages. They have suggested grades which might be adopted.

The representatives of the National Farmers' Union and of the National Poultry Council have assured us that they accept the general correctness of the Ministry's conclusions as stated in the Report on Egg Marketing, and it may be taken as fairly widely recognised that standardisation of poultry products is an inevitable reform to which the poultry industry in Great Britain must resort sooner or later.

The English Ministry of Agriculture and Fisheries also suggest that eggs produced in the United Kingdom should be marketed under a national brand or trade mark and that, in the absence of legislation, there should be an organisation to safeguard the reputation of the mark and to ensure continuous supply.

These proposals are a logical consequence of the adoption of standardisation and, if adopted, cannot fail to be of substantial value.

In Scotland, the Empire Marketing Board has made a grant of funds to assist the Board of Agriculture in a scheme for improving the marketing of eggs.

We do not make any definite recommendation as to compulsion by law or voluntary organisation in Great Britain; the one thing necessary is that, whichever be adopted, the support of the majority of producers and of the most important dealers and retailers shall be assured.

## XVI.—Marking of Eggs.

Report of  
Standing  
Committee  
under the  
Merchandise  
Marks Act,  
1926.

49. Closely allied to the question of grading is that of marking. Early in 1927, the National Farmers' Union and the National Poultry Council applied for an Order in Council under the Merchandise Marks Act of 1926, for the compulsory marking of all imported eggs. The finding of the Standing Committee appointed under the Act to investigate this application was published while our report was in draft. It endorses in a remark-

able manner the emphasis we have laid on the importance of grading and packing of eggs for market. The Standing Committee divide the trade into two categories—the “best” trade and the “cheap” trade, the principal competition which home producers have to meet being that from the “best” imported eggs. They find that a substantial amount of misrepresentation exists as to the origin of imported eggs which are at times mixed with British eggs or are so displayed as to suggest that they are of British origin. At the same time these imported eggs are also used to grade up inferior British eggs. The Committee, however, as a result of their investigation, came to the conclusion that “whilst there were several notable exceptions, inadequate attention had, unfortunately, been paid in the United Kingdom to marketing requirements” in regard to eggs, and that “the ‘best’ imported eggs would derive more advantage than home produced eggs from a marking Order under the Act, unless a substantial improvement were first effected with home methods of grading and marketing.”

Their principal recommendation is as follows:—

“The conclusion we have reached is that, while the marking of individual imported eggs would be an effective means of preventing misrepresentation, an Order in Council in respect of eggs in shell should only be made when:—

(a) sufficient improvement has been made in the collecting, grading, packing and marketing of British eggs to remove or, at least, mitigate the danger of the “best” imported egg obtaining a better market in the United Kingdom than the average home-produced egg; and

(b) either the “cheap” imported egg becomes of substantially less importance to the British consumer, or international arrangements are made which will prevent a marking requirement from restricting supplies of this class of egg.

The evidence which we received when preparing our first report led us to record the opinion that “as between goods of the same quality and price the consumer in Great Britain would undoubtedly select Empire produce if he could recognise it.” In the case of eggs the consumer would, we think, give a preference to British and Irish eggs, and might easily be induced to give a voluntary preference also to eggs from Canada, South Africa, Australia and New Zealand as against those imported from many parts of the Continent or elsewhere.

The existence of this preference is dependent, however, on an indication of the country of origin, and we regret that the Standing Committee, for the reason stated, have not seen their way to recommend the issue of an Order requiring the marking of eggs on importation.

We observe, however, that the Recommendation of the Standing Committee merely proposes the postponement of the issue

of such an Order until certain conditions are fulfilled, and we hope that it may be possible within a relatively short period to ask the Standing Committee again to review the position in the light of any fresh evidence that may be produced and to take into account the effect of a Marking Order on supplies from the Empire, both home and overseas.

In the meantime, we think that efforts should be made to implement the recommendation in regard to marketing made by the English Ministry of Agriculture and Fisheries and referred to in the preceding paragraph, and that the question of action under the Sale of Food Order, to which the Standing Committee have referred in their report, might be further investigated with a view to checking the misdescription of eggs.

### XVII.—Preservation.

50. We have already drawn attention to the effect on wholesale prices of the seasonal fluctuations in the production of eggs. It will be seen from the diagrams of prices (Appendix IV) that the wholesale price of English eggs in November, 1926, was 30s. per 120 as against 12s. 6d. in April, 1927. A more extensive withdrawal of some proportion of eggs from the market in spring and their storage, with their release in winter, if it were practicable, should lead towards an equalisation of prices and demand.

Methods of  
preserving  
eggs.

51. The methods adopted for preserving eggs are—

- (i) pickling in lime water;
- (ii) preserving in water glass;
- (iii) cold storage;
- (iv) "processing" with various patented processes, such as (a) immersing eggs for a few seconds in a refined oil at a high temperature to close the air pores in the shell, and (b) keeping eggs in a cold store in the presence of an inert anti-septic gas.

Cold storage. The processing and also, though not to the same extent, the "pickling" of eggs require special, though not always very elaborate, plant, but simple cold storage is always available in many parts of the country. Eggs are a very delicate food-stuff which quickly absorb odours and flavours, but with proper precautions there is no doubt that eggs can be kept in cold storage so as to be generally acceptable. The subject has been investigated at the Low Temperature Research Institute at Cambridge, under the auspices of the Food Investigation Council and the results have been published.\* The eggs are not frozen, but chilled and kept under very constant conditions of temperature and humidity. But the stores must be thoroughly clean and absolutely fresh, and the eggs must not have been subjected to a temperature higher than 60° F. before being placed in store.

\* "The Storage of Eggs." Food Investigation Special Report No. 26, published by the Department of Scientific and Industrial Research, 1926.

The packing material also must be scrupulously clean and must allow free circulation of air.

Though no statistics are available, imported eggs on arrival in England are placed in cold storage to a very considerable extent. The practice is only followed to a comparatively small extent with English eggs. Thus in 1925 it was estimated that only three million English eggs were put in cold store for preservation from spring to autumn. There would appear to be scope for greater use of the facilities which exist. Eggs from South Africa, Australia, and New Zealand arrive in cold store in the winter months, but rapidly pass into consumption after import. Cold storage is freely used in Canada and in the United States.

52. As many householders preserve their own eggs, and many traders retail preserved and cold-stored eggs as such, consumers are familiar with the practice of preserving eggs. In these circumstances, it is a matter for some surprise that, in view of the large quantities of stored and preserved eggs which are annually consumed in Great Britain, so little indication of the fact is apparent in the shops. Eggs properly stored are a commodity good enough to sell under their own name and description, and, as such, would make a market for themselves. It is worth noting that all countries which have introduced grading systems for fresh eggs by law, whether for internal trade or only for export purposes, have also prescribed by law separate descriptions and grades for cold stored, and pickled or preserved eggs.

53. It should be mentioned in this connection that supplies from such countries as Australia, New Zealand, South Africa and the Argentine are chilled for immediate shipment and usually enter into consumption on arrival in Great Britain. They are not regarded as "cold stores" by the trade, but any misunderstanding would be obviated when and if a marking order indicating the origin were brought into force. The eggs to which we are referring in these paragraphs are those which are definitely preserved or stored for sale some months later, and not eggs in regard to which merely temporary precautions have been taken during the time of transit. It is not likely to be profitable to export eggs from the countries of the Southern Hemisphere between March to June when production in the Northern Hemisphere is at its height. For many years to come export will most probably be confined to the period from September to January.

Imports from the Southern Hemisphere.

### XVIII.—Table Poultry.

54. The trade in table poultry is quite distinct from that in eggs. Whereas eggs enter largely into the regular daily diet of a large proportion of the people, table poultry is still regarded in Great Britain as bordering on luxury. As a natural result the two trades do not balance one another. The demand for eggs is on a greater scale than that for table poultry with the results that whereas less than half the eggs consumed in the United Kingdom

Distinction between trades in eggs and table poultry.

are supplied by local production, over three quarters of the poultry consumed is home-produced. Another 8 per cent. is supplied by the Irish Free State. After allowing for the small quantities received from other parts of the Empire, not more than 16 per cent. of the poultry consumed in Great Britain in 1926 came from foreign sources.

Seasons for the trade.

55. The principal seasons for trade in table poultry differ very considerably from those in eggs. Eggs are most plentiful in spring and early summer, fowls and ducks most abundant in summer and early autumn, geese at Michaelmas and Christmas, and turkeys at Christmas. The following table compiled by the English Ministry of Agriculture and Fisheries,\* from returns supplied in 1925 by auctioneers and country wholesalers in various parts of the country, shows the percentage of fowls, ducks, geese and turkeys passing through the market in each month of the year :

Month.	Fowls.	Ducks.	Geese.	Turkeys.
	Per cent.	Per cent.	Per cent.	Per cent.
January ... ..	6·53	3·80	1·64	2·52
February ... ..	4·84	3·06	1·10	1·28
March ... ..	5·87	3·91	0·77	0·94
April ... ..	6·50	8·76	5·11	0·58
May ... ..	8·47	13·85	7·00	2·16
June ... ..	10·12	16·08	9·23	4·93
July ... ..	10·40	14·75	4·04	4·09
August ... ..	10·28	11·86	4·43	2·04
September ... ..	12·46	8·72	13·59	2·69
October ... ..	9·41	5·91	7·58	2·21
November ... ..	7·87	4·11	5·74	2·15
December... ..	7·70	5·68	39·78	74·49

Over 43 per cent. of the home-bred fowls find their way to market between June and September; 57 per cent. of the ducks are consumed during the green pea season, May to August. The tradition of a goose at Michaelmas is still sufficiently strong to affect the trade returns, whilst geese and turkeys rule the market at Christmas time.

Seasons for imports of table poultry.

56. As contrasted with eggs, which are imported more or less evenly throughout the year, imports of poultry into the United Kingdom—except for the Christmas demand for geese and turkey—are highest when the sales of home produced birds are at their lowest. Nearly one half of the annual imports of dead poultry arrive in the first four months of the year, January to April, when local production is at its lowest, only one quarter arrive in the next seven months May to November, and December brings a burst of activity both in the home and import trades. In the years 1925 and 1926 one-third and two-fifths respectively of the annual importation took place in December.

\* NOTE.—Report on the Marketing of Poultry (Economic Series No. 11).

## XIX.—Imports.

57. Poultry are imported into the United Kingdom either (a) alive, when the number is recorded in the trade statistics; or (b) dead, when the weight is recorded. Prior to 1912 only the total value of imports was recorded, no distinction being made between live and dead and no quantities being given. Comparison of pre-war and present imports.

Imports from the Irish Free State only appear in the trade returns from 1923 onwards, before which year they formed part of the internal trade of the United Kingdom. They must, therefore, be ignored in instituting comparisons between pre-war and present imports. The imports in 1926 compare with those of 1913 as follows:—

*Imports of Poultry into the United Kingdom.*

—	From foreign countries.		From the British Empire excluding the Irish Free State.	
	Figures in thousands.			
	Nos.	Value £.	Nos.	Value £.
Alive ...	1913 ...	859	38	Negligible.
	1926 ...	179	19	
Dead ...	1913 ...	278	951	0·7
	1926 ...	303	1,656	9·0
Total Value	1913 ...	—	989	3
	1926 ...	—	1,675	61

Re-exports of dead poultry were 9,900 cwts. in 1913 and 8,500 cwts. in 1926. Details are given in Appendix V.

58. Imports in 1926 from the Irish Free State were 1,126,000 live birds valued at £205,000 and 99,000 cwts. of dead poultry valued at £600,000. The total value of imports from the Irish Free State in 1926 were therefore about half that from all other sources. The tables in Appendix V show that: (i) in addition to the Irish Free State, other parts of the Empire are beginning to send poultry to the United Kingdom—at present Canada supplies half the quantity as sent, and (ii) there has been a growing change in the character of the foreign trade from live to dead birds—probably due to the increased facilities for storage and to the obvious convenience of economy of transporting dead rather than live birds. Imports from Irish Free State.  
Other parts of the Empire.  
Foreign countries.

For the purpose of converting recorded weights of imported dead poultry into numbers, it is customary to take 6 lb. as representing the average weight of a bird. On this basis the number of birds imported whether alive or dead from all sources, other than the Irish Free State, was 6,067,000 in 1913, and 6,003,000 in 1926. In other words, excluding the Irish Free

State the imports were nearly the same in the two years but the share of the British Empire Overseas although still small is evidently, as was seen in paragraph 57, growing rapidly.

59. It will be seen from Appendix V that before the War, Russia supplied half the imports of dead poultry from foreign sources, but now only one-fifth is derived from Russia and the Russian Succession States. The decrease in Russian supplies has been compensated by increased imports from the Netherlands, Belgium, France, Austria, and Hungary. France is now the chief foreign source of poultry to Great Britain.

Increasing imports of dead poultry.

60. Imports from the Irish Free State are at their heaviest from August to February and are exceptionally so in December—the turkey season. This trade, like the foreign trade, shows a tendency for imports of dead poultry to increase and the trade of live poultry to decrease. The trade in live poultry from the Irish Free State, however, is always likely to remain an important one, since many Irish birds are imported for fattening and finishing.

## XX.—Consumption.

Slow growth in consumption in United Kingdom.

61. Imports have now nearly attained to pre-war figures and in the earlier sections of this report we showed that the poultry population of the United Kingdom is increasing. It is evident however that the increase of poultry farming in the United Kingdom is chiefly for egg production since, according to the estimate of the English Ministry of Agriculture and Fisheries, it would appear that about one bird per head is eaten per year. This is small as compared with three birds per head in the United States and is well below the Canadian figure of  $7\frac{1}{2}$  lbs. per head, and both of these are growing figures. In Great Britain there has no doubt been some transfer of poultry sales from the retailer to the wholesaler because of the growing habit of taking meals at hotels and restaurants and there has been an important expansion of the wholesale trade for the supply of poultry to passenger steamships, but the general growth of consumption has been slow.

Seasonal demand for various kinds of poultry.

62. In the early spring months of March and April a good demand exists in London and the South, especially from the catering trade, for the very young and small birds—"Petit Poussins"—weighing from  $\frac{1}{2}$  lb. to 1 lb. each. Considerable supplies of these come from Holland, Belgium and Hungary. In the later spring, the demand is brisk for the early or "asparagus" chicken weighing from 1 to 2 lb., but the demand lessens as supplies of the larger "spring" chicken increase and with the advent of ducklings at the end of May. As the year advances the "spring" chicken of from 2-3 $\frac{1}{2}$  lb. weight comes on to the market, to be succeeded still later by a somewhat larger bird. To some small extent the demand is checked from the middle of August to the end of October by the appearance



of game on the market. At Michaelmas and Christmas comes the customary demand for geese and turkeys, but after the New Year the demand for the larger chicken revives and is to some extent met from poultry which have been preserved in cold storage. Even during the "Petit Poussin" season, which follows, there remains a certain constant demand for chickens of about 3 lbs. weight suitable for the catering trades or for family use. The competition from game in the late summer and autumn is less than it was before the War, owing partly to the increased cost of game and partly to decrease in supplies available due to decreased preserving by many landholders. An interesting feature is the beginning of a small export trade in game from the United Kingdom to the United States and Canada.

63. The requirements of the different classes of consumers are affected to some extent by the supplies of particular kinds of poultry available at different seasons of the year, but certain of their requirements are constant throughout the year. The chief demand for chickens comes from the hotels and restaurants which require birds of from 2 to 4 lbs. weight—preferably 3½ lb.—suitable for division into two or four portions. The shipping companies, to whose expanding demand we have already referred, need a similar bird, but also take larger ones up to 5 lb. In these catering trades the weights preferred for ducklings, goslings and turkeys are about 4 lb., 8 lb. and from 12 to 14 lb. respectively. There is a demand in the domestic trade for a chicken suitable for carving up among a family and therefore somewhat larger than that desired by hotels and restaurants.

Require-  
ments of  
different  
classes of  
consumers.

64. Poultry is regarded as approaching a delicacy and consequently appearance and quality have a marked effect on its saleability and price. It requires more careful handling than meat, both during transport and marketing, and a more attractive display at time of sale. The chief demand, especially in the South of England, is for white-fleshed and white-legged birds, and locally-produced chickens well fattened and finished, white in flesh and leg, carefully packed—as for instance the "Surrey" class of bird—command the highest prices in the market. Yellow-legged birds are not at such a disadvantage in other parts of the country or when required for roasting, but even so the larger demand in England is for a white-fleshed, white-legged bird.

Importance  
of appear-  
ance and  
quality.

65. We have had evidence that not a few retail dealers have abandoned the poultry trade, partly no doubt as a consequence of the growth of the restaurant habit which is transferring the business to the wholesaler. This is a change of which the producer should take notice. The evidence given to us by the buyers of the large catering firms and of those who supply poultry according to steamship companies' specifications is that

Changing  
demand.

they give preference to the bird produced in the United Kingdom and that, other things being equal, buyers will give an advantage in the price to secure home-grown supplies, but they all alike testify to the greater labour and time involved in doing the actual buying of such home-produced birds. Whilst a package of carefully graded imported chickens can be rapidly inspected, purchases of locally-produced birds marked in the ordinary way can often be effected only after handling and examining each bird separately.

### XXI.—Wholesale Prices.

Seasonal  
fluctuations.

66. Wholesale prices of poultry exhibit well-defined seasonal fluctuations. With fowls, from the beginning of the year until May there is a general rise of prices, which is usually well maintained until the second week in June, when supplies become ample. Thereafter there is a steady fall till the end of October. A rise invariably occurs in December. Duck prices rise rapidly till May and thereafter fall steadily away until November, before another temporary but smaller rise in December. Geese prices remain very steady throughout the year except for the December rise.

Prices  
affected by  
appearance  
and quality.

67. In each class of poultry the well-prepared local bird fetches the highest price, though among chickens the "Surrey" fowl is very closely pressed by imports from France and Belgium. In fact the average of the highest and lowest weekly wholesale prices per lb. in Smithfield market in 1925 was one penny higher for French birds than for "Surrey" chickens. In this connection it must be remembered that imports arrive chiefly during the months when the general run of prices is highest, whereas the "Surrey" chicken is on sale throughout the year. It is sufficient, however, to shew that in an article in which—where quality and appearance are satisfactory—there is a decided preference for the English-grown bird, imports from France and Belgium are able to compete with the best grades that England produces. Among supplies from greater distances, the chickens from Canada and the United States are pre-eminent and command good prices.

### XXII.—Progress towards specialisation and standardisation.

Canadian  
practice.

68. Several countries have established a good reputation for the quality and reliability of the poultry they send to the British market. The birds are well finished, uniformly sorted, carefully packed, and consequently easily inspected for trade purposes. This is the result of production throughout considerable areas of fowls of one general type, "finished" to similar standards and then sorted and packed on a uniform plan. Although specialist commercial "finishers" have commenced business in several of these countries, the general farmer is still the chief producer. We will describe briefly the Canadian practices.

69. The main demand in Canada is for a chicken—from 5 to 6 lbs.—somewhat larger than that which finds most favour on the British market. The characteristics of production and trade in Canada are :

- (i) uniformity throughout considerable areas in the breed of poultry kept by the general farmer;
- (ii) increasing attention paid to early maturity;
- (iii) use made of the cold store;
- (iv) general uniformity in grading and packing.

By adopting suitable scales of feeding it is now possible to produce a 6 lb. bird in six months, and research is in progress on methods to attain still earlier maturity. When the bird is ready for killing, in order to reduce the risk of loss of condition before storage, it is a common practice to send it to a central killing station whence if necessary it is promptly passed into a cold store. No compulsory standards for grading are, as yet, in force as in the case of eggs, though standards have been agreed upon by the producers' organisations, the trade and the departmental officers; these are now being worked and it is proposed to make them legally compulsory in 1928 both for internal and export trade. Under the proposed scheme there will be three weight grades for chickens, three for fowls, two for cocks, three for ducks, two for geese and five for turkeys. In addition there will be two quality grades—"milk fed" and "range fed"—with two quality sub-grades. A considerable increase in the production of high grade table poultry in Canada seems highly probable.

70. The developments in the United States are very similar to those in Canada, though the commercial "finisher" operates in the States on a much larger scale. Several of these "finishers" have stations capable of handling from 10,000 to 60,000 birds at a time. The season lasts from June till January and young stock are fed at the station from 10 to 21 days and hens for from 7 to 10 days before killing.

The United States and continental Europe.

A few large scale commercial fattening and finishing establishments are to be found in Continental Europe notably in Hungary and Holland, but the high marketable standard of French and Belgian farmers' chickens is due rather to the methods followed by the farmers. In certain large localities the poultry trade is a main source of the prosperity, and witnesses have informed us that, in several country markets in France, it is an ordinary occurrence to find 20,000 chickens finished to one standard of table requirements. The market buildings are well equipped and furnished for this trade and much of the produce passes the inspection of expert graders. The buyers are usually men of large resources and the market is not disturbed by the operation of small speculators. In other words, production and marketing practices have been standardised.

Specialisation in the United Kingdom.

71. In the United Kingdom specialisation and standardisation, though long followed in certain localities, is not so generally practised.

The specialists are chiefly to be found in two areas, namely in Sussex, Kent, and Surrey where the "Surrey" fowl is raised, and in Northern Ireland.

The "Surrey" fowl.

72. The term "Surrey" denotes a specially fed chicken which has been prepared in a recognised style and has a white flesh and a skin of fine texture, but many birds are now marketed under this category which, though specially fed and prepared in the appropriate way, have inferior qualities of flesh and skin. The "Surrey" fowl owes its name to the farmers and small fatteners in parts of Surrey, Sussex and Kent who for some generations have specialised in fattening poultry. In 1925 it was estimated that 100 farmers and small fatteners were so engaged and they sent to market about one million finished birds. As a rule they buy their young stock. The produce is mostly sold through dealers. The "Surrey" class of fowl is considered to be the best in the market and is in keenest demand from the middle of April to the middle of July.

Commercial finishing stations in Northern Ireland.

73. In the last few years very great improvements have been effected in the number and quality of table poultry sent to Great Britain from Northern Ireland, due to the efforts of one or two firms operating on a large commercial scale on the American method. A brief description of the process followed by one of these firms illustrates the scale upon which this trade is organised. The station is equipped with buildings and plant suitable for fattening, killing, plucking and packing birds on a large scale, and facilities for cold storage are at hand. The staff possess expert knowledge in the selection, feeding and fattening of poultry, also an intimate knowledge of marketing requirements and of grading. The fattening department can accommodate 15,000 birds at a time. The chickens are purchased from the farmers in Northern Ireland when from 3 to 4 months old, and on receipt are placed in steel cages or batteries mounted on wheels which are put into specially designed buildings. Each cage contains 16 compartments each holding six birds. The birds are, as a rule fattened within 10 days to a fortnight, by which time the cage has been gradually moved forward towards the killing and dressing department. When killed they are dressed, graded and packed in standard packages and either despatched in accordance with instructions from the marketing department or placed in the firm's cold storage. The daily output averages from 2,000 to 3,000 birds.

The firms have thus established their own grades and marks, and we have received very definite evidence that as a consequence of their operation there has been a great increase in the stock of poultry and an improvement in the general type and uniformity of the birds kept by the general farmers in the areas from which they draw their supply.

74. In other parts of the United Kingdom than Northern Ireland and the Surrey area, the bulk of the British poultry sent to market goes direct from the ordinary country farms. The methods of collection and distribution are very similar to those already described in regard to eggs, except that no London Poultry Exchange is available and co-operative societies do not figure largely in the trade. The English Ministry of Agriculture and Fisheries has drawn attention to the rough and unfinished condition of much of the poultry thus sent to market and after consultation with producers and traders, has drawn up definite standards for finishing, grading and packing, which have been the subject of public demonstration.

United Kingdom—  
general practice.

But it is obvious that a condition precedent to the general application of commercial finishing stations must be the establishment of greater uniformity in type of birds throughout considerable areas. One witness stated that, some years ago, he had contemplated such a venture, but not on so large a scale, and had abandoned it as he had been unable to find a district in which a sufficient supply of birds of uniform type would be available. Owing to the quick succession of poultry generations this initial difficulty should be removable by appropriate organisation in a relatively short period.

75. In the Irish Free State, South Africa, Australia, and New Zealand so much attention has not yet been given to table poultry, as has been given to egg production and marketing. Turkeys from the Irish Free State have, however, for some years been of good quality, and efforts are being made to popularise there a general utility fowl. The experience of Holland shows that a high standard of production of table poultry is not incompatible with a high standard in egg production. It is recognised in Australia, New Zealand, and South Africa that the export trades in poultry and eggs are distinct and separate. Attention has naturally been given first to the trade in eggs, but efforts are now being made to stimulate a trade in poultry. Any estimate of the possibilities of such a trade from those Dominions must wait for more experience. *Frima facie*, the Dominions in the Southern Hemisphere should be well placed for sending chickens to Great Britain between January and April, when prices are rising on the British market. South Africa already sends some poultry in those months and in Australia the Victorian Department of Agriculture, has installed a grading and packing depot at the Government Cool Stores for the supervision of poultry exports. If a successful entry is to be made into the British market it is essential that strict attention be paid to grading and packing.

The Irish Free State, South Africa, Australia and New Zealand.

76. We have drawn attention in paragraph 62 to the seasonal fluctuations in the demand for poultry. After the fall following on the peak demand at Christmas time, prices of chickens rise steadily for some months. The demand at this period of the year is mostly met from imported cold stored produce, since

Cold storage.

the British producer makes, at present, comparatively little use of cold storage. The adoption, however, of more standardised methods of preparation for market and of marketing British poultry should lead to an increased use of cold storage. It is essential that birds intended for such preservation should be despatched to the cold store immediately after killing and dressing.

Growth of  
an export  
trade in  
game.

77. We have already referred to the trade which has recently been started in the export of game from Great Britain to Canada and the United States. This trade seems to possess some promise, but we understand that there is room for great improvement in the packing of this game. We have been told that second-hand cases of different descriptions containing varying numbers of birds are frequently used and that generally the packing cannot compare with that of the poultry sent from Canada and the United States to the English market. There appears every prospect of an expanding market for English game in North America, and quite considerable assistance might thus accrue to the maintenance of the country life of Great Britain if the business were organised in an efficient manner. There are, moreover, new woods being planted under the auspices of the Forestry Commission.

### XXIII.—Research.

78. It will be evident from the whole tenour of this report that very important progress is being made in the art of poultry management and the marketing of poultry products. This progress is in the main the result of recently organised scientific and economic research, the results of which have been made available to the industry by widespread systems of technical instruction and demonstration. We have dealt incidentally with the instructional side of these efforts, and we will conclude this report with some reference to the researches which are in progress at many centres in the Empire.

In England  
and Wales.

79. In England a definite scheme, allocating different problems to different scientific stations has been adopted on the invitation of the Ministry of Agriculture and Fisheries in consultation with the representatives of the industry. The whole work is supervised and periodically reviewed by the National Poultry Institute Advisory Committee of the Ministry.

Breeding experiments are being carried out at the Cambridge Genetical Institute and have already established a definite sex linkage in certain crosses between the sex of the chicken and recognisable external characteristics. This is of practical importance to the commercial egg farmer as supplying him in the case of certain crosses, with criteria for identifying at birth the sex of chickens. Research is being pursued into the questions associated with the inheritance of high fecundity.

Fundamental investigation into problems connected with feeding is in progress at the Cambridge Nutrition Institute. These problems are concerned with the assimilation of various foods by poultry with their effect on the production of flesh or eggs and the digestibility of different poultry feeding stuffs.

The investigation of poultry diseases has been allotted to the Veterinary Laboratory of the Ministry of Agriculture and Fisheries at Weybridge.

The conduct of economic breeding experiments has been assigned to the Reaseheath School of Agriculture in Cheshire, of economic housing and rearing experiments for egg production to the National Poultry Institute at the Harper Adams Agricultural College in Shropshire, and of the production and marketing of table poultry to the Wye Agricultural College. The Reaseheath experiments are designed first of all to settle with some degree of finality the vexed question of in-breeding. The Harper Adams experiments are designed to test practically under ordinary farming conditions the results of the fundamental researches into feeding, conducted at Cambridge.

The whole scheme is thus comprehensive and considered, providing both for fundamental scientific research and its application to business practice. Much of it has only been put in hand in the last two or three years, and though some results have already been obtained, some time must elapse before conclusions on many of the points at issue can be formulated.

80. Nutritional problems associated with birds of high fecundity are also under investigation at the Stormont Station in Northern Ireland, and, under the supervision of the Poultry Research Committee for Scotland and Northern Ireland, co-ordinated research in several problems connected with the nutrition of poultry is being pursued at the Rowett Institute in Aberdeen, at Edinburgh, Kilmarnock and Belfast. These problems include such questions as the value of different poultry foods as sources of protein and minerals for egg-laying hens; the causes for a hen laying her largest number of eggs in her first or pullet year, though the eggs are smaller than those she lays in her second and third years. Most of this work has only been planned in the last two or three years.

In Scotland  
and  
Northern  
Ireland.

81. The Ontario Agricultural College at Guelph is the oldest centre for research in Canada into questions connected with poultry. The United States and Canada have perhaps concentrated on the commercial management and specialised treatment of poultry at different stages in the life of the bird, rather than on fundamental scientific problems to which reference has been made in the preceding paragraph. At Guelph chief attention is devoted to questions of housing, management and feeding on commercial lines especially to ensure early maturity and uniform condition and results have been attained,

In Canada,  
Australia,  
South  
Africa.

to which we have already referred—notably the production of a six-pound chicken in six months by methods within the scope of the general farmer.

In Australia particular attention is being paid to the problems of poultry feeding at the State Research Farm in Victoria, and to questions of breeding for egg production at the Hawkesbury Agricultural College in New South Wales. In South Africa, as we have already shown, poultry management occupies a prominent position in the work of several Agricultural Colleges, notably those at Glen and Potchefstroom.

Inter-  
Imperial  
co-operation  
in research.

82. A significant instance of Inter-Imperial co-operation in research may be found in the investigation, now in progress at Guelph, into the effects of various feeds of the hen on the hatching capacity of eggs. This investigation is being financed jointly by the Ontario Department of Agriculture and by the Empire Marketing Board on a basis of equal sharing of cost.

The Empire Marketing Board is also assisting the Department of Agriculture in Northern Ireland with a new institute at Hillsborough where research into other nutritional problems connected with poultry are to be conducted.

Survey of  
research  
work re-  
commended.

83. It appears to us that it would be useful to obtain a comprehensive and accurate survey of all this work now in progress or planned and of its economic bearings, so that it may be seen to what extent the subject has been covered, where particular problems are under investigation and what results have been established. We commend this proposal to the consideration of the Empire Marketing Board. Whether a permanent centre for the collection and diffusion of information about research and economic work connected with poultry could usefully be established should no doubt emerge from the results of this survey.

#### XXIV.—Summary of Conclusions.

84. Our main conclusions are:—

(a) The United Kingdom paid £21½ millions in 1926 for imported eggs and poultry, of which £3,680,000 was paid to the Irish Free State and about £700,000 to other portions of the Empire. Only about 53 per cent. of the eggs consumed in the United Kingdom are supplied from the Empire—Home and Overseas.

(b) It should be possible to secure a larger share of this market by increased production in the British Isles and by supplementing this local production, at least during the winter months, by Empire produce from the Dominions in the Southern Hemisphere.

(c) A definite preference exists in the United Kingdom for Home produced eggs and table poultry and although the foreign imports are still below pre-war quantities, yet the quality of the foreign produce on the British market is improving and is



beginning to compete with the better rather than with the worse produce of the United Kingdom.

(d) In all the Dominions strict control under legislation ensures a high standard of quality and of uniformity in the size and weight of eggs exported. This is also true for Northern Ireland in respect of the wholesale trade.

(e) Although there are notable exceptions, much of the eggs and poultry produced in Great Britain reaches the market ungraded and poorly packed and there is pressing need for the acceptance and observance of generally recognised standards in both these respects.

(f) In order to facilitate standardisation at an economic cost it has been found desirable in other lands to establish prevalent types of poultry throughout large areas, and we are of opinion that this should be done also in Great Britain, but without sacrificing the breeding of new and improved types for which the country has a considerable reputation.

(g) A multiplicity of grades and standards is to be avoided, and parts of the Empire, when contemplating the introduction of national grades or standards, should consider how far those already in force in other parts of the Empire satisfy their local conditions and needs, with a view to the possible ultimate adoption of uniform standards throughout the Empire.

(h) Organisation of marketing should lead to greater use of cold storage resulting in reducing the seasonal fluctuations in wholesale prices which at present check the consumption, especially of eggs, in the earlier months of the year.

(i) We suggest that the Empire Marketing Board consider the advisability of preparing a survey of the scientific work in progress at the numerous centres of investigation in the British Empire and, should such a survey show the need for a centre for the collection of information on the scientific and economic work on poultry, then we commend to the Governments of the Empire, the consideration of the selection of some such centre.

85. Finally, we have come to the definite conclusion that the poultry industries of the Empire are capable of considerable profitable development, but that such development will only be secured by the wide application of accepted grades and standards. It is for each Government to consider whether and to what extent legislation is necessary to this end and is feasible in the circumstances of each country to ensure observance of such grades. But unless marketing is organised on modern commercial lines much of the benefit, which should result from improvements in the breeding and management of poultry will be lost. We have stated that there is scope for the exercise of a voluntary preference in the United Kingdom in favour of eggs and poultry produced within the Empire, whether in the United Kingdom or overseas, and we think that the exercise of this preference would

Final  
conclusion.

enure chiefly to the advantage of the British and Irish producers. But the exercise of such preference implies the marking of produce in accordance with its origin and marking may act to the detriment as well as to the advantage of producers. The question has been discussed as to whether marking should precede improvement or should await an improvement in grading and marketing. That is a matter of opinion, but we are inclined to believe that the British farmers may be trusted to rise to the emergency, and to improve their methods, if, as a result of the legal requirement of marking, they were to find that they had been put at a disadvantage. The National Farmers' Union and the National Poultry Council have recently applied for a marking Order for eggs under the Merchandise Marks Act of 1926, which has, for the present, been refused. We trust that grounds may soon be found for re-opening the question, and that in the meantime the movement for standardised grading and for a distinct brand on a national basis, to signify the higher qualities of the United Kingdom eggs, will be unremittingly pursued.

H. J. MACKINDER (*Chairman*).

ALGERNON F. FIRTH	} United Kingdom.
THOMAS ALLEN	
J. S. WARDLAW-MILNE	
F. N. BLUNDELL	
W. A. WILSON	Canada.
F. L. McDUGALL	Commonwealth of Australia.
JAMES PARR ...	} New Zealand.
R. S. FORSYTH	
F. J. DU TOIT ...	Union of South Africa.
J. W. DULANTY	Irish Free State.
VICTOR GORDON	} Newfoundland.
WILLIAM C. JOB	
F. J. NEWTON	Southern Rhodesia.
ATUL C. CHATTERJEE	} India.
M. M. S. GUBBAY	
G. GRINDLE ...	} Colonies and Protectorates.
S. H. H. HENN	

D. T. CHADWICK (*Secretary*).

13th December, 1927.

## APPENDIX I.

*Note on State-aided efforts in some parts of the British Empire to improve poultry stocks and the methods of poultry keeping.*

In the course of our enquiry we received from several parts of the Empire considerable information on the methods adopted to extend throughout their countries better strains of birds and better methods of poultry keeping. The methods followed are necessarily adapted to local conditions, but, whilst we do not claim to give a complete account of the means followed in the Empire as a whole, or even in any one part of the Empire, we believe that the information we have received is well worth bringing together and recording, as from it, some part of the Empire may derive suggestions from the procedure followed in another part, which it may find of interest to pursue.

2. A large number—perhaps most—of the agricultural schools and colleges give instruction in poultry keeping; in many portions of the Empire, particular research institutes pay special attention to research into questions connected with it. We have mentioned the activities of some of these in the section in our main report dealing with research; and we give a list at the end of this note of the names given as those of institutes making a special feature of poultry investigation. We are more concerned here, however, with the methods adopted for spreading information among actual poultry keepers, by State or State-aided agencies. Much of this information is, of course, derived from the work at these various colleges and institutes; and much very useful work among poultry keepers is and has long been done, purely by unofficial agencies, such as local Poultry Associations. We do not deal with that.

3. In practically all parts of the Empire which take any interest in poultry products, itinerant inspectors and instructors paid for by State or local authorities are largely employed. Much of their work in all parts is similar, but in some parts it presents special features. The English Ministry of Agriculture and Fisheries assist with grants-in-aid fifty-two county educational authorities in employing itinerant poultry instructors to instruct and advise. The Ministry and local educational authorities also bear part of the cost of distributing to cottagers at reduced prices, eggs for hatching and day old chicks. In 1927 there were 203 of these distributing stations from which 6,264 dozen eggs for hatching purposes and 2,608 dozen day old chicks and ducklings were distributed. Great attention has been paid to egg production and laying contests are becoming very general. Fifteen county authorities now conduct such trials officially. Thirty years ago when these trials were first commenced in the United Kingdom 28 pullets competed, now some 15,000 are under trial each year. In Scotland, the work has followed similar lines, though in addition 100 approved breeding stations receive financial assistance from the Scottish Board of Agriculture, which also makes grants for the purchase of incubators and poultry equipment to cottagers and smallholders in the Western Islands and outlying parts of the Northern Counties. Thus, in Great Britain instruction and advice, supplemented in particular cases by grants-in-aid, are relied upon for improving the stocks of poultry kept in the country. In the recent years, chiefly in England and Wales, increased attention has also been given to table poultry.

4. In Northern Ireland and in the Irish Free State, much attention is given to "registered egg distribution and trap-nesting stations." The scheme is similar in conception in both countries, and it will suffice to describe the practice in the Irish Free State. These stations belong to and are situated on the land of any poultry keeper who has been selected and "recognised" by the Department of Agriculture. In return for such "recognition" and for annual premia (or bonuses), which vary from £2 10s. in the case of turkey and geese stations to £8 in the case of hen and duck stations, the "holder of a registered egg distribution station" undertakes to maintain a flock or flocks of

particular pure breeds, and to comply with regulations laid down by the Department, which include, among others, the number of sittings of eggs to be distributed and the price which can be charged for them. Further, in order to induce station holders to use male birds from pedigree laying stock, County Committees are empowered to make grants not exceeding 50 per cent. of the cost of such birds. These measures are designed to raise and maintain at a high level the general standard of the poultry in the neighbourhood of the stations which numbered in 1926-27 in the Irish Free State 1,179 for hens and ducks and 889 for turkeys. In the last few years this system has been further developed by selecting certain of these registered distribution stations to be registered trap-nesting stations. Twenty-five such stations had been registered in the Irish Free State in 1926-27. In return for this registration and an additional premium of £10 a year the holder of a trap-nesting station undertakes to maintain a flock of 30 to 60 pullets of one pure breed over a period of 48 weeks from 16th October to 15th September to record the daily performance of each bird and the weight of each egg produced, to submit the flock and records to inspection by the officers of the County Committee and of the Department of Agriculture. On termination of the recording period a selection is made from the trap-nested pullets to provide stock in the following for the egg distribution stations. Thus it is hoped that in time the stock at all egg distribution stations will either be birds which have themselves been trap-nested or will be the progeny of trap-nested stock. The points to which attention is specially directed when selecting pullets are:—

(i) The number of eggs laid during the period subject to a minimum of 180 eggs a bird, with preference for those which have laid at least 30 eggs between 16th October and 15th January;

(ii) Size of eggs, subject to a minimum of 2 oz.;

(iii) Stamina, type and body weight of the bird at the end of the period.\*

5. In Northern Ireland the premium system has been carried a step further. The owners of three specially selected poultry farms managed on the most up-to-date lines have undertaken, in return for an annual subsidy, to submit to the Ministry of Agriculture full accounts showing capital outlay, annual expenditure and receipts, so that the commercial possibilities of poultry keeping on modern methods may be demonstrated. Ireland was always famous for its stock of turkeys and in Northern Ireland the premium system is being used to establish general uniformity of characteristics in the turkeys reared throughout the country. Premia are also awarded to persons approved by the County Committees who undertake to comply with conditions for keeping pure bred American Bronze stock turkey cocks for the service of turkey hens, the property of residents in the surrounding district. The intensity of the effort which is being made in Ireland to improve the quality of the poultry population has already been mentioned in the Report.

6. In Canada also, district work has been very completely organised by the joint efforts of the Federal and Provincial Authorities. The Central station under the control of the Dominion Department is situated at Ottawa. In addition to this the Dominion Department maintain 25 Experimental Farms and supervise 142 "Illustration" stations. Trap-nesting is carried out under the supervision of inspectors working with the authorities of each province, and the cockerels from tested flocks are being extensively used to increase the vigour, production and standard of the general flocks of the country. Specialisation in poultry production, which has been developed chiefly in Ontario and British Columbia appears to have been carried further in Canada than in several other countries. In addition to supplying day old chicks and to finishing poultry for the market, the rearing of the small chickens has been specialised. Those who have concentrated on this branch of poultry

NOTE.—For further details see pamphlet issued by the Department of Agriculture, Irish Free State, entitled Scheme No. 11—Poultry Stations, 1927, and also that entitled "Special Trap-Nesting Scheme."

keeping, undertake in return for a small weekly charge for each chick, to rear the chickens until they are four, five or six weeks old. Where this practice has been established a marked reduction has occurred in the mortality among young stock.

7. In South Africa, Australia and New Zealand poultry keeping, especially for egg production, is regarded as a small but essential factor in the organisation of a mixed farm, though total output has not yet reached the figures attained in the British Isles and Canada. In all these Dominions, State inspectors advise and assist poultry keepers. In South Africa demonstration trains are largely used and prominence has been given to egg laying contests, especially to those conducted annually under State auspices at the Glen Agricultural School, at which 950 hens competed in 1926. The Government are taking special measures to attract oversea breeders entering for this annual competition. We have mentioned in para. 11 of the Report the establishment in South Africa of a special fund for the furtherance of poultry work, and there is no doubt that the Agricultural Departments in South Africa are making poultry keeping a feature in their efforts for the advancement of local agriculture. That this is already having results is shown by the increasing exports of eggs from South Africa.

8. In Australia courses in instruction in poultry keeping and management form part of the courses at many of the State-aided Agricultural Colleges and Demonstrational Farms, and several of these conduct breeding experiments and investigations into modern methods of poultry management. Thus at the State Research Farm in Victoria, at Werribee, special attention is devoted to questions of nutrition and breeding, and at the Hawkesbury Agricultural College in New South Wales to questions of breeding for egg production. The researches conducted at Hawkesbury have exercised, we are told, a very definite influence on the Australian poultry industry.

9. As a matter of convenience we append the names of some of the more important institutes and colleges at which extended work into questions connected with poultry research and management are being conducted:—

*England and Wales.*—Under the auspices of the Ministry of Agriculture and Fisheries and the National Poultry Institute:—

Cambridge University—Research work into poultry nutrition and genetics.

Veterinary Laboratory of the Ministry of Agriculture and Fisheries.—Research work into poultry diseases.

The National Institute of Poultry Husbandry at Harper Adams Agricultural College, Newport, Shropshire.—Housing, rearing, feeding, &c., in regard to egg production.

The National Institute at Wye Agricultural College, Kent.—The production and marketing of table poultry.

The National Institute at Reaseheath School of Agriculture, Cheshire.—Economic breeding investigations connected especially with "in-breeding."

*Scotland and Northern Ireland.*—A wide joint scheme on the nutrition of poultry distributed between the Rowett Institute at Aberdeen and at Edinburgh, Kilmarnock, in Scotland, and at Stormont, in Northern Ireland.

*Canada.*—The Ontario Agricultural College, Guelph, Ontario.—Breeding, poultry management, nutrition, storage of poultry products.

*South Africa.*—Glen Agricultural College, Glen.—Egg production.

*Australia.*—Hawkesbury Agricultural College, New South Wales.—Breeding for egg production.

State Research Farm, Werribee, Victoria.—Special emphasis on nutrition and breeding.

*Irish Free State.*—Munster Institute, Cork.—Largely instructional and training, but also general questions of poultry management.

In all these countries, and also in New Zealand, there are also a large number of colleges, schools and centres, at which by means of State-aid, instructional courses are given in poultry keeping.

APPENDIX II.

IMPORTS OF EGGS IN SHELL INTO THE UNITED KINGDOM.

Countries whence Consigned.	Average for Quinquennium period ended 1904.		Average for Quinquennium period ended 1913.		1923.		1924.		1925.		1926.	
	Great Hundreds.	Per Cent.	Great Hundreds.	Per Cent.	Great Hundreds.	Per Cent.	Great Hundreds.	Per Cent.	Great Hundreds.	Per Cent.	Great Hundreds.	Per Cent.
Irish Free State ...	—	—	—	—	3,345,417*	16·7	4,686,834	23·1	4,566,578	20·9	4,427,769	20·0
Union of South Africa ...	A	—	A	—	126,866	0·6	213,061	1·0	221,769	1·0	259,545	1·2
Australia ...	A	—	A	—	112,818	0·6	73,685	0·4	142,230	0·7	335,470	1·5
Canada ...	580,872	3·2	4,500	—	377,759	1·9	270,831	1·3	244,537	1·1	156,350	0·7
Other British Possessions ...	6,115	—	3,679	—	17,881	0·1	34,650	0·2	26,199	0·1	7,219	—
<b>Total Overseas Empire</b>	<b>586,987</b>	<b>3·2</b>	<b>8,179</b>	<b>—</b>	<b>3,980,741</b>	<b>19·9</b>	<b>5,279,061</b>	<b>26·0</b>	<b>5,201,313</b>	<b>23·8</b>	<b>5,186,353</b>	<b>23·4</b>
Russia ...	5,538,309	29·9	9,708,897	50·7	304,252	1·5	824,264	4·1	2,290,633	10·5	774,365	3·5
Latvia ...	B	—	B	—	279,692	1·4	718,362	3·5	314,695	1·4	283,890	1·3
Lithuania ...	B	—	B	—	477,770	2·4	300,552	1·5	211,721	1·0	79,638	0·4
Sweden ...	33,716	0·2	320,893	1·7	67,360	0·3	78,026	0·4	126,850	0·6	221,952	1·0
Norway ...	D	—	D	—	224	—	102,698	0·5	109,678	0·5	35,216	0·2
Denmark ...	3,286,073	17·7	3,791,416	19·8	6,757,300	33·7	6,044,743	29·8	5,836,491	26·7	5,625,380	25·4
Poland ...	C	—	C	—	1,284,922	6·4	730,571	3·6	1,067,720	4·9	2,721,512	12·3
Germany ...	3,411,805	18·4	5,47,217	2·8	29,217	0·1	16,012	0·1	110,370	0·5	243,587	1·1
Netherlands ...	115,547	0·6	718,886	3·8	1,435,392	7·2	1,234,682	6·1	1,691,631	7·7	1,985,416	9·0
Belgium ...	2,477,483	13·4	62,541	0·3	54,788	0·3	698,309	3·4	1,005,484	4·6	1,940,915	8·8
France ...	1,812,605	9·8	795,891	4·2	1,337,724	6·7	60,301	0·3	231,039	1·1	588,711	2·7

Switzerland... ..	D	—	D	—	13,164	0·1	3,123	—	13,606	0·1	11,789	—
Italy... ..	D	—	839,568	4·4	415,350	2·1	422,039	2·1	525,354	2·4	203,221	0·9
Austria ... ..	}	—	1,114,912	5·8 {	6,170	—	3,591	—	111,325	0·5	35,575	0·2
Hungary ... ..					58,220	0·3	3,100	—	40,472	0·2	18,444	0·1
Serb-Croat-Slovene State...	D	—	D	—	419,844	2·1	53,819	0·3	75,097	0·3	3,516	—
Roumania ... ..	D	—	63,665	0·3	25,404	0·1	44,319	0·2	10,662	—	6,224	—
Egypt ... ..	540,246	2·9	829,234	4·3	1,209,332	6·0	1,624,460	8·0	1,162,006	5·3	672,167	3·0
Morocco ... ..	373,944	2·0	300,417	1·6	208,917	1·0	323,142	1·6	87,626	0·4	2,802	—
China ... ..	D	—	D	—	1,113,024	5·6	1,033,318	5·1	1,000,337	4·6	1,232,305	5·6
United States of America	224,914	1·2	3,403	—	240,041	1·2	135,494	0·7	83,084	0·4	60,879	0·3
Argentine Republic ...	D	—	D	—	263,524	1·3	464,373	2·3	462,840	2·1	145,647	0·6
Other Foreign Countries ...	140,798	0·7	50,374	0·3	63,571	0·3	81,245	0·4	89,522	0·4	45,891	0·2
<b>Total foreign ... ..</b>	<b>17,955,439</b>	<b>96·8</b>	<b>19,147,314</b>	<b>100·0</b>	<b>16,055,202</b>	<b>80·1</b>	<b>15,000,438</b>	<b>74·0</b>	<b>16,663,803</b>	<b>76·2</b>	<b>16,939,042</b>	<b>76·6</b>
<b>Total Imports ... ..</b>	<b>18,542,426</b>	<b>100·0</b>	<b>19,155,493</b>	<b>100·0</b>	<b>20,045,943</b>	<b>100·0</b>	<b>20,279,499</b>	<b>100·0</b>	<b>21,865,116</b>	<b>100·0</b>	<b>22,125,395</b>	<b>100·0</b>
<b>Re-Exports ... ..</b>	<b>95,307</b>	<b>—</b>	<b>153,971</b>	<b>—</b>	<b>45,596</b>	<b>—</b>	<b>271,599</b>	<b>—</b>	<b>182,351</b>	<b>—</b>	<b>51,322</b>	<b>—</b>
<b>Net Imports ... ..</b>	<b>18,447,119</b>	<b>—</b>	<b>19,001,522</b>	<b>—</b>	<b>20,000,347</b>	<b>—</b>	<b>20,007,900</b>	<b>—</b>	<b>21,682,765</b>	<b>—</b>	<b>22,074,073</b>	<b>—</b>

A. Included in "Other British Possessions."

B. Included with "Russia."

C. Included with "Germany," "Russia" and "Austria-Hungary."

D. Not separately recorded. Included with "Other Foreign Countries."

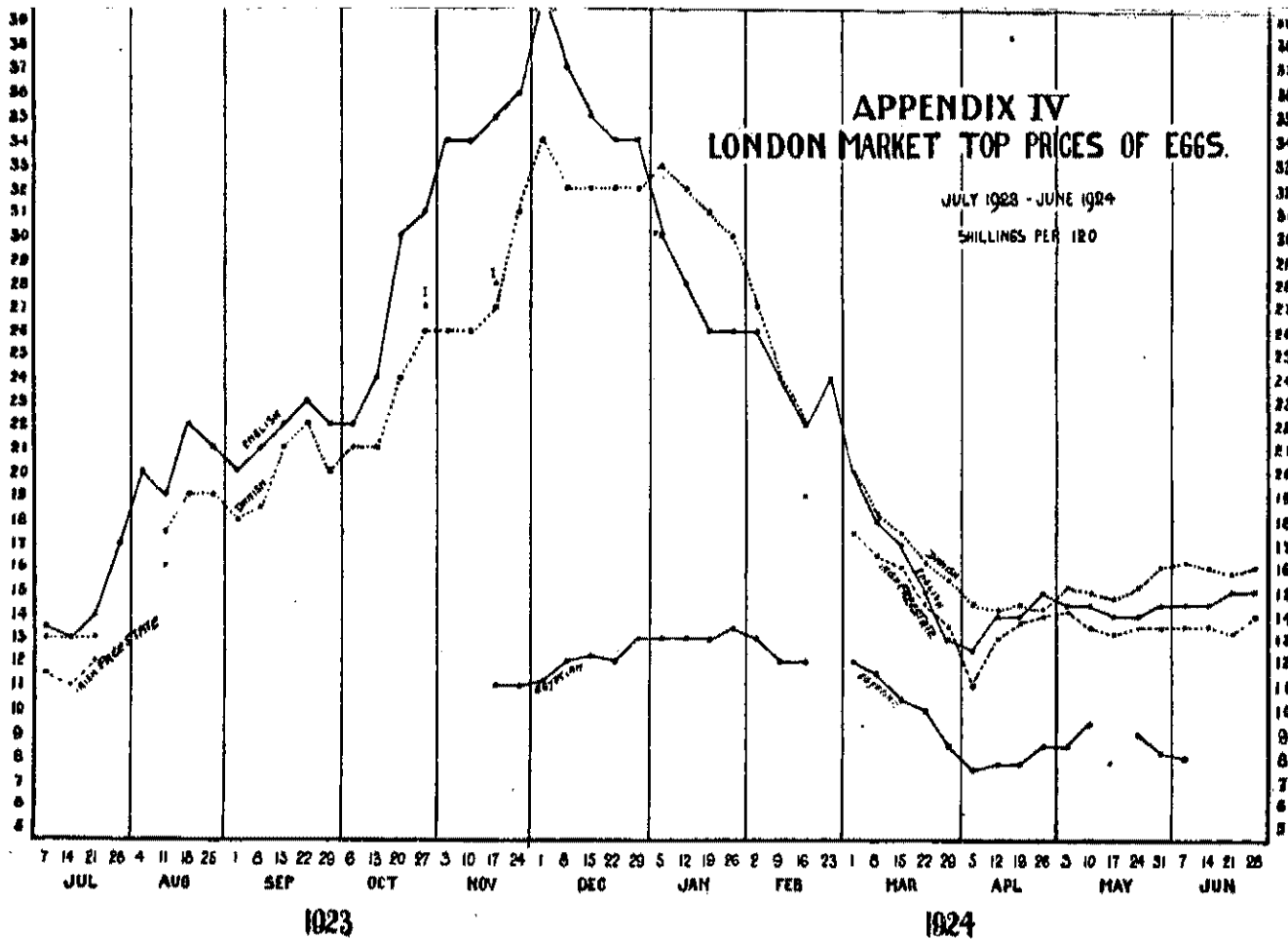
\* Nine months only from 1st April.

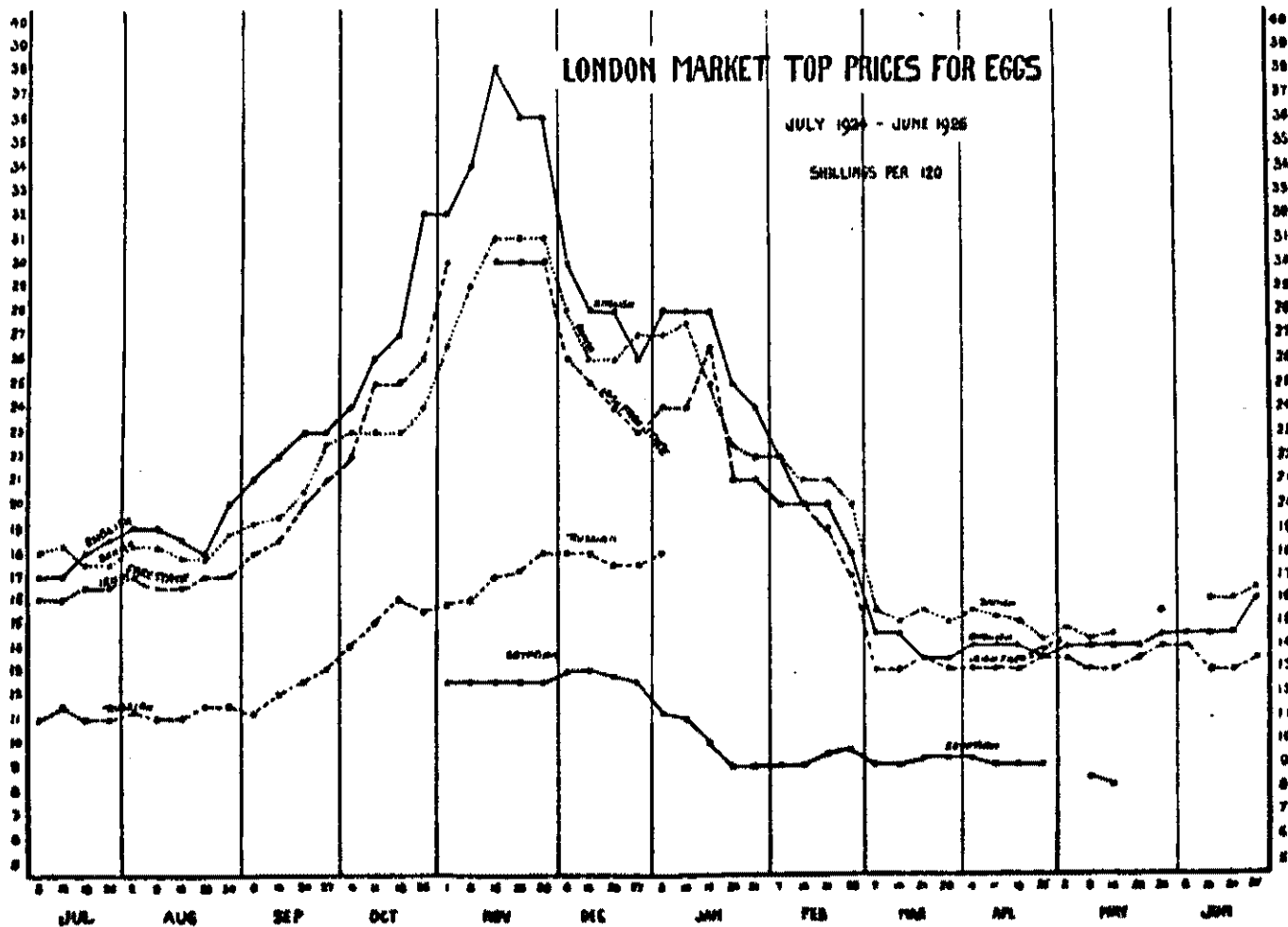
## APPENDIX III.

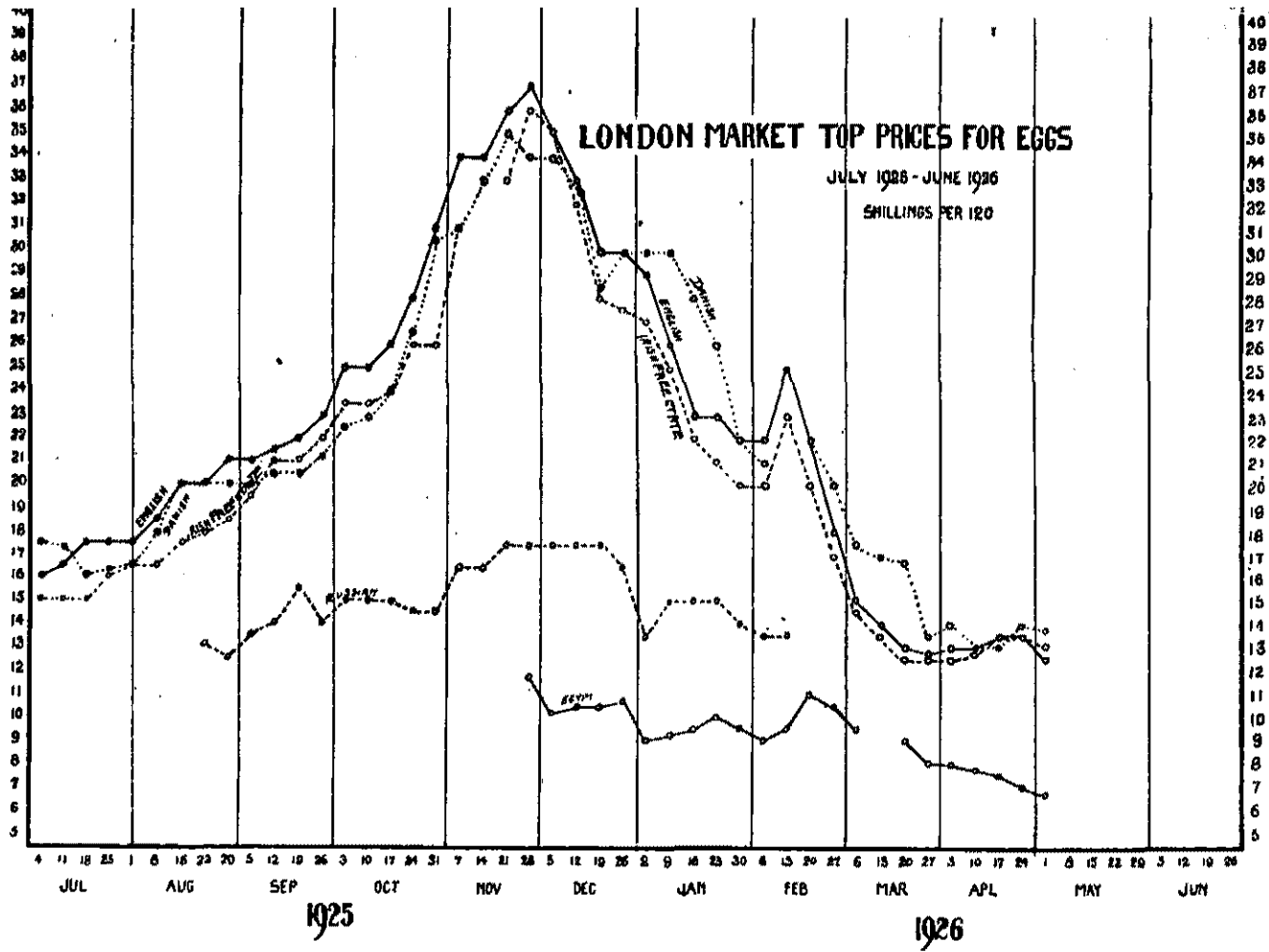
## MONTHLY IMPORTS OF EGGS IN SHELL INTO THE UNITED KINGDOM.

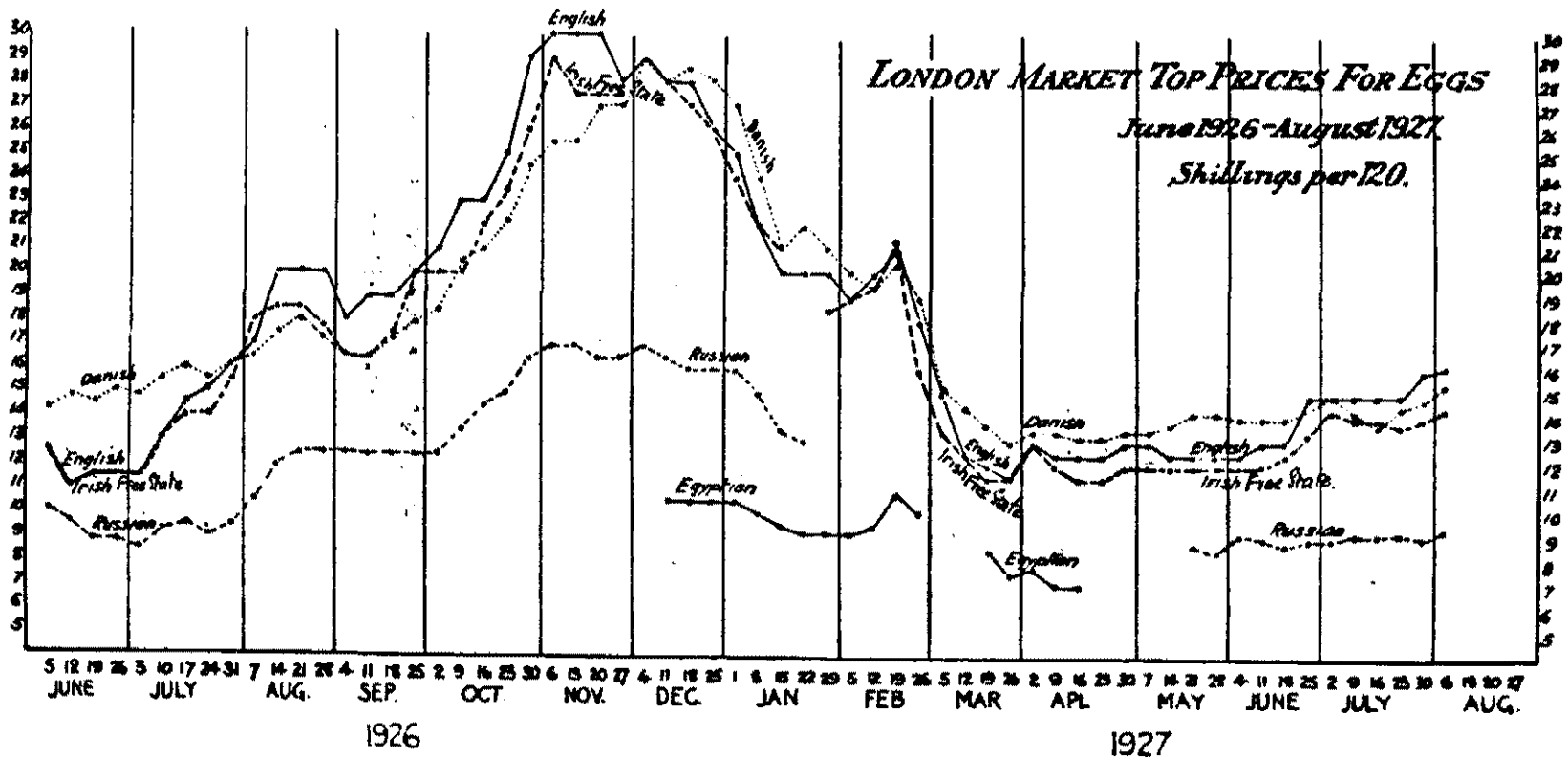
Month.	1924.		1925.		1926.	
	Quantity. 1,000 great hundreds.	Per cent. of total.	Quantity. 1,000 great hundreds.	Per cent. of total.	Quantity. 1,000 great hundreds.	Per cent. of total.
January ...	1,294	6·37	1,549	7·05	1,494	6·75
February ...	1,493	7·35	1,644	7·48	1,312	5·99
March ...	1,688	8·31	1,812	8·25	2,141	9·68
April ...	1,618	7·96	1,909	8·69	2,360	10·66
May ...	2,250	11·07	2,297	10·45	1,911	8·64
June ...	1,806	8·89	1,941	8·88	2,033	9·19
July ...	1,849	9·11	1,595	7·26	1,953	8·89
August...	1,713	8·42	1,489	6·77	1,732	7·83
September	1,528	7·53	1,875	8·53	1,806	8·16
October ...	1,719	8·46	2,019	9·14	1,936	8·75
November ...	1,719	8·46	1,907	8·68	1,671	7·55
December ...	1,602	8·07	1,937	8·82	1,776	8·03
Total ...	20,279	100·00	21,974	100·00	22,125	100·00











## APPENDIX V.

TABLE (1).—*Annual Average Value of Poultry imported into the United Kingdom in the years 1909–1911 showing principal countries of consignment.*

<i>Poultry (Alive and Dead).</i>		<i>Annual Average 1909/1911.</i>
		£
Consigned from:—		
Russia ... ..		353,390
Germany ... ..		9,301
Netherlands ... ..		5,862
Belgium ... ..		11,424
France ... ..		145,293
Italy ... ..		98,855
Austria-Hungary ... ..		93,592
China (excluding Hong Kong, &c.) ... ..		34,289
United States ... ..		125,055
Other Foreign Countries ... ..		2,884
Canada ... ..		6,379
Other British Possessions ... ..		415
Total Imports ... ..		<u>886,729</u>
Re-Exports ... ..		<u>49,201</u>
Net Imports ... ..		<u>837,528</u>

*Note.*—The quantity of Poultry was not recorded prior to 1912, nor was Poultry alive separately distinguished until that year.

TABLE (2).—Total Imports of Poultry (Alive and Dead) imported into the United Kingdom in 1912 and 1913 showing principal countries of consignment.

Description.	1912.		1913.	
	Quantity.	Value.	Quantity.	Value.
<i>Poultry, Alive :</i>				
Consigned from :	Number.	£	Number.	£
Belgium ... ..	232,782	9,910	284,561	12,063
France ... ..	500,278	19,727	418,072	16,442
Italy ... ..	135,520	5,818	142,447	8,109
Other Foreign Countries ...	27,210	3,254	13,835	1,299
British Possessions ... ..	249	70	64	10
Total Imports ... ..	896,039	38,779	858,979	37,923
Re-Exports ... ..	764	378	121	18
Net Imports ... ..	895,275	38,401	858,858	37,905
<i>Poultry, Dead :</i>				
Consigned from:	Cwts.	£	Cwts.	£
Russia ... ..	123,063	342,275	119,944	844,665
Belgium ... ..	2,397	10,856	1,888	9,300
France ... ..	35,644	158,399	31,175	142,256
Italy ... ..	21,526	81,343	19,683	77,296
Austria-Hungary ... ..	28,296	97,641	26,674	96,733
China (excluding Hong Kong, &c) ... ..	5,870	18,731	20,025	51,715
United States ... ..	23,094	78,823	54,242	211,429
Other Foreign Countries ...	3,252	11,974	4,087	17,973
Canada ... ..	2,955	11,046	350	1,533
Other British Possessions ...	185	698	397	1,640
Total Imports ... ..	246,282	806,786	278,465	954,540
Re-Exports ... ..	24,049	81,893	9,914	45,344
Net Imports ... ..	222,233	724,893	268,551	909,196

TABLE (3).—*Total Imports of Poultry (Alive and Dead) imported into Great Britain and Northern Ireland in the years 1924-26, distinguishing Imports from the Irish Free State and other principal countries of consignment.*

Description.	1924.		1925.		1926.	
	Number.	£	Number.	£	Number.	£
<b>Poultry, Alive:</b>						
Imports:						
Consigned from:						
Belgium ... ..	106,219	9,916	117,355	10,922	137,568	13,823
France ... ..	328	122	5,263	513	5,603	206
Italy ... ..	152,698	13,925	58,225	5,437	26,069	2,504
Other Foreign Countries	17,346	2,731	10,313	1,591	10,180	1,952
British Countries (ex- cluding Irish Free State) ... ..	190	101	72	71	278	238
Total (excluding Irish Free State)	276,781	26,795	191,228	18,534	179,698	18,723
Imports from Irish Free State ...	1,127,912	207,039	1,074,190	199,940	1,126,377	201,438
Total ... ..	1,404,693	233,834	1,265,418	218,474	1,306,075	220,161
Re-Exports ...	144	24	6	8	2,014	1,234
Total Net Imports	1,404,549	233,810	1,265,412	218,466	1,304,061	218,927
<b>Poultry, Dead:</b>						
Imports:						
Consigned from:						
Russia ... ..	5,109	34,719	20,148	111,092	26,241	113,796
Latvia ... ..	9,176	49,996	59,750	296,980	37,906	164,765
Netherlands ... ..	11,489	59,367	12,329	66,676	17,715	93,385
Belgium ... ..	6,110	31,639	7,320	44,270	16,060	93,561
France ... ..	49,201	323,907	56,951	337,187	68,644	402,477
Italy ... ..	14,851	74,522	15,807	78,408	23,755	147,844
Austria ... ..	13,831	68,929	11,208	56,397	49,494	242,814
Hungary ... ..	21,377	104,241	41,799	213,736	23,530	111,958
Serb - Croat - Slovene State ... ..	3,256	21,584	3,513	17,832	1,628	11,028
China (excluding Hong Kong, &c.) ... ..	17,877	93,289	15,277	66,098	1,387	6,531
United States ... ..	31,933	242,616	40,969	303,663	25,543	192,305
Other Foreign Countries	5,460	30,637	4,860	27,758	11,045	73,944
Canada ... ..	3,394	24,963	5,197	34,520	4,583	33,503
Other British Posses- sions (excluding Irish Free State) ... ..	849	5,746	699	5,007	4,101	27,680
Total (excluding Irish Free State)	193,913	1,166,155	295,827	1,659,626	311,632	1,717,591
Imports from Irish Free State ...	88,852	504,494	91,329	562,993	98,957	600,118
Total ... ..	282,765	1,670,649	387,156	2,222,619	410,589	2,317,709
Re-Exports ...	9,215	52,757	13,489	74,419	8,517	59,043
Total Net Imports	273,550	1,617,892	373,667	2,148,200	402,072	2,258,666

TABLE (4).—Total quantities and declared value of Poultry (Alive and Dead) imported into Great Britain and Northern Ireland in each of the months specified (including imports from the Irish Free State, for separate particulars of which see Table 6).

Description.	1925.		1926.	
	Quantity.	Value.	Quantity.	Value.
<i>Poultry, Alive :</i>	Number.	£	Number.	£
January... ..	94,525	17,000	100,745	18,796
February ... ..	90,762	15,413	119,354	20,460
March ... ..	89,825	16,784	111,315	19,431
April ... ..	63,054	11,608	66,932	11,296
May ... ..	58,223	8,522	85,547	5,246
June ... ..	63,270	9,593	67,572	9,115
July ... ..	106,926	14,918	91,936	13,999
August ... ..	125,351	19,493	123,636	18,897
September ... ..	142,861	22,808	155,226	25,286
October ... ..	163,642	27,823	167,572	27,174
November ... ..	144,226	24,765	142,447	23,780
December ... ..	122,753	29,147	123,793	26,681
<i>Poultry, Dead :</i>	Cwts.	£	Cwts.	£
January... ..	44,659	230,627	35,982	192,546
February ... ..	43,249	249,147	38,709	202,792
March ... ..	44,277	256,667	32,567	171,500
April ... ..	32,289	197,272	26,188	153,882
May ... ..	18,778	117,055	19,835	129,329
June ... ..	6,016	37,259	12,499	69,298
July ... ..	14,270	67,104	10,548	60,805
August ... ..	9,025	43,548	9,560	55,796
September ... ..	8,324	47,432	13,830	77,870
October ... ..	10,948	62,862	17,764	98,051
November ... ..	26,315	143,898	30,476	161,095
December ... ..	129,144	770,863	162,352	945,095

TABLE (5).—Total quantities and declared value of Dead Poultry re-exported from Great Britain and Northern Ireland in each of the months specified.

Description.	1925.		1926.	
	Quantity.	Value.	Quantity.	Value.
<i>Poultry, Dead :</i>	Cwts.	£	Cwts.	£
January... ..	561	3,076	1,553	10,312
February ... ..	733	4,595	1,076	8,922
March ... ..	1,562	9,634	1,465	10,786
April ... ..	3,086	18,564	1,014	7,176
May ... ..	2,936	15,802	407	2,699
June ... ..	1,667	9,089	537	3,614
July ... ..	1,443	7,060	461	3,021
August ... ..	462	2,370	151	1,359
September ... ..	591	3,242	436	2,834
October ... ..	974	4,089	63	404
November ... ..	55	302	688	3,904
December ... ..	319	2,096	665	4,912

The total of poultry *alive* re-exported in the twelve months ended December 1925 and 1926 respectively was, No. 5, value £8, and No. 2014, value £1,234.



TABLE (6).—Total Imports of Poultry (Alive and Dead) imported into Great Britain and Northern Ireland from the Irish Free State in each of the months specified.

Description.	1925.		1926.	
	Quantity.	Value.	Quantity.	Value.
<i>Poultry, Alive :</i>	Number.	£	Number.	£
January ... ..	83,389	16,399	91,411	17,756
February ... ..	72,074	13,571	98,651	18,345
March ... ..	76,872	15,538	86,765	16,979
April ... ..	54,955	10,814	52,787	10,114
May ... ..	41,525	7,072	27,252	4,335
June ... ..	50,440	8,413	48,916	7,561
July ... ..	71,146	11,425	77,435	12,509
August ... ..	105,504	17,281	105,841	17,079
September ... ..	127,429	21,456	138,082	23,481
October ... ..	150,210	26,417	154,520	25,837
November ... ..	129,499	23,261	130,291	21,712
December ... ..	114,144	28,291	114,426	25,730
<i>Poultry, Dead :</i>	Cwts.	£	Cwts.	£
January ... ..	8,475	49,464	6,236	38,521
February ... ..	5,579	33,207	6,123	35,301
March ... ..	4,855	28,159	5,688	34,604
April ... ..	3,289	20,571	4,359	27,024
May ... ..	2,427	14,286	1,599	8,929
June ... ..	1,861	11,177	2,564	15,055
July ... ..	1,827	10,454	2,531	13,732
August ... ..	2,740	15,417	2,522	13,622
September ... ..	4,291	24,992	5,133	25,025
October ... ..	6,193	36,480	7,434	41,482
November ... ..	9,919	57,301	11,594	59,910
December ... ..	40,005	262,600	43,174	286,913

# REPORT OF THE IMPERIAL ECONOMIC COMMITTEE

ON

## Marketing and Preparing for Market of Foodstuffs produced within the Empire

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### SEVENTH REPORT—HONEY.

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#### I.—Introduction.

We, the Imperial Economic Committee, appointed by the Governments of the United Kingdom, Dominions, India and the Colonies and Protectorates, and acting under our Terms of Reference published on the 6th March, 1925, beg leave to present to the Governments of the Empire this our Seventh Report—The Marketing and Preparing for Market of Honey.

Witnesses.

2. In preparing this report we have received much assistance from witnesses representing producing and marketing interests, from experienced officials both of the United Kingdom and Oversea Governments and from men of scientific eminence. We thank them all for their help.

#### II.—The Value of Bee Keeping.

Importance  
of bee-  
keeping to  
agriculture.

3. A land flowing with milk and honey is the classical description of a bounteous agricultural tract; but whilst the production of milk has grown into a large and specialized industry, bee keeping has remained a very minor adjunct to general agriculture and horticulture. Yet there is much truth in the old description. The farmer who neglects bee-keeping pays a penalty. The part played by bees in the fertilisation of useful farm crops is an important one. Cases are on record in which the yield of clover seed has been greatly enhanced by the presence of a colony of bees in the field; whilst instances of the beneficial effect of bees on the yield of fruit trees and orchards are numerous. Some of these have been very striking, as, where the trees in an orchard which are within easy range of the bees have borne profusely, whilst others remote have carried very poor crops, though the blossom on all in the springtime was promising. Many of the most favoured varieties of pears, plums,

apples and apricots are self sterile or nearly so and require cross pollination. The economic value of bee keeping to the fruit farmer or to the general farmer is not therefore restricted to the value of the honey produced, but is often to be found to a still greater extent in more copious crops of fruit or pasture. This is important because it is the realisation of a full average yield which frequently determines whether the farmer's undertaking in a given year has been worth while or not.

4. In our report on poultry and eggs we emphasized the importance of poultry keeping to the general farmer, especially where closer settlement is practised whether for dairy or pig products or for fruit. Bees are no less important, although for the different reason stated in the last paragraph. An increase in the demand for Empire honey does not merely mean a demand for a pleasant food, but should also mean increased fruit crops and better pastures in many Empire countries and hence the opening of further tracts for closer settlement. This is no fantastic claim. We have been informed that in several of the fruit areas of the United States fruit growers pay the bee keeper up to four dollars for each colony of bees he places in their orchards.

5. The world has held honey in esteem for many centuries. Vergil, contemplating with pleasure the harvest obtained from the bees, wrote :—

“ From these, at pointed seasons, hope to press  
Huge heavy honeycombs, of golden juice  
Not only sweet, but pure and fit to use.”\*

The discovery of sources of large supply of cheap sugar has lessened the world demand for honey as a sweetening agent, but it is by no means certain that honey does not possess other valuable nutritive properties not found in either cane or beet sugar. This matter, we understand, is already under investigation, and we recommend and hope that the enquiry will be pursued to a definite conclusion, for if it be established that honey possesses special nutritive value, an important reason for advocating its increased consumption will have been established.

6. Bee keeping like all agricultural pursuits is, however, subject to several hazards of which climate and disease are probably the most important. During the comparatively short blossoming season the bees require warm sunny weather to operate freely, and continued wet and cold at that time means reduced stores of honey later in the year. This factor has militated considerably against large crops of honey in the United Kingdom in the last few years, but many parts of the Dominions are more fortunately placed in this respect. In New Zealand, and in parts of Canada and Australia there appears to be greater

Continuance  
of investigation  
into  
food value  
of honey re-  
commended.

Effect on  
bees of  
climate and  
disease.

\* Dryden's translation.

certainty of suitable weather in spring and the crops of honey appear to be more assured, whilst in some of the tropical parts of the Empire, such as Jamaica, large annual supplies are certain. Disease is another recurrent difficulty. Between 1907 and 1919 disease spread very generally through the bee colonies in the United Kingdom to such an extent that the stocks of bees were nearly exterminated. Since then the loss has been made good, but owing both to this and to climatic conditions the production of honey in the United Kingdom in recent years has been below normal. Many countries control carefully the import of bees and much work has been done and is in progress on methods of preventing disease and its spread.

### III.—Production of Honey in the Empire.

7. The apiaries in the United Kingdom are on the whole small and until the vagaries of the climate can be surmounted and the chief diseases can be effectively and completely controlled, it is doubtful whether bee keeping can be adopted to any large extent as a chief source of livelihood. In other parts of the Empire more favourably situated there seem to be greater prospects of this, but on the whole beekeeping is, as we have stated, an adjunct to other farming activities. No statistics are available to show the production of honey in the United Kingdom, but the quantity is once more increasing. In the Dominions, however, the industry has in recent years made great strides. Canadian production increased from 6,500,000 lbs. in 1920 to over 23,000,000 lbs. in 1925, and reports of this year's crop indicate still higher figures. In Australia production has fluctuated widely, amounting to over 11,000,000 lbs. in 1917-18, falling to about a quarter of that two years later, and again approaching the former figure in 1926-27. Much of the Australian honey is derived from bees which visit flowering trees, notably the eucalyptus, and as many of these trees bloom more profusely in alternate years, there tends to be a similar periodicity in the total quantity of honey produced. Relatively to its area. New Zealand has perhaps made more rapid advance in honey production than any other part of the Empire. Whereas in 1906 the total production was 1,000,000 lbs., it had by 1927 increased sixfold to 6,240,000 lbs. Among tropical parts of the Empire, Jamaica has always been and continues to be a large producer of honey. Thus in many different quarters of the Empire production is increasing, and there is a great promise of larger yields in the future.

8. But the consumer is interested not only in the probable quantity forthcoming, but also in its quality. He wishes to know whether in fact it is, to quote Vergil, "pure and fit to use."

In the United Kingdom the Government facilitates the maintenance of experts to instruct and advise beekeepers by giving

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grants to County Councils or to County Bee Associations, which are affiliated to the "British Bee Keepers' Association." The work of this Association has raised the standard of the industry and increased the efficiency of experts and teachers, though its activities are limited owing to lack of funds. The honey produced has a good reputation for quality, and as the demand exceeds the supply, beekeepers have no difficulty in disposing of their produce either direct to the consumer or to the retailer. In fact Home produce does not come on the wholesale market.

#### IV.—Dominion Regulations regarding the Export of Honey.

9. The Dominions, on the other hand, having a surplus for export, have paid attention both to standards of quality and to organisation for centralised marketing. New Zealand was the first country in 1914 to export honey through an Association of Producers with the initial object of marketing an article of uniform quality. The industry has been largely assisted in realising this aim by Government legislation which specifies the manner in which bees shall be kept, requires registration of apiaries, and provides for the appointment of instructors in the prevention and eradication of disease. The security thus given has attracted considerable capital and effort to bee keeping on a commercial scale. Though in the last 20 years the number of persons keeping bees has halved, the number of bee colonies has increased by 50 per cent.

Standards  
of quality.  
Legislation  
in New  
Zealand.

10. In 1924 greater stability was given to the methods of centralised marketing, which had been worked out by the Association, by legislation appointing a Honey Export Control Board consisting of one representative of the Government and two representatives of the producers, and by the issue of regulations under the Act requiring the use of proper apiary appliances and premises, stipulating the class and quality of containers to be used, and providing for the grading of all honey for export. The powers of the Board cover not only the regulation of the quantities to be shipped, but also the terms of shipment and arrangements for insurance and disposal. While the Board has power to assume absolute control of all honey for shipment, it at present, only requires that all honey shipped to the United Kingdom and Europe be distributed through one agency, the object being to maintain thereby a definite standard of quality of honey and ensure that New Zealand honey reaches the retail market under its own name and description. The export of any honey below a specified standard of quality is prohibited. It is not surprising that under these conditions the reputation of New Zealand honey for quality, uniformity and methods of packing is high and a valuable goodwill attaching to the New Zealand label is being built up. It is worth noting that the exports of honey from New Zealand have increased from 862,000 lbs. in 1921 to 1,822,000 lbs. in 1925.

Honey  
Export  
Control  
Board of  
New  
Zealand.

**Canadian  
practice.**

11. The methods adopted in New Zealand to attain a uniform standard in the honey for export and for co-operative marketing through Producers' Organisations have been stated in some detail because they have been worked out further in New Zealand than in the other Dominions. But both Canada and Australia are moving in the same direction and have already adopted in whole or part very similar methods. Up to 1923 practically no honey was exported from Canada. In that year the bee keepers of the Province of Ontario, which produces nearly half the honey crop of the Dominion, formed a co-operative association which now includes all the bee keepers of the Province. The bee keepers of Quebec have followed suit. These Co-operative Societies are organised on a voluntary basis and are in open competition with other producers and traders. They aim at supplying a standardised, graded product marketed in volume and regularly, and by these means and by centralised marketing they seek to build up a regular connection, to establish goodwill and to steady prices. Both Societies send their representatives to the United Kingdom market and all shipments for export are tested and graded. Everything points to Canada working towards a system of compulsory legal grading of honey, on the lines of that which has already been adopted there in regard to eggs with results beneficial alike to both the producer and consumer. Canadian honey has already established a good reputation for uniformity and quality. In the three years from 1923 to 1926 the total exports from Canada increased from practically nothing to over 1½ million lbs.

**Australian  
practice.**

12. In Australia centralised marketing is also being developed on somewhat similar lines. In the last few years steps have been taken through the initiative of a group of prominent Australian apiarists, whereby the surplus production of honey in the Commonwealth is being exported to the Overseas Farmers' Co-operative Federations, Ltd., which has established a subsidiary Company to act as the distributing agents for the English market, where the honey is sold under a special mark showing the country of origin.

**South  
African  
practice.**

13. The Union of South Africa absorbs at present all local supplies of honey and has as yet no surplus for export. With the object of minimising the risk of the introduction of disease, the Union in common with Rhodesia and Portuguese East Africa prohibits the import of honey, reserves to Government the right to import bees, and allows the import of beeswax and foundation comb under special permit and after treatment. Advice on bee keeping is provided by the Agricultural Department. Retail prices in 1924 were about 1s. 10d. a lb. as compared with prices on the farm of about 1s. and 1s. 1d. Excluding the Native Locations and Reserves, production reached 388,000 lbs. in 1921 and is likely to increase.

14. Jamaica is the other Empire country which sends honey in large quantities to the English market. Whereas the importation of honey from the Dominions is of comparatively recent growth, the Jamaican trade is an old one, with many long associations. It is not organised in a manner at all comparable with the trades from the Dominions. Many of the producers are working on a small scale and, we are told, that the introduction among them of co-operative methods is attended with great difficulty. The honey is shipped through several firms to their correspondents in London and in foreign countries. Some of the shippers grade their shipments in accordance with their own standards, but much ungraded Jamaican honey reaches both the London and Continental markets, with the result that careful sampling of many or most of the casks in a consignment is necessary. Jamaican honeys are largely derived from the blossoms of the logwood tree which grows freely in the lowlands. The honey has a wide range of colour from light to dark amber and also varies considerably in strength of flavour. Thus the manner in which it reaches the English wholesale market is in strong contrast with that in which the New Zealand honey, for instance, arrives. Legal machinery exists, however, in the Agricultural Produce Act, which came into force in August 1926, for introducing compulsory inspection and grading of honey for export, if the Government deem it advisable. This Act provides for the making of regulations controlling the inspection, grading, packing, and marking of agricultural produce of the kinds mentioned in the Schedule of the Act and for the registration of dealers and shippers in such produce. Honey is not included in the Schedule but provision is made in the Act for extension of the Act to other kinds of agricultural produce by Order in Council. Thus there should be no legal difficulty in extending the provisions of the Act to cover honey. It appears to us that until some action of this nature is taken Jamaican honey will continue to come forward in an ungraded condition. No figures of production are available but the total exports are in the neighbourhood of 2,000,000 lbs. a year.

Jamaican  
practice.

## V.—Trade in the United Kingdom.

### (a) Imports.

15. Home production only provides about one quarter of the honey consumed in the United Kingdom. Of the imports, nearly half (46 per cent.) come from Empire sources chiefly from the British West Indies (19 per cent.), New Zealand (18 per cent.), Canada (7½ per cent.), and Australia (nearly 1 per cent.). In the 54 per cent. which comes from foreign sources the United States is the greatest contributor (24½ per cent.), and then follow the West Indian Islands other than British chiefly Cuba (17 per cent.), Chile (5 per cent.), France (1 per cent.) and Germany (1 per cent.). The total trade as judged by the

Chief  
sources of  
supply.

money value of the imports retained for consumption in the United Kingdom is not considerable, between £150,000 and £200,000 a year—but as we have already stated, the value of bees to agriculture is not to be measured solely by the market value of the honey produced.

Increasing imports.

16. The table in Appendix I gives the average imports of honey into the United Kingdom for two five-year periods prior to the war and the imports from 1923 to 1926 inclusive. As compared with the early years the total quantity imported has doubled. But the most noticeable fact is that the increase has been far and away greatest from the countries which send the light, very carefully prepared honey, namely, the British Dominions and the United States, although several of these are new comers on the British market. The increase in the imports from the West Indies (both British and foreign) is only about half that from the other group of countries. This lower rate of increase is not due to the limits of production having been reached, because during the shortage of sugar in the war the exports of honey from the West Indies reached five times their present figure. The inference seems to be that, whilst in the United Kingdom there will always be a market for the cheaper kinds, at any rate in industry and for confectionery, yet the steadily increasing demand is for the carefully prepared, attractive article. In fact, as we have said in regard to several other foodstuffs, the British market is becoming more and more discriminating, and it behoves those who would increase their trade in that market to pay close and strict attention to that tendency.

(b) *Consumption.*

Sources of demand.

17. Even if local production in the United Kingdom be estimated at 20,000 cwts. a year and imports retained for use in the country be placed at 60,000 cwts., the annual consumption per head of population is less than  $1/5$  lb. per person. This is in marked contrast with many other countries, as, for instance, Canada, where the average consumption is about 2 lbs. per person. It is probably still higher in New Zealand. It is also a matter of common experience that honey is more frequently seen on the table in many Continental countries than it is in England.

18. The demand for honey arises from two main sources—

(a) from the domestic consumer; and

(b) from various trades, such as the baker, confectioner, and chemist, who use it in the manufacture of their products.

It is impossible to say what share of the total supply goes to the second purpose, but except when there is a severe shortage of sugar, the requirements under this head are probably fairly stable, expanding slowly with the increase in the population. It would, therefore, appear that any large growth in demand must be sought in the domestic market. In this market the



finer and, frequently, the lighter qualities of honey are preferred, and these, as we have seen, are the qualities which have provided the larger share of the recent increase in imports. Yet domestic consumption in the United Kingdom lags far behind consumption in many other countries.

19. We are not prepared to say definitely what are the reasons for these wide differences in rates of consumption; they are probably due largely to the habit of the people, to the high price which honey for domestic consumption often commands relatively to jam, and to many minor facts. Among the last has been mentioned to us the long inconvenient glass jar in which it is often customary to sell honey. Honey can be obtained in tins or wider glass jars, but some have told us that they object to having their desire to eat honey penalised by the almost certainty of sticky fingers. We hardly think, however, that this could deter the true honey enthusiast from satisfying his wants. But unless there are peculiar trade difficulties in the way, it is always wise to tempt the hesitant rather than merely to satisfy the converted. There is little doubt, however, that honey is regarded by many more as an occasional change than as a fairly regular article of diet, like jam or marmalade, though even in this matter there are differences between different parts of the country. Thus honey is used more freely by all classes of the population in the North of England than in the South. This would seem to show that habit possibly plays a greater part in these preferences than price, and habits are susceptible of modification. If increasing supplies, carefully graded and handled in bulk, become available at competitive prices, then there seems to us no reason why, with careful publicity, the domestic demand should not rapidly increase. This would, of course, be the easier should it be established that honey is not only a pleasant food, but also possesses special nutritive properties. Honey has great natural keeping qualities and requires neither special storage nor rapid consumption, and where standards of production and handling are maintained, purity of product from source to consumer can be guaranteed.

Low rate of consumption.

20. Considerable success, as evidenced by increasing imports, has attended the publicity adopted by New Zealand and Canada for introducing to the United Kingdom a high-grade article well suited to domestic consumption; but in view of the promise of increased supplies of honey, both from home and overseas, and still more in view of the important reaction bee-keeping has on the fruit and clover crops of the Empire, we recommend that the Empire Marketing Board should consider whether they could not include honey among the agricultural products of the Empire for which they ask the special attention of the British consumer. It will be for each country of the Empire to advertise its own particular brand and to satisfy the public regarding the quality of its product, but we consider that the attention of the public might well be drawn to Empire honey in general, both for its

Possibility of stimulating consumption.

own sake and for the general effect of bee-keeping on agriculture.

### VI.—Consumers' Requirements.

21. If the wider market for honey is to be sought in the domestic retail trade, the preferences of consumers require careful and constant consideration. These turn largely on

- (a) Colour
- (b) Flavour
- (c) Viscosity
- (d) Appearance of the container.

The general preference is for light colour honey. To this there is one very notable exception—home produced heather honey—which, though of varying shades of amber, is much prized for its distinctive flavour and generally commands a price about half as high again as that of home produced, light coloured honey, though this in its turn is often sold at prices above those of imported honeys. The general demand for honey has in the last 20 years changed considerably in favour of set or granulated honey, and whereas formerly liquid honey was most preferred, the larger demand possibly now inclines on the side of granulated honey. This is on the whole an advantage to the industry and to the consumer, for most natural honey tends to set in time and at cold temperatures. It is worthy of note that New Zealand concentrates entirely on a light coloured granulated honey.

Importance  
of the  
container.

22. While colour, flavour and viscosity all play a part in meeting customers' requirements, the appearance and character of the vessel in which the honey is exposed for retail sale, is an important factor. The preference of the general public is for a glass container. This is generally of an attractive appearance and enables the honey to be seen—two important selling attributes. Another reason for the preference of the glass container is found in the fact that for a long time much of the inferior honey has been sold in earthenware crocks, and the public have to some extent become accustomed to associating such packages with inferior grades. The glass container, however, adds twopence to the retail cost, and the assumption that any other packing denotes an inferior article is not correct. A good family trade has been built up in home produced honey packed in 7 lb., 14 lb., and even 28 lb. tins, and the Ontario producers who ship to the United Kingdom market sell a certain quantity in 1 lb., 2½ lb. and 5 lb. tins. The mark of a well-known brand on the tin is sufficient to prevent any customer from being misled as to the nature of the contents. Another packing—that in the carton—has been introduced in the last few years, which is much cheaper than the glass container and which avoids the suspicion attaching to earthen crocks.

23. The producer in the United Kingdom possesses natural advantages for supplying honey in a form in which, when attractively packed and displayed, is specially tempting to the consumer—that is, in the comb. Special precautions have to be adopted to prevent breakage and damage when honey is dispatched for very long distances in the comb, and imports of honey in this form are consequently small. They mostly arrive from California. Canada also has lately been sending a small quantity. The decrease in the supplies of honey in the comb in recent years from the United Kingdom itself is probably due to the loss of bees resulting from the ravages of disease of a very few years ago. As that loss is now being made good, there is an opportunity for the United Kingdom producer to recover and develop the market for honey in the comb. In fostering that trade much, however, depends on the attractiveness with which the section of the comb is displayed, and therefore on the nature of the packing, which demands close attention. For this purpose cartons are being increasingly used, and though some now in use are somewhat roughly made, others, trimmed with paper lace and provided with one transparent side, are extremely attractive. A good article gains by a good setting.

Honey in  
the comb.

An interesting development in the use of cartons for serving honey in the comb is that adopted by some of the larger caterers and by the Railway Dining Car services in Canada and the United States, where small portions suitable for one or two persons are packed and served in small neat cartons.

#### VII.—Organisation of the Market in the United Kingdom and Blending.

24. As we have already explained, locally produced honey passes direct to the retailer or consumer, and does not appear on the wholesale markets, and New Zealand, Canada, and Australia have either appointed single selling agents in England or have representatives in England watching and supervising wholesale sale. Californian honey, which is also largely prepared to general standards before export, is usually sold firm on a c.i.f. basis to wholesalers or importers in the United Kingdom. honeys from other sources come largely from small producers and reach local shippers either direct or through collectors and merchants; they are shipped by and to general merchants and after considerable sampling are sold by private treaty or by auction on the wholesale market. In hardly any case are the quantities sufficient to occupy the full attention of the firms in question. Honey is bought on the wholesale market by blenders, who are usually also packers. They in their turn distribute to the retailers.

Methods of  
sale of  
imported  
honey.

25. Honey is sent overseas in bulk, which saves space and also avoids breakage of containers. The standard New Zealand, Canadian and Australian packing is in clean cases, containing two new tins per case, each tin holding 60 lbs. of honey.

Packing.

Jamaican and Cuban honey comes mostly in casks holding either 3 cwt. or 5 cwt. In these last two countries, not subject to strict conditions at the time of export, we are told that the use of new casks is not insisted upon, and casks previously used for other articles may after cleansing be used for shipping honey. It has been further stated to us that an attempt to use only new tins instead of casks had been abandoned as the increased price realised was insufficient to repay the extra cost. It is possibly true that such partial reform in marketing methods does not show a direct money return, but the experience of the Dominions shows that a strict insistence on standards and close supervision throughout the whole chain from preparation for export to display in the retail shop does result in the securing of a larger and steadier market.

#### Blending.

26. Honey thus received in bulk has necessarily to be repacked for the retail trade. At this stage it is melted down and blended to maintain uniformity of flavour, colour and grade. This is one of the reasons why each of the Dominions works through a single selling agent; they make sure thereby that only honeys from the same Dominion are blended together. For instance, we are informed that about 60 per cent. of the imported New Zealand honey passes direct from their blender and packer to the retail distributors under the special name of New Zealand honey. Most of the rest is sold to leading manufacturers either direct or through the market, but the name of the ultimate purchaser is in each case required, so that care may be exercised to prevent this honey from appearing on the market as New Zealand honey after blending with other honey, and to prevent its being used to grade up inferior honey. A few cases are sold in open auction from time to time to test current market prices.

27. Jamaican and other honeys also necessarily pass through the hands of the blender-packers, but as they are sold outright at this stage, they not infrequently lose their identity in the blending. After blending with honeys, often from other sources, they appear on the retail market under various proprietary names.

#### Mixing and adulteration.

28. Blending is thus a normal feature of the wholesale trade in honey. It may, however, connote very different processes for widely differing objects. There is the blending of honeys from the same source, as is practised in the case of New Zealand. On arrival in England, the honey from different cases is melted and blended to secure uniformity of quality and texture, but all the honey so blended originally came from the same country and was subject to the same tests for quality before export. There is the blending of honeys from different countries, the product being often put on the market under a proprietary name without indication of the countries of origin. There is also so-called blending which is really adulteration. In this process commer-

cial glucose, manufactured invert sugar or cane syrup sugar, substances in no way harmful in themselves, yet not natural honey may be added. The detection of these additions is difficult and the public have entertained suspicions that the practice is largely followed. It may occur either at the wholesale stage or when the caterer serves honey. All the evidence we have received indicates that this practice is much less prevalent than it used to be and is not so common in the United Kingdom as in some other countries. The increasing taste for granulated honey also operates to check such practices, for nearly all natural honey tends to granulate unless consumed within a very few months, whilst the addition of these extraneous substances tend to cause honey to retain its liquid form for a longer period.

Thus the blending of honeys from the same country is a useful and necessary method of maintaining uniformity of quality and texture. The blending of honeys from different countries is unobjectionable provided that foreign honey be not blended with Empire honey to be marked and sold later as " Empire " honey. But the so-called blending of honey which is really the addition to it of substances which are not honey, is likely in the long run to check increased consumption and should be treated as a misdescription.

#### VIII.—Prices.

29. Home produced honey appears so rarely on the wholesale market that only occasional quotations are obtainable. The regularly recorded quotations are for imported honeys. Due probably to the smallness of the market and to the fact that certain sections, like the New Zealand and Canadian produce, do not come regularly on the market, but are handled by their own agent or sold in private treaty, wholesale quotations present no variations for the top grades in the different kinds for months at a time (*Vide Appendix II*). This steadiness is characteristic of them all, but is most marked in the case of New Zealand. Thus between July 1923 and August 1927, only 10 variations in wholesale prices are recorded for top grades of New Zealand honey, 11 for Californian and 15 for Jamaican. These figures rather mask the correct position, since honey of more varying quality reaches London from Jamaica, for instance, than from New Zealand, and average prices for Jamaican honey probably fluctuate more than is shown by a record merely of the top quotations. Another feature of these quotations is presented by the fact that New Zealand honey always commands a substantial premium above either the Californian or Jamaican honey on the wholesale market; and usually the Californian is well above the best Jamaican, although occasionally the quotations for these two kinds are similar. The tendency of prices in every case since 1923 has been downwards, as is shown by Appendix II and by the following table.

Wholesale  
prices.

## Top wholesale prices in London in shillings per cwt.

For—	July, 1923.	July, 1924.	July, 1925.	July, 1926.	July, 1927.	August, 1927.
New Zealand honey ...	100	90	95	85	85	88
Californian " ...	65	70	75	65	65	65
Jamaican " ...	70	62	65	55	55	50

## Retail prices.

30. Retail prices present very largely the same features of stability over long periods and slow reduction since 1923, due no doubt largely to the stability of wholesale prices, but also to the fact that a considerable quantity of honey is placed with the retail distributors by blenders under proprietary labels or through the agents of the Producers' Societies such as those of New Zealand and Canada. For these reasons, and on account of the narrowness of the wholesale market, it is impracticable to attempt to correlate reported wholesale and published retail prices; it would, moreover, be very difficult to ensure that the prices quoted related to the same article. This is clear from the quotations for honey in the published catalogue of a large West End store for October, 1927. In this catalogue, Californian honey in glass jars is quoted at 1s. 9d. a lb., whilst New Zealand in glass is quoted at 1s. 4½d.; it is clear that these quotations cannot be for the grades of Californian and New Zealand honeys, which in August were recorded on the wholesale market at 55s. a cwt. and 88s. a cwt. respectively.

31. The quotations from that catalogue for honey in glass of about 1 lb. weight may be given as indicating the range in retail prices of the different kinds of honey.

	<i>s.</i>	<i>d.</i>
English Heather Honey ... ..	3	6
English Honey ... ..	1	10
Californian Honey ... ..	1	9
Canadian Honey ... ..	1	8
French Honey ... ..	1	8
New Zealand Honey (Imperial Bee) ... ..	1	4½
West Indian (earthen jars) ... ..	1	4
Jamaican (earthen jars) ... ..	0	10

The extra cost of a glass jar as compared with a tin or earthen pot is about 2d.

The above may be compared with prices of jam in the same catalogue, such as Plum jam, 8d. a lb.

### IX.—Marking and Identification.

32. A definite indication of the country of origin is given in the case of New Zealand, Canadian and Australian honeys. Not only does a trade mark appear on all containers of New Zealand honey offered for retail sale, but a definite indication of origin appears on the label. The same applies to the produce of the Ontario Honey Producers' Association, which provides most of the honey sent to the United Kingdom from Canada. In contrast to this, no attempt is made to control the ultimate disposal of Jamaican honey. Of the total amount of Jamaican honey received in this country, it is estimated that about 40 per cent. goes into direct consumption but without any indication of its origin, emphasis being laid mostly on the place of packing, and little, if any, indication is given of the country of origin. Bottlers and blenders when obtaining supplies are generally in a position to know the origin of the honey they buy. It would, therefore, be quite possible for honey bottled, but unblended with honey from a different country, to be labelled with an indication of its origin, whether Empire or foreign. If such a course were adopted, several of the Dominions would still, in our opinion, find it necessary to add their name to their own produce, lest the labelling of honey of poor quality as "Empire Produce," might harm the reputation of honey from those Dominions which have already won a good name for the quality and uniformity of their produce. An application under the Merchandise Marks Act of 1926 for the marking of all imported honey with the name of the country of origin has been sent to the Standing Committee and is under enquiry.

33. Whatever be the result of that inquiry, we consider that the market in the United Kingdom for the consumption of honey is capable of expansion, if it be properly encouraged and if retail prices be kept at a reasonable level in relation to those of jams and marmalade. It is a market which requires honey of different descriptions and grades, yet it is a discriminating one, in which purity and quality are of the first importance. We recommend to the Jamaican Government the careful consideration of the possibility of introducing standards of quality and packing for honey for export, so that marketing processes may be simplified and the general reputation of the product of the island enhanced. We have commented in detail, in our report on eggs and poultry, on the general advantages to the producer of the standardisation of agricultural products.

Recom-  
mendation  
to the  
Jamaican  
Government.

### X.—Research.

34. Both in the United Kingdom and in other parts of the Empire, climatic and weather conditions affect the yield of honey and the health of the bees. Disease if once started is apt

to spread; and while many of the diseases are controllable, they require the adoption of methods in which the co-operation—or compulsion—of all the producers in a neighbourhood is assured. Bee keepers are often working on a small scale, without the resources of large organised undertakings, and therefore especially require instruction and assistance in matters affecting the health and yield of the bee colonies. It is difficult and expensive for them to learn merely by experience—by the costly method of trial and error. The United Kingdom and most of the Dominions pay special attention to this matter, but we believe there is room for more research into questions concerning bee keeping and possibly also for a greater interchange of information and results. Matters of practical import such as improvements in appliances are under trial and experiment, and also research into the causes and control of disease, the relative wintering qualities of various kinds of bees and their resistance to disease, and the possibility of producing improved strains by crossing. In the United Kingdom these problems are under investigation at Rothamsted, and at Aberdeen and Kilmarnock. Similar or other questions are under investigation at various centres in Canada, Australia and New Zealand. In view of the fact that bee keeping is not a subject for which large funds can be readily procured, we commend to the Empire Marketing Board the consideration whether some station could not be selected and recognised as that to which all work done on bee-keeping should be reported and to which reference could be made by Departments and by other stations and interests to ascertain what had been accomplished elsewhere in particular lines of research.

## **XI.—Summary of Conclusions and Recommendations.**

35. Bees play an important part in the fertilisation of the flowers of pastures and orchards; thus beekeeping has a significance for agriculture beyond the fact that a marketable product—honey—is derived from it.

(2) For this and other reasons the consumption of Empire honey should be encouraged and we have recommended research to determine whether such consumption could not also be urged on the ground that honey possesses special nutritive value.

(3) Great improvements have been effected in recent years in the marketing of honey, but further improvements are possible, especially in regard to the manner in which Jamaican honey is prepared for and sent to market.

(4) Beekeeping is a minor occupation and though research work is in progress in different parts of the Empire, large funds for its prosecution are not readily forthcoming.



(5) We think that the producer in the United Kingdom might, by suitable methods of packing and advertising, find a remunerative market for the disposal at good prices of an increased quantity of honey in the comb.

H. J. MACKINDER (*Chairman*).

ALGERNON F. FIRTH ...	}	United Kingdom.
THOMAS ALLEN ...		
J. S. WARDLAW-MILNE ...		
F. N. BLUNDELL ... * ...		
W. A. WILSON ...		Canada.
F. L. MCDUGALL ...		Commonwealth of Australia.
JAMES PARR ...	}	New Zealand.
R. S. FORSYTH ...		
F. J. DU TOIT ...		Union of South Africa.
J. W. DULANTY ...		Irish Free State.
VICTOR GORDON ...	}	Newfoundland.
WILLIAM C. JOB ...		
F. J. NEWTON ...		Southern Rhodesia.
ATUL C. CHATTERJEE ...	}	India.
M. M. S. GUBBAY ...		
G. GRINDLE ...	}	Colonies and Protectorates.
S. H. H. HENN ...		

D. T. CHADWICK (*Secretary*).

13th December, 1927.

NOTE.—The Standing Committee appointed under the Merchandise Marks Act, 1926, to advise His Majesty's Government in Great Britain on the subject of the marking of imported Honey, has now reported. Its recommendations are:—

"1. We recommend that an Order in Council be made to require that all containers of imported honey, whether extracted or in the comb, be marked with an indication of origin, as defined in the Act, by means of printing, stencilling or branding on the container, or by means of printed labels, on sale wholesale, on exposure for sale by retail and on sale by retail.

2. We recommend that the proposed Order in Council should extend to all blends or mixtures of honeys from different countries and that the indication of origin to be prescribed should be, at the option of the person applying the indication, either:—

(a) in the case of honey derived entirely from countries within the Empire the word 'Empire,' and in the case of honey derived entirely from foreign countries, the word 'Foreign'; or

(b) a definite indication of all countries of origin of the honeys forming the blend or mixture; or

(c) the words 'Blended imported.'

3. We do not think it necessary, therefore, that the operation of an Order, so far as sale wholesale is concerned, need be deferred for more than the minimum period, namely, three months, after the date on which it is made. \*A further period of three months, or six months in all, should be allowed to elapse before the Order should apply on exposure for sale and sale by retail, in order to allow retailers reasonable opportunity to dispose of unmarked stocks on hand."

20th January, 1928.

H. J. MACKINDER,  
*Chairman.*

APPENDIX I.

UNITED KINGDOM—IMPORTS OF HONEY, 1901-13 AND 1923-26.

(NOTE.—The particulars for the quinquennium ending 1904 relate to "Shipments" while those for subsequent periods relate to consignments from the countries specified.)

Countries whence consigned.	Quantity.												Value.			
	Average for 5 years 1901-4.		Average for 5 years 1909-13.		1923.		1924.		1925.		1926.		1923.	1924.	1925.	1926.
	Quantity.	Proportion of total.	Quantity.	Proportion of total.	Quantity.	Proportion of total.	Quantity.	Proportion of total.	Quantity.	Proportion of total.	Quantity.	Proportion of total.				
	Cwts.	Per cent.	Cwts.	Per cent.	Cwts.	Per cent.	Cwts.	Per cent.	Cwts.	Per cent.	Cwts.	Per cent.	£	£	£	£
British West Indies ...	8,700	37.4	11,600	39.2	16,900	30.3	16,600	22.7	17,400	22.8	12,300	19.2	44,800	48,800	44,800	28,800
New Zealand ...					8,900	15.9	10,200	13.9	15,000	19.6	11,700	18.3	29,000	31,800	48,100	32,700
Canada ...					100	0.1	3,900	5.3	3,200	4.1	4,800	7.6	200	12,200	12,900	16,900
Australia ...	1,100	4.9	2,200	7.6	—	—	—	—	1,100	1.4	600	0.9	100	100	3,400	1,000
Other British Countries					800	0.6	400	0.6	800	0.6	800	0.4	1,700	1,700	2,000	1,700
<b>Total British Countries.</b>	<b>9,800</b>	<b>42.3</b>	<b>18,700</b>	<b>46.8</b>	<b>26,200</b>	<b>46.9</b>	<b>31,100</b>	<b>42.5</b>	<b>37,000</b>	<b>48.4</b>	<b>29,700</b>	<b>46.8</b>	<b>75,800</b>	<b>89,100</b>	<b>110,700</b>	<b>80,100</b>
Germany ...	•	—	•	—	100	0.2	100	0.1	1,100	1.4	1,000	1.6	•	•	2,300	2,000
France ...	1,800	5.6	1,600	5.4	800	0.6	500	0.7	500	0.7	700	1.1	1,600	2,000	1,800	3,100
United States ...	4,600	19.7	6,500	22.4	11,600	20.8	16,700	22.7	18,800	24.6	15,500	24.2	30,400	46,100	57,700	42,500
Cuba ...	•	—	•	—	6,800	11.8	5,900	8.0	5,400	7.1	4,500	7.0	14,700	17,100	14,800	12,800
Haiti ...	•	—	•	—	800	1.4	1,000	1.4	1,000	1.4	2,600	4.1	•	•	2,800	5,900
San Domingo ...	•	—	•	—	700	1.2	1,800	2.5	6,400	8.4	3,100	4.8	1,500	4,000	14,800	7,700
Guatemala ...	•	—	•	—	800	1.5	2,100	2.9	500	0.6	800	1.2	•	•	1,400	2,100
Chile ...	5,600	24.0	2,700	9.2	3,200	14.6	10,300	14.0	4,600	6.1	3,100	4.8	15,000	25,100	12,400	8,400
Other Foreign Countries	2,000	8.4	4,700	16.2	800	1.5	3,700	5.2	1,200	1.5	3,100	4.9	3,200	17,100	3,500	8,300
<b>Total Foreign ...</b>	<b>13,500</b>	<b>57.7</b>	<b>15,500</b>	<b>38.2</b>	<b>29,800</b>	<b>53.1</b>	<b>42,100</b>	<b>57.5</b>	<b>39,500</b>	<b>51.6</b>	<b>34,400</b>	<b>53.7</b>	<b>69,200</b>	<b>112,800</b>	<b>111,300</b>	<b>90,200</b>
<b>Total Imports ...</b>	<b>23,300</b>	<b>100.0</b>	<b>29,200</b>	<b>100.0</b>	<b>55,900</b>	<b>100.0</b>	<b>73,200</b>	<b>100.0</b>	<b>76,500</b>	<b>100.0</b>	<b>64,100</b>	<b>100.0</b>	<b>144,800</b>	<b>201,900</b>	<b>222,000</b>	<b>170,300</b>
Re-Exports ...	7,100	—	3,500	—	3,700	—	11,800	—	3,200	—	3,300	—	24,000	37,000	30,300	15,000
<b>Net Imports ...</b>	<b>16,200</b>	<b>—</b>	<b>25,700</b>	<b>—</b>	<b>47,100</b>	<b>—</b>	<b>61,400</b>	<b>—</b>	<b>63,300</b>	<b>—</b>	<b>60,800</b>	<b>—</b>	<b>120,800</b>	<b>164,900</b>	<b>191,700</b>	<b>155,300</b>

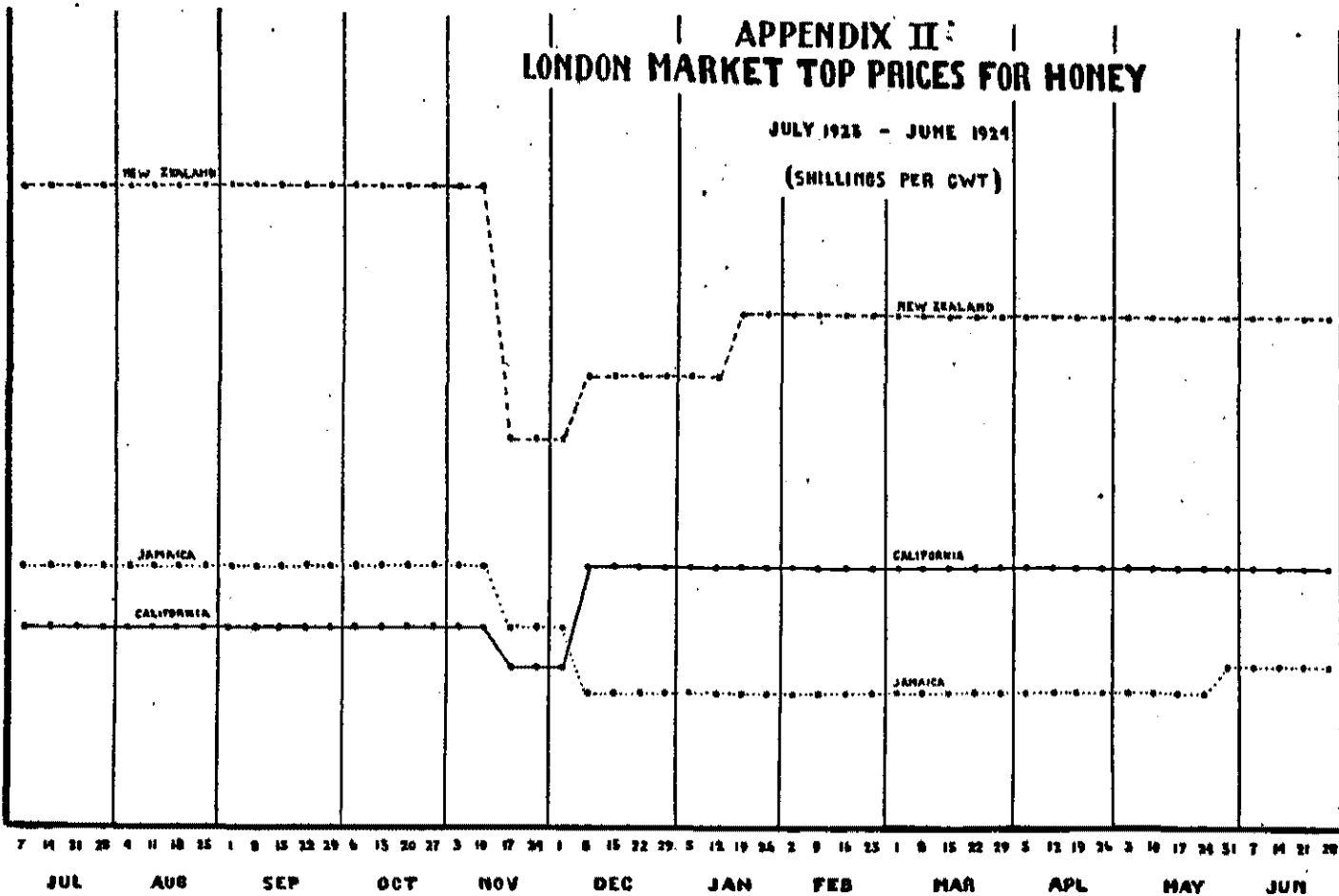
\* Included with "Other foreign Countries."

# APPENDIX II LONDON MARKET TOP PRICES FOR HONEY

JULY 1923 - JUNE 1924

(SHILLINGS PER CWT)

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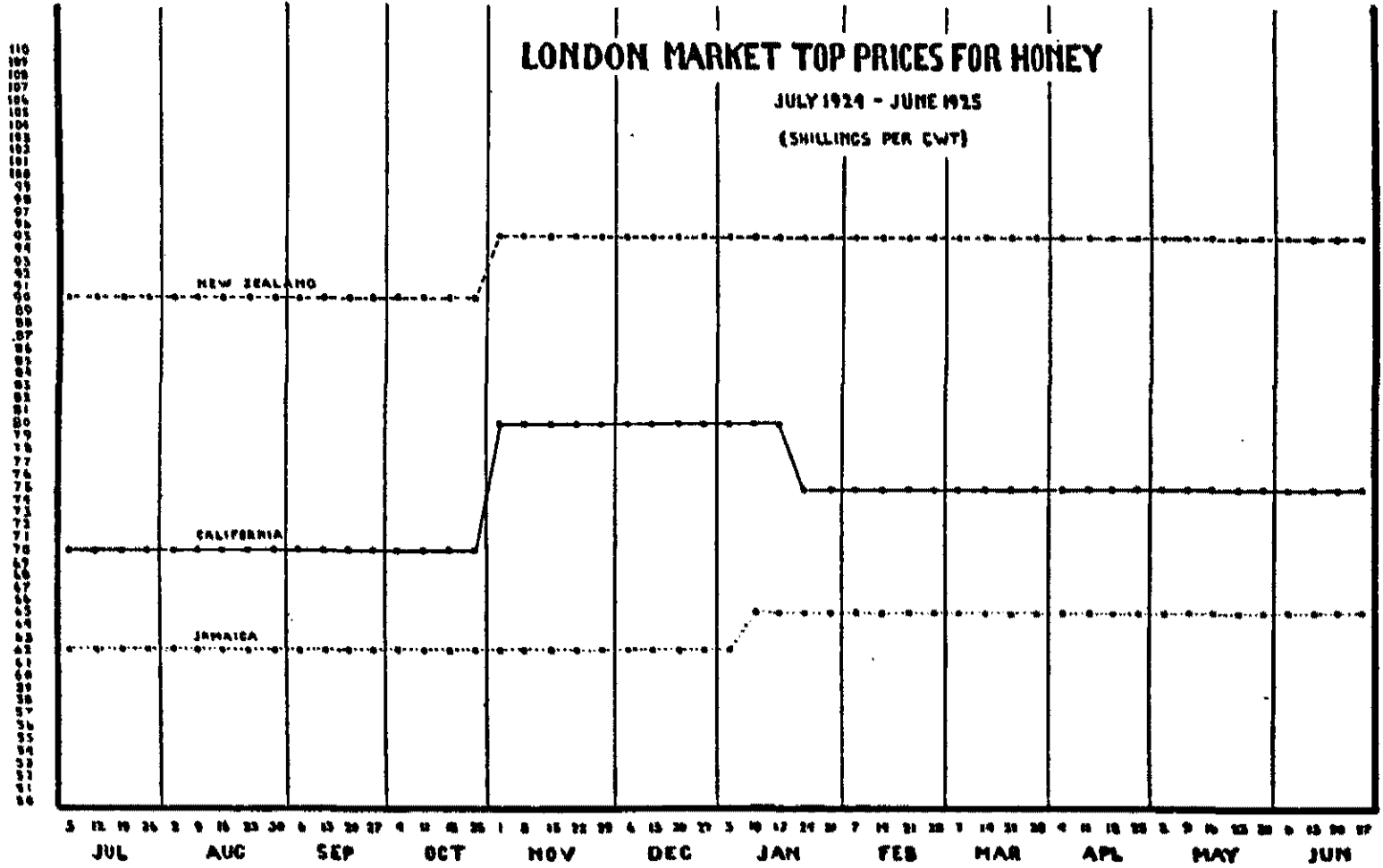
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# LONDON MARKET TOP PRICES FOR HONEY

JULY 1924 - JUNE 1925

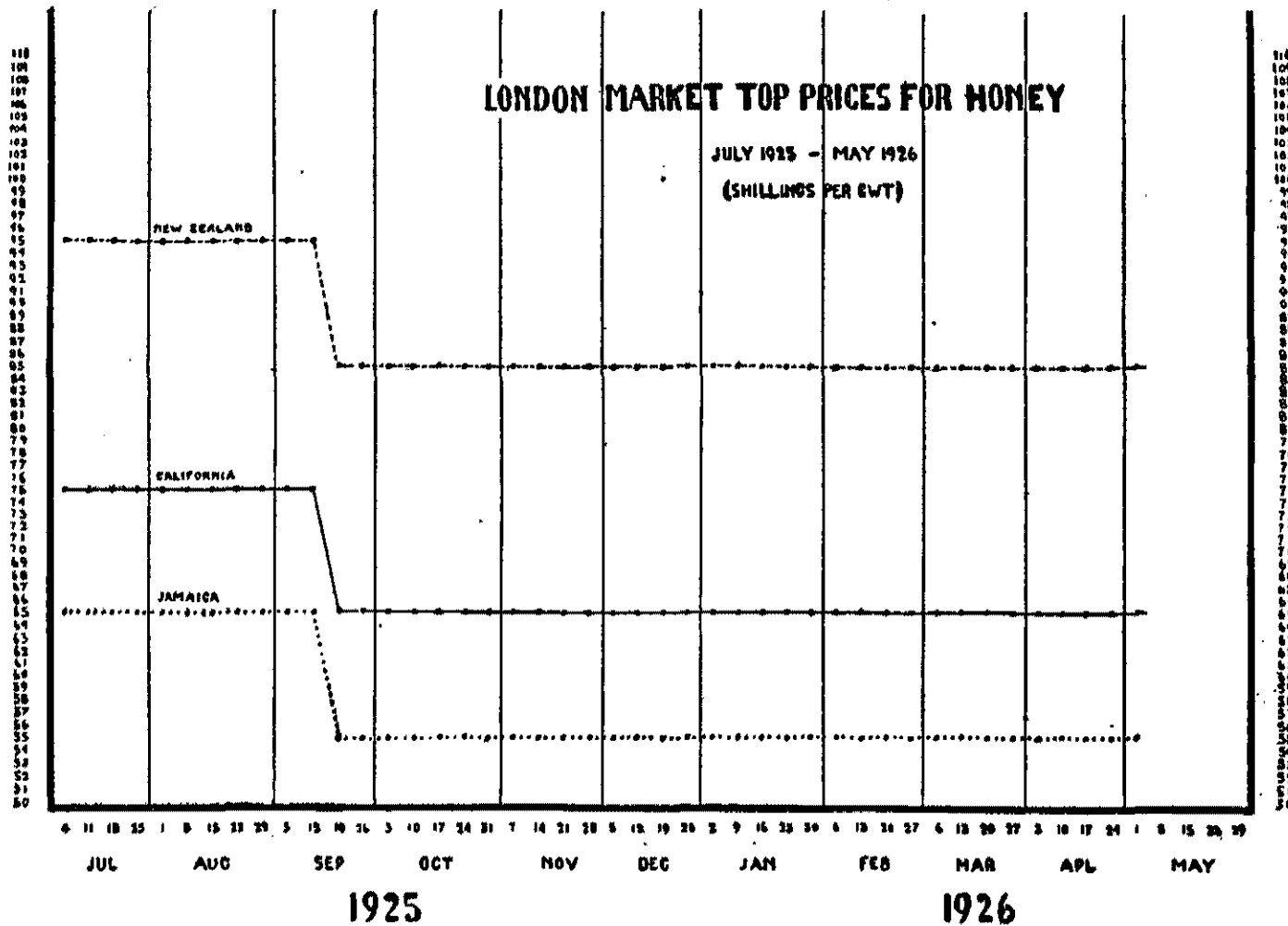
(SHILLINGS PER CWT)



1924

1925

(PART) W. P. 227-300 10,000 1/28 H. S. G. 71





IMPERIAL ECONOMIC COMMITTEE.

## REPORT

OF THE

# IMPERIAL ECONOMIC COMMITTEE

ON

## Marketing and Preparing for Market of Foodstuffs Produced within the Empire.

SIXTH REPORT—POULTRY AND EGGS

AND

SEVENTH REPORT—HONEY.

*Presented by the Secretary of State for Dominion Affairs  
to Parliament by Command of His Majesty,  
January, 1928.*

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