

New Zealand Society of Animal Production online archive

This paper is from the New Zealand Society for Animal Production online archive. NZSAP holds a regular annual conference in June or July each year for the presentation of technical and applied topics in animal production. NZSAP plays an important role as a forum fostering research in all areas of animal production including production systems, nutrition, meat science, animal welfare, wool science, animal breeding and genetics.

An invitation is extended to all those involved in the field of animal production to apply for membership of the New Zealand Society of Animal Production at our website www.nzsap.org.nz

[View All Proceedings](#)

[Next Conference](#)

[Join NZSAP](#)

The New Zealand Society of Animal Production in publishing the conference proceedings is engaged in disseminating information, not rendering professional advice or services. The views expressed herein do not necessarily represent the views of the New Zealand Society of Animal Production and the New Zealand Society of Animal Production expressly disclaims any form of liability with respect to anything done or omitted to be done in reliance upon the contents of these proceedings.

This work is licensed under a [Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License](http://creativecommons.org/licenses/by-nc-nd/4.0/).



You are free to:

Share— copy and redistribute the material in any medium or format

Under the following terms:

Attribution — You must give [appropriate credit](#), provide a link to the license, and [indicate if changes were made](#). You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.

NonCommercial — You may not use the material for [commercial purposes](#).

NoDerivatives — If you [remix, transform, or build upon](#) the material, you may not distribute the modified material.

<http://creativecommons.org.nz/licences/licences-explained/>

“THE FIGHT FOR FOOD”

By E. J. FAWCETT.

Director-General of Agriculture.

THE title of this paper was chosen somewhat haphazardly, but as I have proceeded I have felt that “the fight for food” is quite appropriate. The urge to satisfy hunger is perhaps the most primitive instinct of animal life. In our studies of elementary zoology we learned of such forms as amoeba, ciliata, hydra and obelia. These examples of protoplasm are remarkable for the intricate processes by which they entice food within their reach and by which they absorb nourishment. Their life cycle consists of catching and absorbing food, and in processes of reproduction. As we advance higher in the scale we find these primitive instincts still dominant. From the cradle to the grave the fight is for food—for self-preservation. Consider the young of the mammal—how they demand their rightful sustenance. It is sufficiently striking in the case of a single young—but who has not watched a litter of pups, kittens or piglets fighting each other for priority and a major share of their mother’s milk? And in litters, as in human society, we find gradations in the level of nutrition, depending on the degree of success achieved in competition.

The characteristics of humans in this particular are not dissimilar from those of dumb animals. In the fight for food men will thief and kill. Shortage of food—living on the verge of starvation—reduces men and women to the level of beasts. We have but to read some of the stories of life in prisoner-of-war and internee camps to appreciate the lengths to which human beings will go in an endeavour to survive. This primitive urge is present in every strata of society. Let us look at some of the well-recognised groups as they engage in this fight for food. The subsistence farmer is of particular interest. He represents a very large proportion of the world’s people and is found primarily in underdeveloped and backward nations with up to 70% of their population actually living on the land. He is scattered throughout the islands of the Pacific, in the East Indies, Malaya, and Burma; in small clearings in the midst of tropical forests, fighting against the competition of weeds and second growth which, almost overnight, revert to primitive jungle the plots on which he and his family depend for their meagre food supply. Imagine the hundreds of thousands of families of India, living in their small villages, in many cases surrounded by water and waterways—see them plodding behind their patient buffaloes—planting the rice on which their very existence depends. In China and many parts of Africa the same struggle is apparent, and we find the fellahin of Egypt, the strip farmer of the continent of Europe, peasants of Greece, Yugo-Slavia and many other countries, all fighting nature in their struggle for existence.

Many countries producing food or raw materials rely almost wholly on the export of one commodity for their external exchange. The South American countries producing sugar are typical of this group. Such countries are usually dominated by a few individuals or by wealthy corporations, and the rural worker is in a particularly unenviable position. His life consists of a few months’ seasonal work, with the necessity of eking out a meagre existence for the remainder of the year. In many ways he is not so well off as the subsistence farmer.

As we consider nations having a more balanced economy between agriculture and manufacturing industries, we find the rural population may represent not more than 25% of the whole. In such economies, the people living on the land are well-fed and command sufficient exchange value in their surplus production to enable them to absorb the products

of industry. In backward and underdeveloped countries we find poverty and malnutrition amongst both rural and urban workers—in countries which are advanced industrially the tendency is for malnutrition to be more prevalent amongst urban workers in industry and in servicing activities. It is disturbing to see hungry and under-nourished human beings in any walk of life, but it appears particularly tragic against the unsympathetic background of bricks and pavements. Begging is accepted universally as a natural feature particularly of city life, in all those countries which fall into the groups having low nutritional standards. The visitor is not pestered by the demand for “baksheesh” in the United Kingdom, in the Scandinavian countries, in U.S.A., Canada, Australia, New Zealand nor in some of the higher nutritional groups of Europe, but begging is prevalent in countries having an average calorie intake of 2300 or less.

Thus food is the most important commodity in the world. It occupies a very high place as a topic of conversation, and its procurement and preparation is pre-eminent in importance to every housewife. The consumption of food can be drab and uninteresting—a function for the maintenance of existence—or at the other extreme can represent the highest possible enjoyment and satisfaction.

The problems associated with feeding the people are not new. They have concerned the minds of man through many generations. During the 18th century the position was not so apparently acute, as the population of the world was comparatively low. It was well spread, and cities were few and small. The scene changed with the commencement and intensification of the industrial revolution—a development of major importance in history—a development not yet at its climax and one the future of which none can foretell. Instead of a world where most people worked on the land and lived almost directly and entirely from its products, people began to congregate in settlements adjacent to factories with the resultant build-up of cities. Trade began to assume a different shape. Whereas previously movement in foodstuffs within a country was slight, and between countries negligible, transport facilities were improved to cater for the growing demands of aggregations of population internally, and of industrialised countries not able to provide their own full food requirements.

This movement was intensified during the 19th century as steam power became available for the propulsion of sea and land transport. Manufacturing techniques were changing rapidly, particularly in the steel and textile industries. These developments spread from Great Britain to Western Europe and to the U.S.A. and were accompanied by remarkable population increases. We all know the prediction of Malthus that, as population would increase in geometrical progression whilst food supply would increase only in arithmetical progression, chronic poverty and periodic famines were inevitable. We cannot claim that Malthus was wholly wrong in his forecast.

As the industrial movement gained in momentum with corresponding development of towns and cities, population moved from the country to the towns. The multiplication of population in urban areas created many social and economic problems, of which food was only one. The United Kingdom became more and more dependent on outside sources and this condition applied to many other countries in varying degrees.

As these developments coincided with the expansion of North America and the British Dominions, and later with Africa, supplies were readily forthcoming. The development of these young countries required machinery and equipment of all descriptions and they were therefore able to take products of manufacture in exchange for food and raw materials. Thus international trade with all its complexities of currency, exchange, tariffs, agreements, etc. came into being and

the difficulties associated therewith will become intensified as the intricacies of international relationships develop. Technological improvements in manufacturing industries and the development of mass-production methods enabled output to be increased manifold. Consequent increases in wealth are reflected in increased demand for a wide variety of goods and services previously unknown or the prerogative of the very few.

Those engaged in agriculture as farmers, administrators, and scientists, have made great efforts to meet changing demands, and industrialists have played a leading role in the development of commodities used in production. In the first instance increased demands for food and raw materials were met by rapid development of new areas rather than by improved yield per unit of land or labour. Thus we have the expression "mining the land" and to-day we say that erosion is a national menace. What we really mean is that faulty land administration in the past, accompanied by faulty farming methods adopted throughout the years and, unfortunately still prevalent, have constituted and still constitute a national menace in many countries. Fortunately, during the latter part of the 19th century, rapid strides were made in improved agricultural techniques, especially in cultivation methods and in the breeding of improved strains of stock and plants. During the past 50 years the application of science to the development of machinery, fertilisers and breeding, and to the treatment and prevention of animal and plant diseases, has enabled agriculture to share to a great extent in the international developments which have taken place.

Agriculture has always presented somewhat of a problem to economists. In elucidating their principles and theories they refer frequently to the "special case" of agriculture. For instance, article 55 of the document is now known as "The Havana Trade & Employment Charter" says:—

"The Members recognise that the conditions under which some primary commodities are produced, exchanged and consumed are such that international trade in these commodities may be affected by special difficulties such as the tendency towards persistent disequilibrium between production and consumption, the accumulation of burdensome stocks and pronounced fluctuations in prices. These special difficulties may have serious adverse effects on the interests of producers and consumers, as well as widespread repercussions jeopardising the general policy of economic expansion. The Members recognise that such difficulties may, at times, necessitate special treatment of the international trade in such commodities through inter-governmental agreement."

This means, in practice, that factors of production do not lend themselves readily to transfer from one type of farming to another in response to price changes. Neither is it easy to change from agriculture to industry. A farmer cannot readily reduce his production if prices fall. He has to plan years ahead, especially in livestock and fruit farming. It is a common practice to increase production to compensate for fall in prices, and thus the position is aggravated as many other farmers have been seized with the same idea. This happened in the 1930's with wheat, sugar, and dairy products, rubber, grain, meat and other commodities. We witnessed the Gilbertian tragedy of famine in the midst of plenty, of food piling up and eventually being destroyed—of farmers being paid not to produce; of millions in need of food, even in those countries where subsidies were being paid on animals not born and on grain not sown. An epitaph on a tombstone in a country churchyard aptly expresses the absurdity of the financial position in which producers can find themselves, under the conditions of supply and demand which have been allowed to operate. It reads—"Here lies the body of Farmer Sheet who starved through growing too much wheat."

The Food and Agriculture Organisation of the United Nations was brought into being because of the realisation, nationally and internationally, that as at present constituted agriculture is not able to provide a reasonable basis of nutrition to all the people of the world, and that those countries which are at present capable of increasing their surplus, would not do so without reasonable guarantee of markets, and of price stability.

The development of a burdensome surplus, or the threat of such a surplus, in a particular commodity, can cause serious hardship to producers because characteristically, in the case of primary commodities, a substantial reduction in price does not readily lead to a significant increase in consumption, or to a significant decrease in production.

It has been realised therefore that in order to make the maximum amount of food available to all the people, all available knowledge of practice and science must be brought to bear for the development of backward countries, and reasonable stability must be assured to producers in countries having, or capable of producing, a surplus. As the years pass and additional Governments affiliate with F.A.O. discussions which take place at annual conferences indicate the world-wide interest in food production, and the realisation that vocal expressions of good intentions will not provide the nourishment so badly needed by so many. It was this fear which prompted Sir John Boyd Orr to present to the 1946 Conference at Copenhagen, his proposals for a World Food Board. He envisaged an international organisation backed with authority and finance, adopting a policy of guaranteed markets and price stability in order that countries now producing a surplus might plan to increase their surplus with confidence, and producers in undeveloped countries might reorganise their agriculture and adopt more scientific methods with safety.

The speeches delivered by leaders of delegations at that Conference were unanimous in their support of the principles underlying Sir John's plan.

The Governments represented in F.A.O. have, however, ruled that they are not prepared to accept Sir John's proposals, but that they are prepared to co-operate through the machinery of the various international agencies. Sir John Orr relinquished office as Director-General of F.A.O. recently, and in doing so he stated he intended to persist in telling the world that unless Governments are prepared to co-operate along the lines he suggests, the objectives of the United Nations cannot be fully achieved, and the continuance of want will inevitably lead to disruption and war.

This decision of Governments throws us back to the acceptance of two postulates:—

1. Countries endeavouring to produce sufficient food for their own people must rely, in the main, on their own resources, assisted in an advisory capacity by the technical services provided or arranged by F.A.O.
2. Countries producing surpluses which they wish to maintain or increase must rely on their own initiative to find markets, or to effect internal economic stability, assisted so far as is practicable by provisions of international agencies. In this connection the proposed Trade & Employment Charter is of paramount importance.

The Trade & Employment Charter is the outcome of several years' work by a preparatory committee of the United Nations which culminated in the conference held at Havana recently, and at which over 60 nations were represented.

Chapter six of the charter deals with inter-governmental commodity agreements and in its introductory article stresses that the chapter is designed to deal with primary commodities, the production and trends in which, for various causes, may be subject to special difficulties.

The definition of "primary commodity" as given in this chapter is of great significance to us. It reads as follows:—

1. "For the purpose of this Charter the term "primary commodity" means any product of farm, forest or fishery or any mineral, in its natural form or which has undergone such processing as is customarily required to prepare it for marketing in substantial volume in international trade.
2. The term shall also, for the purposes of this Chapter, cover a group of commodities, of which one is a primary commodity as defined in paragraph 1, and others are commodities which are so closely related, as regards conditions of production or utilisation, to the other commodities in the group, that it is appropriate to deal with them in a single agreement."

The terms of the Trade and Employment Charter are therefore of great importance to primary producers in New Zealand and elsewhere, and are closely linked with the philosophy and objectives of F.A.O. It is because of this close association that I was included in the delegation to the second session of the Preparatory Committee held in Geneva last year. I was also fortunate enough to be present at the final session held in Havana.

The head office of F.A.O. has been closely associated with the drafting of the Trade and Employment Charter, and particularly with the chapter dealing with the handling of surpluses and direction of production through Inter-Governmental Commodity Agreements. The 1947 Conference of F.A.O. in finally agreeing that the original proposals for a World Food Board as submitted by Sir John Orr, were not practicable at the present time, resolved that Inter-Governmental Agreements offered the best practical solution to the avoidance of gluts and provided conditions allowing of orderly expansion in production. The Trade and Employment Conference has made provision for such agreements in a manner acceptable to F.A.O. The International Wheat Agreement recently drawn up and approved in Washington is an example of the agreements envisaged by F.A.O. and the Trade Charter, and when finally ratified by the Governments concerned should provide an example to determine the pattern for future agreements.

Thus we see in the midst of food and raw material shortages, an attempt being made through international agencies to prescribe terms and conditions under which orderly expansion of goods in short supply may be secured, and surpluses may be controlled to safeguard against slumps and economic disaster.

History teems with examples of the tragedy of insufficient food and malnutrition amongst great sections of the peoples of the world. It is only since F.A.O. began to function, however, that some measurement of the relative position has been worked out for various countries and areas. I do not want to weary you with figures, but if we are to realise the widespread nature of the problems ahead of us, it is necessary to have some appraisal of the situation.

The measurement adopted internationally is calorie intake per day per head of population. This is not an exact measurement and does not show the full picture, as calories or heat generation can be made up by a variety of foods having entirely different values of nutrition. Also they are quoted as averages—which means in most cases a wide plus and minus variation. However, it is the best measurement available, and to give a basis of comparison we have New Zealand and Australia with a daily average calorie intake of 3050 and

3000 units respectively in 1946/47. U.S.A. 3400 and Canada 3,300. Pre-war New Zealand was assessed at 3,300 with U.S.A. next at 3,250, Australia 3,100 and Canada 3,000.

Against this background, Great Britain, which before the war had an average of 3,000 calories, was forced down from wartime 2,880 to 2,680. In Europe about 37% of the people average 2,750; 13%, 2,450; and 50% under 2,000.

The average for the Middle East is about 2,400 calories, whilst for Far East it varies between 1,700 and 2,100.

The nutrition experts of F.A.O. consider the minimum at which we should aim internationally is 2,550-2,650 for the low intake countries, but it is recognised that this would not raise living standards to a level giving a fair life expectancy. To achieve this moderate aim would require an overall increase in food products approximating for Cereals, 21%; roots and tubers, 27% sugar, 12%; fats, 34%; pulse, 80%; fruit and vegetables, 163%; meat, 46%; milk, 100%.

World Wars I and II brought home to the peoples and Governments of all countries, and particularly to those actually in the theatres of war, that food production is as vital to self-preservation and victory as is the production of armaments. After World War (1) this lesson was quickly forgotten, and the producers of food and raw materials were relegated to the background in the struggle for industrial supremacy.

The lesson this time has been more thoroughly learned, and the protracted period of scarcity following the cessation of hostilities will, I think, have a lasting effect on the relationship of Governments to Agriculture. Certainly we find throughout Europe, North America, and the British Empire generally, a determination on the part of producers to maintain their position in the international economy, and a willingness on the part of Governments to co-operate for the maintenance of a healthy agricultural policy.

Production in Europe generally is unfavourable compared with the pre-war position. We have information concerning countries participating in the Marshall Plan which in the aggregate shows that for the 1947/48 season, compared with the average of 1934/38, bread grains are down by 37%, whilst all grains show a 30% drop. Meat production is down by 33% and milk by 20%. It can be assumed that the position in countries co-operating in the Marshall Plan will approximate the production position of the remainder. The Marshall Plan recognises that Europe cannot recover unless agriculture is restored to at least pre-war level, and supplies of fertilizer and machinery are scheduled to provide for recovery by 1950/51.

Food is the first essential, and agriculture is the most important single form of economic activity in the participating countries and in Western Germany. In terms of total human effort, more must be accomplished in this field than in any other. The population in this area in 1951 will be about 11% above the pre-war level and the restoration of pre-war agricultural output can therefore be no more than the first stage in a longer-term programme. Pre-war output of cereals and other crops can be restored, and in some cases exceeded, by 1951, but the rebuilding of livestock herds will be a slower process which is dependent upon the supply of imported feeding stuffs, and even if full requirements are met, meat production will still be only 90% of pre-war.

The plan for agriculture approved by the Government of the United Kingdom is of immediate interest to us, as it provides some guide to the probable position in our main markets. Assuming a figure of 100 as the production pre-war, the actual position for 1946/47 and that programmed for 1951/52 is as follows:—

	Pre-war.	1946/47.	1951/52.
Wheat	100	119	160
Barley	100	257	279
Oats	100	150	156
Potatoes	100	209	129
Sugar Beet	100	164	131
Milk	100	107	123
Eggs	100	78	152
Beef and Veal	100	93	110
Mutton and Lamb	100	70	77
Pigmeat	100	32	92

I should like to discuss a little more intimately the position as I saw it in the United Kingdom last autumn.

Agriculture is priority No. 1 as a dollar saver, and the Government is prepared to meet the requests of producer organisations on price and conditions. There is, however, a considerable weight of opinion that the foundation of agriculture in Britain is not as sound as it might be. High prices and subsidies are not always conducive to good farming, and marginal land is not necessarily farmed under such conditions. Arable farming in the United Kingdom is good—perhaps as good as anywhere in the world—though lacking much of the machinery required. Grassland farming is not so good, and they could learn much from New Zealand of the principles of establishment and management. The New Zealand grassland farmer at his best is the equal of, if not better than, any other grassland farmer in the world, but this does not mean that many of our farmers have not scope for improvement. There is a growing feeling in England that stock and pasture management, particularly from a meat production viewpoint can, and must be, greatly improved. You will have noted from the programme I have given you that arable farming is to be further exploited—also milk, eggs, beef and veal. It is not expected, however, that sheep and pig products will recover by 1952. The hill country, particularly of Scotland and Northern England, is going out of production of store sheep. The future of the highlands of Scotland is a problem exercising the minds of scientists and administrators alike. To some extent it is the same problem we have in New Zealand, but there it is accentuated by rigorous winter conditions and the movement of population which was accelerated during the war. Many leaders of agricultural thought are leaning towards a policy of maximum exploitation of seasonal grass growth as an answer to the urge for greater meat production throughout England, Wales and the lowlands of Scotland. It is being realised that winter fattening is expensive and extravagant, and that the policy adopted in New Zealand enables us to produce the maximum weight of meat and milk during the natural growing period. By conserving feed for breeding and replacement stock during the winter the greatest economic breeding flock is secured. It is not quite so simple for the United Kingdom to adopt such a policy generally, as she is so dependent on imported food. But if southern hemisphere supplies can be procured during the off-season or stored to synchronise with home production it is believed that the United Kingdom could produce a greater percentage of her overall meat requirement than she is doing at present or was doing prior to the war.

Farmers of the United Kingdom have become accustomed, during the past eight years, to take advice as to the best farming methods to suit their crops and land. Throughout the country there is an awareness of the value of scientific work, and of a properly equipped experimental and extension service. Scientific institutions are being overhauled and brought up to date; experimental stations are being established, and a very active extension service is being provided. There is, of course, delay brought about by shortages of material and manpower, but these are being overcome. The leaders of these services are enthusiastic and anxious to learn all they can of methods adopted elsewhere, and often alas! they are able to offer such con-

ditions of employment that we in New Zealand lose men whom we can ill afford to spare from our own organisations.

It will have been noted that the plans for rehabilitation of European agriculture extend to 1951 or 1952 and it is doubtful whether the goal of equalling pre-war production will be achieved by that date. Shortages in Europe might well be offset by increased production of vegetable oils and animal fats in other parts of the world, but it appears certain that a market will exist in the United Kingdom for the whole of our exportable surplus of meat and dairy products until at least 1952. The quantitative demand position subsequent to that date, and the price structure prior to and subsequent to 1952, will depend on the recovery of European agriculture, the overall prosperity of the United Kingdom, the level of production achieved in North America, and the overall programme of international trade and employment.

One fact is significant. The effective population increase in the world is between 15 and 20 millions per annum—more than the population of Canada, Australia and New Zealand combined. Unfortunately much of this increase is in underdeveloped countries with a comparatively low standard of living, but it does suggest that even if Europe is re-established on a reasonable level of nutrition, the consumption capacity of under-nourished nations is likely to remain in excess of surplus production or of increased production achieved in backward countries.

We must bear in mind that the Marshall Plan of aid to Europe covers a period of five years. During that period production in America and Canada will be maintained to augment European food supplies. As the recovery plan comes to fruition, the demand for imports should fall and surpluses should become available to American or other consumers.

What are likely to be the repercussions on New Zealand agriculture and on our overall economy? Our volume of production in 1945/46 is estimated at 9% above 1938/39. This has been achieved with lesser manpower under war conditions. So far, the return of ex-servicemen to the land has not shown material results, but it is hoped that this effect may soon be felt. Increases in our overseas income have been brought about by price increases rather than by volume. The maintenance of overseas income at the present level or better is essential to the maintenance of our national economy. What can we do to ensure this? Can we increase production to offset possible price recession? What does the producer need to enable him to increase production without detrimentally affecting his nett position?

These are questions which I am sure you, as an organisation, will be discussing amongst yourselves. We have probably five years guaranteed. We need to study diversification of products and the possible exploitation of new markets: without these an expanding internal economy is difficult to envisage. The producer must watch his cost structure. Unfortunately, costs usually follow upward prices, if they do not precede them, and they do not come down so readily. How can we counter this movement?

The fight for food will not be over even when pre-war levels of production and nutrition are reinstated in European countries. Inequalities will persist even in regions having a satisfactory average intake, and the achievement of the objective—"Freedom from Want" in underdeveloped countries must be a long and arduous struggle.

You, as scientists and workers in the fields of administration and investigation, have national and international responsibilities. You can contribute much towards betterment of our own rural economy, and if the result of your efforts are applied, where practicable, in other rural communities, you will be assisting in the attainment of the overall international objective.

Discussion on Mr. Fawcett's Paper

MR. LEVY: With intensive grassland methods in New Zealand I feel that we could practically double our production, on the ploughable country of the North Island at any rate, even from the land under farming at the present time. By also applying the principles of intensive grassland farming to the hills of the North Island I think we could double or treble our production. Would Britain, F.A.O. or any organisation finance a scheme which, if it could be developed and fostered, would assist in the food production campaign by exploiting the latent food production capacity of New Zealand?

Mr. FAWCETT: As you all know, there is an organisation in Britain called Overseas Food Corporation which is financing development, particularly in Africa, and which has finance available for the production of food under certain prescribed conditions. Its representatives were in Australia recently and there has been some discussion of a combined project in Queensland for the production of pig meat. They apparently do, however, require that development must take place on areas of land where joint financial control can be achieved between that organisation and the Government concerned. I am afraid such an arrangement would not be very suitable for financing the development on our grasslands on individual farms, either on the hill country or on the flat. Therefore, in New Zealand increased production requiring capital development will depend primarily on our own internal arrangements.

Dr. DRY: Is Mr. Fawcett disposed to express an opinion on the action of the Governments in rejecting proposals of Sir John Boyd Orr? Are they dealing with the matter adequately after rejecting them?

Mr. FAWCETT: This question is one of extreme importance. I was at the conference in Copenhagen where without exception the responsible representatives of Governments endorsed the idea of Sir John Boyd Orr. We all knew how difficult it was but in principle it was endorsed. A preparatory committee was set up following that conference, to draw up a working plan. It consisted of representatives of 18 countries which were named at Copenhagen. The report of that committee was a complete reversal of the philosophy which was endorsed at Copenhagen and arising out of that report an international approach through machinery such as commodity agreements and the Trade & Employment Organisation was started. Many of you probably have seen the report of the preparatory committee. It became the main document for consideration of the F.A.O. conference at Geneva last year. With regard to the second point raised by you, the intention is to co-operate through the machinery of the Trade and Employment Organisation. The report from Havana when analysed is essentially concerned with trade in primary commodities—that is why I tried to stress the wide implication of the term “primary commodity.” Governments will not work in unison other than through the machinery of international agencies. I quoted the wheat agreement as an example. It did look as though we were getting somewhere at the wheat conference in Washington in February. Where one gets conditions of shortages, that is a sellers' market, it is extremely difficult to get agreement to conditions which may be advantageous on a buyer's market.

Mr. ROACH: What does Mr. Fawcett think requires attention to increase production in New Zealand?

Mr. FAWCETT: I would like to hear members of this society answer that question.

Mr. BLACKBURN: I realise that production can be stepped up in this country by the intelligent use of fertilisers. I also realise that there is a bottleneck in distribution as most farmers want it at a certain time of the year. It appears that fertiliser cannot be obtained at the right time of the year, and I was wondering if there is any scheme yet devised to overcome that bottleneck in distribution. The only chance that I can see is to have depots established so that cartage can go on throughout the year piling up stocks in certain centres which will enable quick distribution at the time that the fertilisers can be best utilised. Is there any suggestion for improvement in the methods of transportation of our fertilisers?

Mr. FAWCETT: I can assure you that that particular subject is exercising the minds of a lot of us and we are hopeful in the future to be able to make some suggestions which may be assistance.

Mr. WARD: With the relinquishing of F.A.O. as the means of international control and the coming into the picture of individual Governments it is rather difficult to see how the various targets for production can be met when it needs a swing from certain commodities to others. For instance, we have a very big leeway to make up in pig production. Can you give any indication of the machinery by which increased production of various commodities can be stimulated? It is difficult to do within a country, particularly where you have stabilisation, but what steps can be taken internationally where some commodities require large increases in production as compared with those needing only a small increase?

Mr. FAWCETT: Individual items such as these can only be handled I think by the countries themselves. It is obviously impracticable for any group of countries to determine that they shall or shall not produce pig meats and so on. The realignment of overall production within a country must depend on internal economic adjustment which can be influenced through price incentive and market stability which might be facilitated by international agreements. F.A.O. can influence adjustments only by showing the need for particular food items. It remains to be seen whether international agreements will come into operation when surpluses develop but quite obviously it is difficult to bring them into being whilst there are shortages.