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SELECTED ARTICLE

Agriculture in the U. S. A.

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The effect of the present war on American agriculture should be studied in the light of the past history of the industry. In the nineteenth century, agriculture was by far the most important industry in America. By the end of the century, farm exports to Europe had reached an annual total of 850 million dollars. With increasing industrialisation, the relative importance of agriculture declined, as in this country a century earlier.

The Effect of the 1914—18 War The outbreak of war in 1914 was followed by a boom in agriculture which reached its peak shortly after the end of the war. The wheat acreage rose from an average of 47 million acres in 1909—13 to 74 million in 1919. The number of cattle increased from between 30 and 40 to over 50 million and the head of swine from 53 to 64 million. The export of beef increased from 150 million lb. in 1914 to 954 million in 1918. Total farm exports increased by 45 per cent. This gigantic expansion of American agriculture was a response to Europe's war and post-war needs which were increased by the elimination of Russia from the world markets.

The Effect of the World Economic Crisis in 1929 After the war America was a creditor nation and exports were continued up to 1928 against loans, of which the Dawes Loan is perhaps the best known. After 1928, however, loans were withdrawn, high tariffs prevented exchange of goods, foreign markets were blocked and American external trade declined. Consequent on a decline in prices and volume of movement the value of imports plus exports fell between 1929 and 1932 from 9496 to 2907 million dollars. This reduction in external trade, which was one of the fruits of the World Economic Crisis, was accompanied by a reduction in industrial output, a fall in wages and a rise in unemployment. Hence, to the fall in exports, there was added a fall in home consumption due to decreased purchasing power.

Urban industry adjusted itself to the crisis by reducing output by about half. This course was not open to the individually organised farming community which continued to produce regardless of profit or loss. The result was that, while the price of goods and services purchased by the farmer came down to about pre-war level, farm commodity prices dropped to about 50 per cent of that level. It was this disparity in the change of the price levels between industrial products and farm products which put agriculture financially in a worse position than other industries. Apart from the armies of destitute unemployed, the farmers were the poorest section of the community.

The farmers in Britain had good cause to complain of the fall in price following the World Economic Crisis of 1929, but their plight was not so bad as that of the American farmers. The slump in trade was not so great in the United Kingdom as it was in America. The comparable figures to those given above were from 8956 to 3561 million dollars. The fact that the United Kingdom was forced to maintain the import of food prevented the slump in trade from being so severe as it was in America, and social measures, such as the housing schemes, provided some employment; others, such as unemployment insurance and old age pensions, helped to maintain purchasing power.

The Effect of the 'New Deal' on Agriculture Roosevelt's 'New Deal' was designed to bring recovery, reform and relief to industry, agriculture and finance. The Agricultural Adjustment Administration was specially designed to help agriculture. Production was restricted and farm produce was actually destroyed in an attempt to bring supplies into a better relationship with effective demand. The ploughing up of 10 million acres of cotton, the premature slaughter of five million pigs and later, of 200,000 sows gave an indication of the extreme measures used to raise prices. These drastic measures to get over what was probably the worst agricultural crisis in history were supplemented and ultimately replaced by measures devised by the Surplus Marketing Administration to enable the surpluses to be sold. The Secretary for Agriculture was given an appropriation equal to 30 per cent of the gross receipts from duties collected under the customs laws, to encourage increased home consumption among poor persons, to increase exports and to re-establish the farmers' purchasing power.

In May, 1939, there was introduced the Food Stamp Plan. Before the end of 1940, food stamps were being given to four million families whose average weekly income was below $ 10. The stamps enable these families to buy for a given amount of money 50 per cent more food and also a greater variety of foodstuffs. This measure relieved the farmer of his supluses and increased his income. His increased purchasing power improved the market for industrial products. The scheme increased the trade of the grocer, relieved poverty and improved the health of low income families. In addition to this Food Stamp Plan, the Surplus Marketing Administration initiated a School Lunch Programme which provided food for six million children at a cost of about $ 7 per child per year. Similar schemes, such as 'Nickel Milk' and the provision of food at Summer Vacation Camps help further to put their surplus food into the empty bellies. In addition to the benefit to agriculture and trade, it claimed that these schemes have resulted in a great improvement in the health and physique of American children.

These schemes, designed to benefit both producer and consumer, mark the beginning of a new social and economic ideal in the United States. As President Roosevelt put it, "economic measures are not ends in themselves". They must be adjusted to social needs. The cure for increasing production is increasing consumption. As Claude Wickard, the Secretary for Agriculture, said in an address in 1940: "We know now that to find a workable way of generating economic well-being we have to begin at the bottom by increasing the purchasing power of the lowest income groups" Though these low-income groups could not provide an effective economic demand for food, they have an urgent need for the food. According to this new idea the limit of production is the need for food. Effective economic demand must be adjusted to this need.

Application of the 'New Deal' to war conditions This new view of the national purpose of agriculture and the new method of estimating the extent of the outlet for agricultural commodities affect war production. When the urgent need for food for this country arose, the amount of food to be sent across the Atlantic was determined not by the amount of money we could pay, but by the need of the people of Britain and the exigencies of the shipping situation. It is being sent under the Lease Lend Act which post-pones the question of when it will be paid or how it will be paid. For the first time in the history of international trade human needs are put before economic consideration, and production is now being stepped up earlier in anticipation of needs and more rapidly than it was during the last war.

Farm Production for Victory American agriculture is now organised for maximum production of the commodities needed for war. Mr. Wickard, Secretary for Agriculture, has called for maximum production of the foodstuffs needed

by America and its Allies. "Every acre of land, every hour of labour, every bit of farm machinery, fertiliser and other supplies" are to be used to the full.

In spite of the depression between the last war and this, American agriculture is in a better position to produce than it was in 1914. In recent years, land conservation schemes, designed to restore fertility in land which had gone derelict, for example, in the "dust bowl," have been carried out with great vigour. Agricultural research and education have led to greatly increased efficiency. Hence although the acreage of crops has fallen between 1930 and 1939 from 370 to 345 million and the number employed in agriculture has decreased by over 5 per cent total production has actually increased by 10 per cent during the past decade. The decrease in the number of workers has been compensated for by increased mechanisation. In the last ten years, the number of tractors has increased from 920,000 to 1,545,000. There has also been an increased output per acre and per animal. The yield of potatoes per acre, for example, has increased by 26 per cent, of cotton by 23 per cent and of eggs per hen by over 30 per cent. In America, as in this country, agriculture was much more efficient at the beginning of this war than it was at the beginning of the 1914-18 war.

The increase aimed at is in accordance with a carefully planned schedule drawn up in anticipation of war needs. Owing to the reserves of wheat held by Canada, there is no need to increase wheat production. The acreage of winter wheat is in fact, being reduced from 45,663,000 to 39,318,000. In the same way, it is anticipated that there will be sufficient cotton and tobacco; so these crops are not being increased. On the other hand, owing to the cutting off of supplies of oil seeds from the Pacific area, there is a great demand for fats and oils. The acreage of soya beans is being stepped up from about 5½ million in 1930—1939 to 10 million in 1941, and of pea nuts from two million to three million. Our country urgently needs foodstuffs which have a high caloric and health value per cubic foot so that the maximum use can be made of available shipping space. Excellent examples of these are dried milk and dried eggs. America itself needs more fruits, vegetables and animal products to maintain and improve the health of its population and the vigour of its workers. Increases in these products have accordingly been planned. The goal in milk production in 1942 is set at 125 billion pounds as compared with 117 billion produced in 1941. All the increase in milk will be needed for cheese, evaporated milk and dried skim milk. 200 million pounds of dried skim milk are required for shipment to Great Britain under the Lease Lend Act. This represents an increase of about 50 per cent in the production of dried skim milk over last year. It is estimated that similarly egg production will be increased by 10 per cent. A considerable part of the increased egg production will reach this country in the form of dried egg. Pig production will increase by nearly 20 per cent. An important part of the programme is an increase in fruits and vegetables. The 1942 programme provides for a 45 per cent increase for canning. The goal of 40 million cases of canned tomatoes is about a fourth higher than the 1941 output and 38 million cases of canned peas is about a third higher than in 1941. There is also a campaign for an increase in vegetables to be used in the fresh state. The goal is "a garden on every farm", i. e., a total of 5,760,000 farm gardens. In addition, there is a drive for the creation of community and school gardens. These gardens are regarded as a vital part of the Food-for-Freedom programme.

The increase in beef production will probably not be as great as in the last war. Production in 1941 was 20 per cent above the 1935 - 39 average. But the 1942 output may show a slight decrease in numbers and almost certainly a reduction in the proportion of well-finished cattle. Nor is there likely to be any increase in the out-put of mutton. Owing to the need for wool, many lambs are being carried on for a year for wool production.

There is little doubt that the increases in production aimed at will be obtained. In 1918, food production in Britain (estimated in calories) was 24 per cent above the pre-war level. On the whole, agriculture in America is not so intensive as it is in this country so that, provided fertilisers and labour are available in sufficient amounts, it should be as easy to increase output per acre or per animal in America as it was in this country in 1916 to 1918. Further, America has still available great potential resources of food production which have not yet been adequately tapped. The increase in production aimed at for 1942 is nearly twice as high as the increase for 1941. Everything that can be given in the next two or three years will be urgently needed for this country, and even more urgently needed to feed a starving Europe as soon as Nazi-ism is defeated.

Inducements to the farmers The farmer has confidence in increasing out-put to the utmost because assurance has been given that prices will be supported by Government commodity loans, by purchase under the Lease-Lend Act, and by food distribution programmes in the United States. There has already been a rise in prices comparable with what has taken place in this country. The index number of prices received by the farmer increased by about 42 per cent between December 1940 and December 1941. There has been an increase in farm wages, but that amounts to only about 30 per cent, and the increase in prices paid by the farmer for what he needs for his farm has increased by only about 17 per cent, so that, on balance, he has a much wider margin of profit this year than last. Like the British farmer, he is required to file Federal Tax Returns provided his gross income be more than $ 750 if single and $ 1500 if married. But he does not need to include in his income the value of food produced and consumed on the home farm nor is the rate of tax so high as it is in this country. Congress has established by law the parity of 110 per cent as an official goal for farm prices, although this may be adjusted in an effort to avoid inflation.

The American farmer has, therefore, every inducement to go all out for maximum production. He is no longer working in despair against a glutted market where he must dispose of his goods at throw-way prices. His market is now guaranteed and prices are high enough to cover all reasonable costs and leave a profit. He has the further incentive that he knows that the food he produces is urgently needed, and that every ounce of food he can produce will improve the health of the people of the United States or be exported to maintain the food supplies of the people of this country or to save from starvation the people on the Continent of Europe as soon as supplies can be sent to them.

Post-War Agriculture We have referred above to the ruinous collapse of American agriculture which followed the boom during and immediately after the 1914—18 war. The dislocation caused to world trade by the present war is much greater than that of the 1914—18 war. If, this time, the course of events be the same, the collapse in agriculture, both in America and in this country, will be much worse than it was last time. But American statesmen have given the world a lead which if followed by the nations, will prevent any such calamity happening. They aim to build a new world in which every person will be adequately fed.

To get an idea of the extent to which production would need to be increased to enable the whole population of the United States to be adequately fed, the Home Economics Division of the Department of Agriculture carried out extensive dietary surveys to ascertain the levels of consumption of different foodstuffs at different income levels. The results were compared with the amounts of food known to be necessary for health. It was found that there was a shortage of the foodstuffs, such as milk, fruit, vegetables and eggs, which are of special value

for health. It was estimated that, if agricultural out-put were to be adjusted to health requirements, production of a number of foods would need to be increased by from 10 per cent in the case of some to as much as 100 per cent in respect of others. This increase was needed not for exports, but to provide sufficient food to enable malnutrition to be eliminated from the United States. Similar results have been obtained from investigations carried out in this country. These are the two wealthiest countries in the world. If freedom from want is to be brought to all men in all lands, we must recognise that there was, before the war, an appalling world food shortage which will be even greater after the devastation of war.

In the meantime, with a generosity unprecedented in the world's history, America is sending to this country the very health foods which she needs for her own population. If all the United Nations show the same spirit, we will have, after the war, a world food policy based on human needs. The point in time when production would be in excess of human needs is so far distant that it is beyond the range of present day practical politics.

But those engaged in food production cannot be expected to work for a wage which gives them a lower standard of living than men of equal skill in other industries. Prices to the farmer and wages to the farm worker are now being raised to that level. If we have, after the war, a food policy based on human needs which will provide a market for all we can produce for many years ahead and if, at the same time, the present policy of paying adequately those who produce the food be maintained, then agriculture, both in America and in every other country, can look forward to a new era of prosperity.—(*Scot. J. Agri. 24, 9—14, 1942*).

The Storage of Eggs

By P. RUMBALL, POULTRY EXPERT

Eggs are preserved, on the commercial scale, almost universally by means of cold air storage. For the small producer or consumer, such a procedure is generally impracticable and resort has been made to simpler methods. Packing the eggs in sand, bran, ashes, lime, or salt was once used, but these methods have now been abandoned in favour of storage in solution in which the eggs are immersed and held until required for use.

The choice of a suitable solution is determined by certain considerations. The shell of the eggs and its adhering membranes are permeable to water and certain dissolved substances; so care has to be taken lest the preserving solution contains an ingredient likely to pass into the eggs, thereby affecting its flavour or contaminating it in some way. Various substances have been tried and rejected for different reasons, so that, at present, the two solutions most commonly used are a solution of sodium silicate, better known as water glass, and lime water. An excellent alternative method is known as buttered eggs.

Fundamentally, egg preservation still requires a certain degree of cold, and, although for satisfactory results constancy of temperature is unnecessary, it is essential that the eggs should be stored in a cool place where, if possible, the temperature should always be in the range of 33° to 50° F.

Water Glass Method A strong solution containing approximately equal parts by weight of sodium silicate and water is sold commercially. It is very viscous and has a specific gravity of 1·7. A five per cent solution of this is a convenient concentration to use.

Lime Water Method Four parts of finely-slaked lime are mixed with twenty parts of cold water and the whole well stirred at intervals for several days to ensure saturation. One part of salt is then added and the clear solution decanted