

DEPT. OF THE SENATE  
No. 05740  
Presented - 1 MAY 1942  
R.A.B.  
CLERK OF THE SENATE

1940-41-42.

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

## THIRD PROGRESS REPORT

FROM THE

## JOINT COMMITTEE ON RURAL INDUSTRIES.

(FERTILIZERS.)

By Authority :

L. F. JOHNSTON, Commonwealth Government Printer, Canberra,  
(Printed in Australia.)

F.3018.

## JOINT COMMITTEE ON RURAL INDUSTRIES.

### THIRD PROGRESS REPORT.

The Joint Committee on Rural Industries appointed to inquire into the effects of the war on the marketing of Australian primary produce, and on the economic condition of the Australian rural industries has the honour to present the following Progress Report.

#### URGENT RURAL PROBLEMS

1. During the recent Parliamentary recess the Committee took the opportunity of further investigating war-time problems of primary industries: some of these problems demanded early action and accordingly a letter was addressed to the Prime Minister, under date 25th March, 1942, bringing to his notice certain urgent matters such as scarcity of labour, shortage of fertilizers and food requirements which, in the opinion of the Committee, required immediate attention.

The letter was as follows:—

Canberra,  
26th March, 1942.

The Honorable John Curtin, M.P.,  
Prime Minister of the Commonwealth of Australia,  
Canberra, A.C.T.

My dear Prime Minister,

During the past few weeks, the Joint Committee on Rural Industries has had the opportunity of hearing evidence in Melbourne, Adelaide and Sydney concerning the urgent needs of rural industry brought about by war conditions, and valuable information has been placed before the Committee by officers of the State Agricultural Departments and representatives of organizations of all sections of primary producers.

Some aspects of the problems are so important that early action is demanded, and my Committee therefore considered it desirable, as a matter of urgency, rather than waiting until a full report has been prepared for presentation to Parliament, to address this communication to you, enumerating briefly matters requiring immediate action.

The increased production of food, vegetable and fodder necessary to ensure adequate and continuous supplies for Allied and Australian troops and to meet civil demands is greatly hampered by the scarcity of labour and fertilizers, and in some areas, by drought. The Committee views with alarm the situation which may develop whereby, through these conditions, shortages of foodstuffs can result.

#### SCARCITY OF LABOUR.

The Committee dealt at some length with the problem of scarcity of labour in its First Progress Report, presented to Parliament on the 17th September, 1941; but as then anticipated the position has become more acute. The shortage of labour is causing serious concern in the production of food, vegetable production, and fodder conservation.

Unfortunately, many vegetable growers have had to go out of production because of their inability to get labour.

Following prolonged drought, reserves have been consumed and there is now practically no fodder conserved in the country.

The utilization of the services of women should be further extended in rural pursuits where such labour can be absorbed, and the organization should be given official recognition.

The calling up of key men associated with power farming has necessitated the employment of less experienced men, it has added to the producers difficulties and is reflected in reduced production. Key men in rural industries are vital to food production and are as entitled to exemption from military service as are munitions workers, because food must be grown, and with these key men production can be increased.

Full use should be made of interned enemy aliens and prisoners of war in rural districts.

#### FERTILIZERS.

Superphosphate has already been rationed to 60 per cent, and evidence tendered to the Committee indicates that further rationing will be inevitable, and rationing of fertilizers means reduced production.

As all overseas sources have been practically cut off, the Committee, during its investigations, sought information concerning possible supplies of phosphate within Australia.

The most favourable deposits appear to be situated near Adelaide, at a locality known as Lower Hermitage. These and other deposits in South Australia have been inspected by the representatives of the British Phosphate Commissioners, who are investigating their possibilities. Although the deposits are of low-grade, it may be practicable to mix them with the remaining available high-grade material. In view of the importance of the matter, the Committee is of opinion that, provided the British Phosphate Commission is satisfied a satisfactory superphosphate can be manufactured from the South Australian deposits, prompt action should be taken to develop known deposits, and intensive prospecting should be undertaken to discover further likely areas.

#### MEMBERS OF THE COMMONWEALTH PARLIAMENTARY JOINT COMMITTEE ON RURAL INDUSTRIES.

(Appointed 3rd July, 1941.)

The Honorable JOSIAH FRANCIS, M.P., Chairman.

##### Senate.

\* Senator WILLIAM EDWARD AYLETT.  
Senator the Honorable HERBERT HAYS.  
Senator EDWARD BERTRAM JOHNSTON.  
Senator OLIVER UPPILL.

##### House of Representatives.

† FRANCIS PATRICK BAKER, Esquire, M.P.  
\* CHARLES WILLIAM FROST, Esquire, M.P.  
† JOSEPH IGNATIUS LANGTRY, Esquire, M.P.  
DONALD MCLEOD, Esquire, M.P.  
† The Honorable REGINALD THOMAS POLLARD, M.P.  
\* WILLIAM JAMES SCULLY, Esquire, M.P.  
ALEXANDER WILSON, Esquire, M.P.

\* Discharged from attendance, 12th November, 1941.  
† Appointed, 12th November, 1941.  
‡ Discharged from attendance, 25th March, 1942.

Should there be any difficulties in the way of prospecting or mining phosphate deposits, the Committee is of opinion that there should be no hesitation in invoking the aid of the National Security Act.

The Committee is unanimously of opinion that the Commonwealth should set out a list of crop priorities based on what it regards as essential commodities necessary for the prosecution of the war. Requirements of the Services and the civilian population could be assessed and a rationing scheme devised in co-operation with State Agricultural experts, to use the available supplies of fertilizers in the most effective way.

#### FOOD REQUIREMENTS.

Fluctuations in demands for certain commodities have been considerable and have created chaos in the minds of the farmers. Primary producers must have adequate notice of any intended changes in foodstuff requirements, and the Committee considers there should be closer liaison between the authorities determining the needs of the Services and those who have to supply those needs. The planting season for many crops is at hand and prompt determination of policy is now essential.

Early in 1941 conflicting decisions created unfortunate experiences in the pig industry. Now there is a new and growing demand for pig meat, rather than for beef and mutton. Immediate action should, therefore, be taken with Commonwealth assistance to step up the production of pigs.

The urgency of these problems has prompted my Committee to draw your attention to them pending completion of a full report, and I accordingly submit them for the earliest consideration of your Ministers.

Yours faithfully,

(Signed) JOS. FRANCIS, Chairman.

The Committee is gratified to know that the Government has already taken steps to implement some of the recommendations made in its letter.

In this Report the Committee deals with fertilizers, but the further questions mentioned in the letter to the Prime Minister, together with other matters, will form the subject of another report now in course of preparation for presentation to Parliament.

#### FERTILIZERS.

2. In its First Progress Report presented to Parliament on the 17th September, 1941, the Joint Committee on Rural Industries referred briefly to the question of fertilizers, the subsidizing and rationing of which had just been announced by the Commonwealth Government, and it was indicated that owing to the importance of the subject to primary production the Committee proposed to continue its investigations into the supply and price of fertilizers as a question having a definite economic effect on rural industries.

3. There are three principal groups of fertilizers, viz.:—phosphatic, nitrogenous and potassic.

The most important fertilizer in the phosphatic group is superphosphate which is also the most important artificial manure used in Australia. It is manufactured in all States except Queensland. A plant has recently been erected in that State, but it is not proposed to bring it into production until after the war. Meanwhile supplies for Queensland are drawn from New South Wales.

4. Records show a continuous increase in Australian consumption of superphosphate which exceeded 1,000,000 tons a year for the three pre-war years; the actual figures since 1933-34 being as follows:—

Year.	Tons.	Year.	Tons.
1933-34	660,043	1939-39	1,057,128
1934-35	743,247	1939-40	1,096,509
1935-36	908,431	1940-41	965,570
1936-37	1,081,738	1941-42 (established)	725,000
1937-38	1,230,710		

#### BRITISH PHOSPHATE COMMISSIONERS.

5. Superphosphate is manufactured from phosphate—sulphur and nitrate being the other ingredients, sulphur in the approximate proportion of 1 ton sulphur to 5 tons phosphate, whilst nitrate is required in the approximate proportion of 1 ton nitrate to 170 tons phosphate. Since 1920 all the phosphate requirements of Australia and New Zealand have been supplied by the British Phosphate Commissioners who control Nauru and Ocean Islands.

6. In view of the importance of the work of the British Phosphate Commissioners in the supply of phosphate to Australia a brief outline of the activities of this body is given, as presented by Mr. A. H. Gaze, who has been General Manager of the Commission since its inception,

The Board of the British Phosphate Commissioners was constituted under the agreement of the 2nd July, 1919, between the Governments of the United Kingdom, Australia and New Zealand. Under this agreement the right, titles and interests of the Pacific Phosphate Co. Ltd. at Nauru and Ocean Islands and the plant at those islands were purchased as at 1st July, 1920, by the three Governments for £3,531,500 and vested in a Board of Commissioners of three members, one appointed by each Government. The purchase price was contributed in the following proportions:—

United Kingdom (42 per cent.) .. .. ..	1,483,230
Australia (42 per cent.) .. .. ..	1,483,230
New Zealand (16 per cent.) .. .. ..	565,040
	3,531,500

The Commission pays 6 per cent. interest to the three Governments on this sum, plus sinking fund contribution to repay the principal in 50 years, the total amount of the annual payment being £224,053 10s. 2d.

The Nauru agreement provides, *inter alia*, that:—

Phosphates shall be supplied to the United Kingdom, Australia, and New Zealand at the same f.o.b. price, to be fixed by the Commissioners on a basis which will cover working expenses, cost of management, contribution to administrative expenses, interest on capital, a sinking fund for the redemption of capital and for other purposes unanimously agreed on by the Commissioners, and other charges.

Any phosphates not required by the three Governments may be sold by the Commissioners at the best price obtainable.

There shall be no interference by any of the three Governments with the direction, management or control of the business of working, shipping, or selling the phosphates.

The allotment of output to which the three countries are entitled is—

	Per cent.
United Kingdom .. .. ..	42
Australia .. .. ..	42
New Zealand .. .. ..	16

These proportions being subject to review every five years. If in any year any of the three countries does not require any portion of its quota, such portion may be divided *pro rata* between the other two countries.

Since 1925, however, the United Kingdom quota has been divided *pro rata* between Australia and New Zealand which countries have taken the whole output of Nauru and Ocean Island.

The operations of the Commission comprise the mining, crushing, drying and shipment of phosphate at Nauru and Ocean Island, the arrangement of freight to Australia and New Zealand, and the distribution of the phosphate to the Australian and New Zealand superphosphate works.

It is also provided that the selling price of the superphosphate sold by the manufacturers shall be adjusted by them in such manner that the consumers of superphosphate in Australia shall have the benefit of any saving in the cost of manufacture arising from the purchase of phosphate from the Commission. This, of course, is now the responsibility of the Prices Commissioner.

7. Except during the years 1926-33 the output capacity of the two islands has been in excess of Australian and New Zealand requirements. It was temporarily outstripped in those years by the rapid growth of consumption in Australia and New Zealand, and the extra tonnage required was purchased by the Commission from other sources and distributed with Nauru-Ocean Island phosphate *pro rata* to all buyers. Output from Nauru and Ocean Island was increased from approximately 300,000 tons per annum when the Commission took over in 1920 to 1,250,000 tons per annum in 1939. During the year before the war reserve dumps of phosphate were placed in the open at all works in addition to making full use of all covered storage available. The reserve reached 220,000 tons, of which approximately 90,000 tons remained early this year, but some of this will be used in the current half-year.

8. Enemy action in the Pacific in December, 1940, destroyed a number of phosphate ships and damaged the phosphate works at Nauru; loading was then restricted to occasional periods and as higher output could not be maintained, supplementary supplies were obtained from other sources, such as Christmas Island (Indian Ocean), Makatea (Eastern Pacific), and Egypt. In December, 1941, Nauru and Ocean Island were bombed by the Japanese and steps were taken to prevent the enemy from using the plant should they occupy the Islands. No ships have been allowed to go to the Islands since then and no more phosphate can be expected from Nauru and Ocean Island nor from certain of the other overseas sources including Christmas Island and Makatea until command of the Pacific is restored to the Allies.

These factors, combined with shipping difficulties, have been largely responsible for the increases in the price of superphosphate since the outbreak of war.

### PHOSPHATE PRICES.

9. The Commission charges the same c.i.f. prices to all the fertilizer companies at all ports. Raw phosphate stocks at all works belong to the Commission, and the fertilizer companies pay monthly for the quantities they use for making superphosphate. As far as possible, the Commission endeavours to stabilize the price for a period of twelve months. Under a pooling system, freight costs are averaged. The one price is charged for all phosphates of the same grade, although there are different kinds of phosphate. A list of prices charged for the last ten years is shown hereunder:—

#### PHOSPHATE PRICES C.I.F. AUSTRALIAN PORTS—1931-32 TO 1941-42.

Year.	Nauru.	Ocean Island.	Other Sources.		Per ton.				
			High Grade.	Low Grade.					
			s. d.	s. d.					
1931-32	..	..	46 0*	32 7	46 0*	48 4*	47 3	..	..
1932-33	..	..	43 3*	32 7	45 9*	44 6	..	..	..
1933-34	..	..	38 0*	31 6	41 3*	40 0	..	..	..
1934-35	..	..	36 0	37 6	..	..	..	..	..
1935-36	..	..	32 6	34 0	..	..	..	..	..
1936-37	..	..	30 6	32 0	..	..	..	..	..
1937-38	..	..	30 6	31 6	..	..	..	..	..
1938-39	..	..	30 6	31 6	..	..	..	..	..
July-December	..	..	29 6	29 6	..	..	..	..	..
January-June	..	..	38 0	38 0	..	..	..	..	..
1940-41	..	..	62 0	52 0	52 0	52 0	39 0	..	..
1941-42	..	..	100 0*	100 0*	100 0	100 0	75 0	..	..

\* Prices include surcharge to cover excess cost of phosphate from other sources.

NOTE.—Phosphate from other sources—

High grade—

1931-34—Makaten.

1940-42—Makaten and Christmas Island.

Low grade—

1940-42—Egypt (Kosseir and Safaja).

10. Mr. Gaze explained to the Committee that freight was a bigger factor than phosphate in the delivered price. In 1920 the c.i.f. price was 77s. per ton; made up of 30s. f.o.b. and 47s. freight and charges. By progressive reductions the c.i.f. price was brought down by the Commission to 29s. 6d. in 1938-39, made up of 13s. 3d. f.o.b. and 16s. 3d. freight and charges. The war caused a rapid rise in charter rates for ships and also some increase in production costs. The witness added that the rise in freights had been most rapid; whereas before the war a ship could be chartered for the basis of 6s. sterling per dead-weight ton per month, shortly after the war began the rate rose to 7½ dollars, or about seven times as much—at which rate it was ultimately stabilized. The Commission had run its own ships on the basis of cost plus reasonable depreciation. Insurance rates also had increased.

Until June, 1941, c.i.f. prices were kept down to a relatively low level, viz., 38s. for January-June, 1940, and 52s. for 1940-41 by the use of four ships owned by the Commission and reserve stocks brought in at low prices prior to the war. The sinking of three of these ships in December, 1940, consumption of most of the reserve phosphate, reduction of Nauru-Ocean Island output, and purchase of expensive supplementary supplies from other sources, caused a further increase in 1941-42 to 100s. for high-grade phosphate and 75s. for low-grade phosphate. Those are the current c.i.f. prices. The actual cost of the low-grade phosphate is considerably higher than 75s., but the charge is made proportionate to grade. The Commission pool the whole of the cost of the outside phosphate and charge it at one price for all high-grade phosphate, and at another price for all low-grade phosphate.

For 1941-42 approximately 80 per cent. high-grade and 20 per cent. low-grade is being used, which makes the average price 95s.

At 30th June each year the price of phosphate in stocks of superphosphate carried forward is adjusted to the price for the next period, so that no company is at any advantage or disadvantage compared with other companies.

### SUPERPHOSPHATE PRICES.

11. The trend of prices before the war, indicating a steady reduction, is shown in the following table:—

	New South Wales	Victoria	South Australia	Western Australia	Tasmania	Per ton.				
						£ s. d.				
1923	..	..	..	..	..	5 16 0	5 0 0	4 15 0	5 10 0	5 10 0
1928	..	..	..	..	..	5 5 6	5 0 0	5 17 6	5 2 6	5 17 6
1933	..	..	..	..	..	4 2 6	4 10 0	4 10 0	4 12 6	4 12 6
1938	..	..	..	..	..	3 10 0	3 10 0	3 10 0	3 12 6	4 0 0

Prices at the outbreak of war were generally in line with those shown as ruling in 1938. It should be explained that the Western Australian price was for a grade of superphosphate containing 23 per cent. phosphoric acid against 22 per cent. in the other States and that the Tasmanian price of 42s. includes delivery to farmer's nearest railway station and represents £3 12s. 3d per ton at the factory.

12. Superphosphate prices in Australia ex works for the past ten years are as follows:—

	New South Wales	Victoria	Tasmania	South Australia	Western Australia	Per ton.				
						£ s. d.				
1931-32	..	..	..	..	..	4 10 0	4 10 0	5 5 0	4 10 0	4 10 0
1932-33	..	..	..	..	..	4 10 0	4 10 0	5 2 6	4 10 0	4 10 0
1933-34	..	..	..	..	..	4 2 6	4 15 0	4 5 6	4 5 0	4 5 0
1934-35	..	..	..	..	..	3 10 0	3 10 0	4 12 6	4 0 0	4 0 0
1935-36	..	..	..	..	..	3 10 0	3 10 0	4 12 6	3 7 0	3 15 0
1936-37	..	..	..	..	..	3 10 0	3 10 0	4 7 6	3 12 6	3 12 6
1937-38	..	..	..	..	..	3 10 0	3 10 0	4 4 0*	3 10 0	3 12 6
1938-39	..	..	..	..	..	3 10 0	3 10 0	4 4 0*	3 10 0	3 12 6
July to December	..	..	..	..	..	3 10 0	3 10 0	4 4 0*	3 10 0	3 12 6
1939-40—	..	..	..	..	..	4 0 0	4 0 0	4 14 0*	4 0 0	4 2 6
January to June	..	..	..	..	..	4 14 0	4 14 0	5 0 0*	4 14 0	4 18 6
1940-41	..	..	..	..	..	6 6 0	6 6 0	6 5 0*	6 6 0	6 10 6
1941-42	..	..	..	..	..	..	..	..	..	6 8 6
1941—12th August	..	..	..	..	..	..	..	..	..	..

\* Subject to rebate of 4s. per ton allowed by Government on superphosphate delivered by rail.

13. Variations in the selling price of superphosphate since 31st August, 1939, have been as shown in the following table.

Increases shown per ton of superphosphate:—

Date of Alteration in price.	New South Wales	Victoria	SOUTH AUSTRALIA.		Western Australia	Tasmania
			Mainland	Flyre Peninsula		
Price at 31st August, 1939	3 10 0	3 10 0	3 10 0	3 12 6	3 12 6	4 0 0
Increase as from 2nd January, 1940	10 0	10 0	10 0	10 0	10 0	10 0
Increase as from 1st July, 1940	14 0	14 0	14 0	16 0	16 0	9 0
Increase as from 1st July, 1941	1 12 0	1 12 0	1 12 0	1 12 0	1 12 0	1 12 0
Reduction as from 12th August, 1941	..	..	..	..	2 0	..
Total Increase	2 16 0	2 16 0	2 16 0	2 18 0	2 16 0	2 11 0
Less Commonwealth Government subsidy as from 1st July, 1941	1 5 0	1 5 0	1 5 0	1 5 0	1 5 0	1 5 0
Net Increase in selling price	1 11 0	1 11 0	1 11 0	1 13 0	1 11 0	1 6 0
Present Selling Price	5 1 0	5 1 0	5 1 0	5 5 6	5 3 6	5 6 0

14. The excellent work done by the British Phosphate Commissioners is reflected in the prices charged for phosphate rock which fell from 67s. c.i.f. per ton in 1921 to 29s. 6d. c.i.f. per ton in 1939. At the outbreak of war the Commission had substantial reserves of rock in various factories throughout the Commonwealth, and the existence of these stocks, which were imported when costs were low, helped not only to maintain continuity of supply, but to keep down the average cost to Australian users of superphosphate.

The increase in the cost of overseas freight and war risk insurance shortly after the war and the requisitioning of certain vessels owned by the Commission caused a steep upward movement in costs which resulted in an increase from 29s. 6d. to 38s. per ton in the price of rock. For the year 1940-41 the price was set at 52s. per ton, but in December, 1940, a German raid on Nauru caused extensive damage to plant there and resulted in the loss of some ships. The relatively small quantity that could be obtained from Nauru became more expensive, freights became still higher, and new sources of supply had to be found. The result was that the price for the year 1941-42 rose to 95s. per ton. The entry of Japan into the war has added considerably to the Commission's difficulties, and supplies are now being obtained from other sources. The rock now being secured is not as rich as that from Nauru and Ocean Island, and it is, if anything, more difficult to work; it requires more crushing and the use of a greater quantity of sulphuric acid.

In spite of the difficulty of securing supplies, the Commission has not increased the price of 95s. per ton, which is 65s. 6d. per ton higher than the pre-war price. As about 5 tons of rock are required to produce 8 tons of superphosphate, the increased cost of rock represents about 41s. per ton of superphosphate.

15. Fertilizers were included in the first list of declared goods under the National Security (Prices) Regulations and since the outbreak of war have been under strict price control. Before granting any price increase detailed investigation was made by the Commonwealth Prices Commissioner, particular attention being paid to the profit margin of manufacturers, and the Committee is satisfied that the price fixed bears a proper relation to the increased costs which had to be met in obtaining supplies of phosphatic rock—the major item in the price of superphosphate.

The following comparison between prices and costs in 1929, 1939 and 1942, compiled by the Assistant Prices Commissioner indicates the position:—

	1929.	1939.	1942.	Increase over 1939.		
					£ s. d.	£ s. d.
Phosphate rock ..	£ 1 11 5	0 18 4	2 19 4	2 1 0		
Sulphur ..	0 14 7	0 15 0	1 1 0	0 6 0		
Bags ..	0 10 4	0 6 6	0 10 0	0 3 6		
Other costs and profit ..	2 4 8	1 10 2	1 15 8	0 5 6		
Selling Price ..	5 1 0	3 10 0	6 6 0	2 16 0		

In submitting this table to the Committee Mr. McCarthy indicated that the actual costs per ton of superphosphate of the four items varied considerably between different manufacturers even in the case of rock phosphate which is purchased by all of them at the same price—the differences being due to varying efficiency and to different methods of manufacture and costing.

16. As the Prices Commissioner noted that the capacity of superphosphate factories in Australia was considerably in excess of current production, restricted by the quantity of rock available, before he granted the last price increase, arrangements had to be made for one of the factories to be closed down. Should there be further reductions in the quantity of rock other plants may have to be similarly treated.

17. During its inquiry a witness in Tasmania told the Committee that it had been suggested that an anticipated increase of 22 per ton in the cost of superphosphate was necessary to pay for damage done by enemy action to the loading plant at Nauru. Mr. Gaze emphatically denied this allegation by saying on oath—“There is no truth whatever in the suggestion that an impost has been placed upon the price of phosphate in order to create a fund for the reconstruction of machinery destroyed at Nauru and Ocean Island.”

#### FERTILIZER SUBSIDIES.

18. During the past ten years primary producers, other than wheat growers, have been assisted in difficult periods by Commonwealth subsidies on fertilizers. Particulars of the rates of payment, the amounts of subsidy, &c., are shown in the following table:—

Year ended.	Subsidy rate per ton.	Limit on which subsidy payable.	Number of claims.	Total quantity subsidized.	Total subsidy paid.
	s. d.	Tons.		Thousand tons.	£
30th November, 1933 ..	15 0	..	69,203	326	214,897
30th June, 1934 ..	15 0	..	81,548	468	351,153
30th June, 1936 ..	15 0	..	90,890	556	431,618
30th June, 1937 ..	10 0	..	87,400	644	322,165
30th June, 1938 ..	10 0	20	77,031	512	256,178
30th June, 1939 ..	10 0	10	77,122	317	168,592

The continuance of the subsidy for the twelve months ending 30th June, 1940, was approved by the Commonwealth Government, but at the reduced rate of 5s. per ton. But on the outbreak of war in September, 1939, the Government decided that in view of its defence commitments it would have to withdraw this approval. However, at a later date, following substantial rises in the price of superphosphate totalling 56s. per ton approved by the Commonwealth Prices Commissioner, and due almost entirely to war conditions, the Commonwealth Government realized that such heavy increases would have a serious effect on essential primary industries and decided to provide a superphosphate subsidy at the rate of 25s. a ton, making the effective increase to the farmer 31s. The subsidy is paid to superphosphate manufacturers who are required to adjust their prices to consumers so that the latter receive the full benefit.

#### RATIONING OF SUPERPHOSPHATE.

19. The subsidy of 25s. a ton was approved by the Commonwealth Government on the understanding that a system of rationing would be introduced on the basis of discrimination between industries, but would have regard to the need for the stimulation or curtailment of production according to the demands for the essential commodities. It was felt that some form of rationing would be necessary in order to ensure that the reduced supplies of superphosphate were utilized in the most efficient manner. The question of rationing was discussed at a meeting of the Australian Agricultural Council in June, 1941, when the following resolutions were adopted:—

- (1) That all crops be rationed to each producer *pro rata* of his normal requirements.
- (2) That the Commonwealth Government should agree to the States administering the rationing of superphosphate in accordance with the above principle and any other principles that may be adopted in the light of future developments.

After a lengthy discussion regarding the first resolution it was generally agreed by the Agricultural Council that a more equitable and suitable method of rationing was that all crops be rationed on the same basis with special provision for new crops of particular war-time importance namely, flax and beans for canning. It is understood that the Council's decision in this regard was influenced, to some extent, by the experience of the New Zealand Government, which had introduced a rationing system based on discrimination between industries. Reports received by the Commonwealth Government, and apparently also by State Departments of Agriculture, were to the effect that the New Zealand system had proved to be generally unsatisfactory.

In view of the Commonwealth Government's undertaking to consult with the States in regard to any proposals for the rationing of individuals and having regard to the views of manufacturers, the following plan was placed before the State Ministers at a meeting of the Australian Agricultural Council on the 26th November, 1941. The plan received the unanimous approval of the Council and it was decided that it should operate from 1st January, 1942.

#### SUPERPHOSPHATE RATIONING PLAN.

- (1) Manufacturers to be instructed to ration superphosphate to their customers on a uniform basis, irrespective of crop.
- (2) In determining the ration for the individual customer for the current season, the manufacturer shall take the equivalent of 65 per cent. of the customer's purchases in the 1939-40 season.
- (3) Under an agreement with the British Phosphate Commissioners, the total quantity of superphosphate which each manufacturer may sell in 1941-42 the equivalent of 70 per cent. of the quantity sold by him in 1939-40.

(4) The manufacturer shall be instructed that a quantity of superphosphate, represented by the 5 per cent. difference between his selling quota and the consumer's ration, shall be held by him as a "Contingencies Pool". Superphosphate in this pool will be required for special cases approved by the State agricultural authority, and the manufacturer shall operate on the contingencies pool only on the authority of the Department of Agriculture in his State.

(5) The permanent head of the Department of Agriculture shall determine the merits of special cases, whether submitted direct by consumers or through the manufacturers. He will also decide cases where the size of ration is in dispute.

(6) Manufacturers shall be instructed to refer all doubtful cases to the Department of Agriculture for determination.

(7) Special cases would include the following:—

(a) Purchases in the base year (1939-40) below normal.

(b) Superphosphate normally used, but none purchased in the base year.

(c) Superphosphate not ordinarily used, but special circumstances this season warrant the granting of a ration, e.g., canning beans.

(d) Supplementary rations for special crops, e.g., flax.

(8) Consumers shall be required to lodge their orders with their usual suppliers not later than 31st January, 1942.

(9) The plan shall operate from 1st January, 1942. In the meantime, manufacturers shall be instructed to adhere to the present arrangement whereby they supply their usual June-December customers with 70 per cent. of the quantity purchased by them in the corresponding months of 1939-40.

(10) The rationing plan shall be reviewed as soon as possible after 31st March, 1942, with particular reference to the method of disposing of any balance remaining in the contingencies pool and of any unwanted rations unclaimed at that date.

20. Before the original rationing plan came into operation on the 1st January, 1942, it was found necessary to reduce the individual consumer's ration from 65 per cent. to 60 per cent. of the base year purchases. This reduction was due to Japan's direct participation in the war, involving as it did the cutting off of supplies of rock from Nauru and Ocean Island.

#### PHOSPHATE STOCKS.

21. An expert assessment of the position for the current year and for next year—when further restriction appears inevitable—of the stocks of phosphate available in Australia for the manufacture was not very encouraging, having regard to the demands expected to be made for increased production in certain essential foodstuffs. Mr. Gaze placed the position before the Committee as follows:—

From 1928 to 1928 Australian phosphate usage increased from 318,000 to 620,000 tons. Then the depression caused a fall to 387,000 tons in 1931-32, after which consumption climbed again to the peak figure of 711,000 tons in 1937-38. For the next three years the average was just over 600,000 tons. No restriction on consumption was imposed until the raider attack in December, 1940, when the quantities to be used in January-June, 1941, were limited to the same tonnage as in January-June, 1940. For 1941-42 usage of phosphate was restricted to 420,000 tons, which is 70 per cent. of the 1939-40 consumption (600,000 tons).

As supplies from Nauru-Ocean Island, Christmas Island and Makatea are now cut off, further restriction in 1942-43 is inevitable.

22. In February, 1942, Mr. Gaze indicated that his present assessment of the position for the current year and next year is—

	Tons.
Stocks, 1st July, 1941, in all forms, including bags and raw materials	330,000
Imports 1941-42	200,000
	<hr/>
Consumption 1941-42 (70 per cent. of 1939-40)	420,000
Stocks 30th June, 1942	200,000
Imports 1942-43	200,000
	<hr/>
Consumption 1942-43—based on a further 20 per cent. reduction to 50 per cent. of 1939-40	300,000
Stocks 30th June, 1943	100,000

Normally, one ton of phosphate makes about 1.7 tons of superphosphate, but at the present time the position is slightly different. In this statement, he used the phosphate figures only, and in reference to superphosphate in bags, the figures relate to the phosphate content.

Mr. Gaze explained that these figures represented the position so far as he could visualize it then, but it may be quite different a little time hence. The shipping position was most difficult, and changed from day to day as various vessels were diverted to urgent war work.

The position, however, has deteriorated considerably since these figures were submitted, as supplies from Christmas Island and Makatea have ceased.

#### SULPHUR AND NITRATE.

23. Sulphur and nitrate are the other two raw materials needed for the manufacture of superphosphate. From sulphur is obtained the sulphuric acid required to convert phosphate rock to superphosphate.

Sulphur is used in the approximate proportion of one ton sulphur to 6 tons of phosphate or 8 tons of superphosphate. Production of sulphur in Australia from pyrites and concentrates is adequate for superphosphate manufacture in New South Wales, Tasmania, Victoria and South Australia (excepting Port Lincoln). Port Lincoln and Western Australia depend on imported sulphur, which has to be brought from Texas.

As an encouragement for the use of Australian sulphur-bearing materials, the Commonwealth Government, before the war, granted a bounty of 3s. per ton of sulphur to operate when the landed cost of imported brimstone was £5 11s. per ton; the bounty was on a sliding scale and was to cease when the landed cost of brimstone was £7 7s. per ton. At the outbreak of war the cost of brimstone was about £6 per ton, which represented approximately 15s. per ton of superphosphate. Many of the users of brimstone had reserve stocks of sulphur, which were averaged with the cost of shipments received after the war and thus prevented a steep rise in the cost of this ingredient. Just before the commencement of the war in the Pacific the landed cost of imports exceeded £14 per ton, but the highest price used for arriving at a price of superphosphate for 1941-42 was about £9 12s. per ton. Suppliers of Australian sulphur-bearing materials were not permitted to follow the price of imported brimstone; they were pegged at prices the equivalent of £7 7s. for imported brimstone, at which figure the bounty ceased. Thus the increase of the cost of superphosphate arising from the increase of sulphur costs ranged from about 3s. to 9s. per ton of superphosphate.

The future position regarding sulphur supplies in Western Australia was brought to the attention of the Committee by the Assistant Prices Commissioner, who indicated that it was expected that all sulphur requirements for Western Australia for 1942-43 would be not lower than £14 a ton and that all other things being equal the cost of sulphur in that State may exceed the price in the Eastern States by more than 15s. a ton. A similar position will arise in Eyre Peninsula where the works are entirely dependent on imported brimstone as it is impracticable to transport sulphuric acid from the mainland to Port Lincoln.

In Western Australia last year the position arose where one manufacturer who had large pre-war stocks costing an average of £6 per ton below the cost of a shipment landed later by another company. As this difference represented about 15s. a ton of superphosphate it could not be averaged and the position was met by a grant of £25,000 by the Commonwealth to cover the higher price of sulphur.

The Committee is of opinion that such action is reasonable where a cost difference is too great to be averaged and it is obvious that wide price disparity would bring all business to one manufacturer and cause pronounced price differences for the same commodity between States or localities.

24. Nitrate is required in approximate proportion of one ton nitrate to 170 tons superphosphate. It is obtained from Chile. Requirements for fertilizing purposes are small compared with munitions purchases, but nitrate is now unobtainable for fertilizer purposes.

There are no known deposits of nitrate in Australia, but the position could be met if investigation showed that a plant for fixation of atmospheric nitrogen was warranted. The supply of nitrogen is unlimited but much capital would be required and the question is one of plant and economics.

#### SULPHATE OF AMMONIA.

25. The most important fertilizer in the nitrogenous group in use in Australia is sulphate of ammonia, a by-product of coal used in gas and steel works, of which pre-war requirements amounted to 50,000 tons—27,000 tons imported, and 23,000 tons produced locally. The distribution amongst the States was approximately—Queensland, 30,000 tons; New South Wales and Victoria each 8,000 tons; South Australia, 3,000 tons per annum. In Queensland 85 per cent. is used in the sugar industry, the balance being devoted to vegetable and fruit-growing. A company known as Nitrogen Fertilizers Pty. Ltd., formed by all the Australian producers of sulphate of ammonia, is the main supplier of this fertilizer and it also undertook the purchase

and distribution of overseas supplies. As large quantities of Australian-made sulphate were required for munitions purposes since the outbreak of war the company has had to restrict supplies to customers in proportion to their normal requirements.

Under price control, prices were pegged at the level of 31st August, 1939, and to overcome the different prices for local and overseas sulphate the Prices Commissioner approved of a plan to pool all sulphate and sell throughout Australia at a uniform price. Under this arrangement wholesale prices varied as follows:—

		Selling price per ton.
		£ s. d.
At 31st August, 1939	.. .. ..	10 17 0
From 1st February, 1940	.. .. ..	12 17 0
From 1st August, 1940	.. .. ..	14 12 0
From 1st July, 1941	.. .. ..	11 0 0

As further import licences would not be granted it was necessary to reduce the pool price to approximately pre-war level.

26. When giving evidence before the Committee the Secretary to Nitrogen Fertilizers Pty. Ltd. indicated that three Commonwealth Departments—Commerce, Trade and Customs, and Supply and Development—seemed to be interested in sulphate of ammonia, as well as the State Agricultural Departments. Demands were being made for sulphate for munitions purposes and at the same time the Company was being urged to give prior consideration to growers of vegetables for the troops. Subsequently the Ministry of Munitions circularized the fertilizer trade stating that sulphate of ammonia is now under its control.

#### POTASH.

27. Potash fertilizer used in Australia is wholly imported and is used in two forms—muriate of potash and sulphate of potash, the former being the more extensively used. Prior to the war, supplies came mainly from Germany and France; but recently supplies have been obtained from Palestine. Australian consumption was about 12,000 tons.

Sulphate of potash is now unprocurable but muriate is being obtained, although supplies are uncertain.

Queensland is the chief user of this fertilizer for sugar, banana, pineapple and tobacco crops, and in that State the Department of Agriculture regulates its use.

Prices have been controlled and increases permitted as under—

		Muriate.	Sulphate.
		Per ton.	Per ton.
		£ s. d.	£ s. d.
31st August, 1939	.. .. ..	13 10 0	15 10 0
9th February, 1940	.. .. ..	17 7 6	19 7 6
20th February, 1940	.. .. ..	21 0 0	21 10 0

#### AUSTRALIAN RESOURCES.

28. Having regard to the paramount importance to primary production of fertilizers, the Committee sought information concerning possible sources within Australia for the supply of raw materials to replace those hitherto imported.

Mr. Gaze indicated that several deposits of low-grade phosphate existed in South Australia, mostly with high iron and alumina content which made phosphate unsuitable for superphosphate manufacture; but experiments conducted with mixtures with high-grade phosphate had given fairly satisfactory results. Further investigation into the possibility of utilizing material from local sources is being continued by the British Phosphate Commissioners.

Dr. Ward, Government Geologist of South Australia, informed the Committee that the distribution of phosphate rock in South Australia was very wide, many deposits having been located over a length of 200 miles from Myponga to Carrington; the only recent discovery was situated within a short distance of Adelaide, at a locality known as Lower Hermitage. This deposit was regarded by the Mines Department of South Australia as one on which investigatory work was justified. The total production of phosphate rock raised in South Australia between 1903 and 1941 has been 124,753 tons of 60 per cent. rock, but the lack of development of local deposits for use in the manufacture of fertilizers was explained by the fact that when high grade phosphate came from Nauru and Ocean Island, local production fell considerably and manufacturers were unwilling to take the local low-grade product because farmers had been educated to use the high-grade material.

29. The position in the other States may be summarized as follows:—

*New South Wales.*—The quantities of phosphatic rock known to be available are negligible as a source of supply. This applies to the caves at Wellington, Molong, Ashford and other places. Over a long period several hundred tons were produced at Ashford and the supply is practically exhausted.

*Victoria.*—The Geological Branch of the Mines Department has full knowledge of rock formation, and it has not suggested any source of phosphate rock which could be economically used.

*Queensland.*—Mostly cave deposits of small quantities, and phosphatized coral.

*Western Australia.*—The most accessible deposits, those at Dundrangan, have been recently investigated again and it was found that all the phosphate in the reserve would be only sufficient to meet the State's requirements for one year, even if recovery were practicable.

*Tasmania.*—Small amounts of phosphate material produced from Tasmanian resources have been obtained from guano deposits on small islands of the coast, but the volume of material has not been proved to be of sufficient magnitude to warrant commercial exploitation.

Apatite, the mineral source of phosphate, has been located only in minute quantities.

30. Other commodities available in Australia having some fertilizer value are—Limestone which is common in every State.

Gypsum, which is used on certain soils as a fertilizer, is available in New South Wales, Victoria and South Australia.

Cave earths consisting of accumulated droppings of birds and animals in limestone caves small quantities of which are available in scattered localities in New South Wales, Queensland and South Australia, but could be utilized economically only near the areas where found. Meatworks fertilizers, such as blood and bone, provide about 50,000 tons which are in demand for vegetable and fruit growing.

The greater use of farmyard manure on grass or crop lands has for many years past been the advice of the New South Wales Agricultural Department to dairy farmers.

Another possible means of augmenting Australia's fertilizer supplies brought under the notice of the Committee was by the use as a soil dressing of ground serpentine mixed with superphosphate. This was being done in New Zealand where the Department of Agriculture has recommended the use of one part of serpentine to three parts of superphosphate.

Owing to the drier climatic conditions in those parts of Australia where superphosphate is used the prospects of using serpentine here were rather less than in New Zealand, nevertheless an examination of the position was being made.

Serpentine is magnesium silicate and occurs in most of the States, but no estimate concerning quantities available and cost of production have been made.

#### COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS.

31. In pre-war years Australia has been well served in the matter of fertilizer supplies. The British Phosphate Commissioners have rendered efficient and valuable service to Australian primary industries by enabling them to receive high-grade superphosphate at reasonable prices. State agricultural experts and fertilizer manufacturing companies with their agricultural advisers have assisted in educating the farmers in the proper utilization of fertilizers; accordingly, production and carrying capacity have been increased and farms and farming methods have been improved.

32. War conditions, however, have been responsible for higher prices and decreased supplies. Enemy action cut off Australia's regular sources of phosphate, and raw materials had to be obtained elsewhere; shipping was at a premium, freights and insurance rates rose. Price control was immediately instituted, but after close investigation increases were permitted later, based mainly on higher costs for phosphate rock due to shipping charges. The Committee's inquiries indicated that, having regard to all the circumstances, these increases had been fair and reasonable. Prices reached such a level, however, and supplies became so limited, that further Government action had to be taken; a bounty on superphosphate of 25s. a ton was granted and a rationing scheme imposed.

33. The superphosphate rationing scheme has worked satisfactorily and complaints have been few, as the need for it has been accepted by producers and manufacturers as a consequence of war conditions; but transport difficulties have accentuated the producers' problems. The effect of the sudden rationing of fertilizers, however, cannot be overestimated in its results on production; though it may not be substantial this season, with more severe rationing inevitable,

and perhaps even a total cessation of supplies of some fertilizers, the position of the primary industries will become serious. But more important still will be the effect on essential food supplies.

34. The Committee strongly recommends that all stocks of fertilizers, whether from abroad or from Australia's own resources, should be carefully husbanded, and should be made available to those crops which the Commonwealth Government declares are essential, and in the order of priority indicated by the Government. Farmers are prepared to give every assistance, but they require a lead from the Government with specific instructions as to the nature of the crops most needed.

35. When the policy of rationing superphosphate was adopted the effect on production of the lesser supplies was recognized. Evidence tendered to the Committee was emphatic that production must decline, quality deteriorate and development be restricted. The degree to which land and pastures can maintain production on smaller supplies of fertilizers will vary considerably but a greater economic harm will be the deterioration of much of the good work already accomplished by the use of fertilizers. Where pasture improvement has been carried on the effect will be most pronounced, and as most wheat-growers also run sheep, the shortage will be reflected in decreased production in wheat, wool, sheep and lambs.

New South Wales uses about 90 per cent. of its supplies for wheat and pasture, and about 10 per cent. for other crops. Under the 60 per cent. rationing plan it was estimated that yields would be reduced by 25 per cent.

In Victoria, which uses more superphosphate than any other State, and practically the same quantity for pastures as for crops, it is estimated that the immediate loss in yield in cereals over the whole State which would result from a 40 per cent. reduction in the amount usually applied per acre would be about 8 per cent. of the average yield; if no superphosphate were applied the reduction would be about 20 per cent. These figures take into account the very considerable residual value of the superphosphate applied over past years to the wheat lands of the State. If restriction is continued for longer than two or three years the reduction in yield will become greater as time proceeds and might even reach 50 per cent. of present yields. In the case of vegetables and small fruits the percentage reduction in yield, if the dressing of superphosphate is withheld, will be from 15 to 25 per cent. If supplies of superphosphate ceased entirely the falling off in production throughout the dairy industry would, it is estimated, amount to 25 per cent. or 30 per cent. in three years' time.

In Queensland, to meet the prospective shortage of fertilizer, supplies have been rationed for the past two years under the control of the State Department of Agriculture, and have been made available to various crops as required.

In this State, where the main requirement is sulphate of ammonia for the sugar crop, superphosphate is not used to any great extent except in mixtures.

In South Australia and Western Australia practically all the agricultural industries are dependent upon adequate supplies of superphosphate being available to keep them within economic bounds; diminished supplies will mean a very serious outlook for producers.

In Tasmania, on the lighter soils, crops cannot be grown regularly or stock grazed successfully over long periods without the application of superphosphate. The growing season is shorter than on the mainland and quick growth must be encouraged before the cold weather starts.

36. The Committee is impressed with the imperative necessity and importance of exploring every possible avenue within Australia for the supply of raw materials for fertilizers. Our whole rural economy demands continued supplies of superphosphate, in particular, as the settlement of large areas of lighter lands in some States is based on its use, whilst the improvement and maintenance of pastures throughout the Commonwealth depend upon this essential commodity.

The Committee therefore recommends that renewed and comprehensive endeavours be made to locate and develop further deposits of phosphatic rock and other ingredients of fertilizers.

Provided the British Phosphate Commissioners' experts are satisfied superphosphate can be manufactured from the known deposits, immediate action should be taken to develop them, whilst prospecting is being undertaken to discover further likely areas.

The fact that about 125,000 tons of phosphate rock were mined in South Australia prior to the advent of the high-grade product from Nauru and Ocean Island appears to the Committee to indicate that it must have been regarded as of some value as a fertilizer; this value could no doubt be improved by the addition of available supplies of high-grade rock and so assist in increasing the quantity of superphosphate which could be distributed.

Should there be any difficulties in the way of prospecting or mining phosphate deposits, the Committee is of opinion that there should be no hesitation in invoking the aid of the National Security Act.

As the investigation and prospecting of all such deposits are definitely part of the war effort, the Commonwealth should bear the expense of this work, as well as any additional cost involved in the supply of the superphosphate from any local deposits which may be worked.

37. The Committee is unanimously of opinion that having regard to the national character of the work performed in producing essential food and fodder, the whole of the increase in the price of superphosphate due to war conditions should be borne by the Commonwealth.

The Committee is prompted to make this recommendation by the knowledge that since the outbreak of war the cost of almost every item required by primary producers has risen. This is supported by the following figures supplied by the Commonwealth Statistician showing the movement in the Melbourne wholesale price for a number of items which occur in the costs of rural production:—

Item.	Unit.	Wholesale Price in—		Percentage Increase.
		August, 1939.	March, 1942.	
Superphosphate	..	£ s. d.	£ s. d.	%
Corn sacks	..	3 10 0	5 1 0*	44.29
Wool packs	..	0 8 51	0 11 01	30.12
Power kerosene	..	0 3 7	0 5 21	45.35
Fuel oil	..	0 0 111	0 1 41	48.48
Petrol—2nd grade	..	5 13 11	10 10 73	86.19
Oil (lubricating)	..	0 1 7	0 2 6	57.90
Bag and binder twine	..	0 4 04	0 5 33	30.77
Stock lick	..	3 1 0	3 9 3	13.52
	Ton	9 12 6	10 14 6	11.43

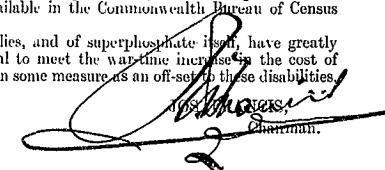
\* After allowing for bounty of 25%.

Considerable increases have also been made in the prices of agricultural implements and machinery parts, but actual figures are not available in the Commonwealth Bureau of Census and Statistics.

The scarcity of labour, of essential supplies, and of superphosphate itself, have greatly decreased productive capacity, and this proposal to meet the war-time increase in the cost of the farmers' superphosphate should be regarded in some measure as an off-set to these disabilities.

Parliament House,  
Canberra.

29th April, 1942.

  
Chairman.