WARTIME farm
The BBC series Wartime Farm, produced in partnership with The Open University, has given us all a great insight into the story of agriculture at war... but there’s also the story of wartime food to consider. The Second World War caused a revolution in the supply of British food. Domestic food production had dropped before the war, with the slack being taken up by imports. Much came from nearby European countries, with some also coming from the Empire. The German victories in 1940 threatened this system; U-boat attacks made shipping the most valuable factor in the war machine, and the occupation of Western Europe cut off the supply of much of the fresh food imports.

The struggle for food meant that home production had to be maximised. Luckily, the agricultural depression of the 1930s meant that there was a lot of land lying fallow. Ploughing this up would lead to a large increase in output. Additionally, other inputs expanded as fast as possible – agricultural scientists became specialist advisors, food specialists measured vitamins, Land Girls and other volunteers added to the labour force, fertiliser and pesticide use rose and Britain’s factories kept turning out agricultural machinery.

The other response was to use ships as effectively as possible. Cheese was cheap in New Zealand, 13,400 miles away, but the shipping squeeze shifted the source to Canada. The Ministry of Food did the sums about animal feed; bringing in grain to fatten cows used ten times the space of importing beef directly. Oil was expensive, but
it was less bulky than fodder for horses so tractors became a priority. By the end of 1942 the Minister of Agriculture could boast, ‘We have the most highly mechanised agriculture in the world.’

The war completely changed the way that agriculture was organised. Before, there was a free market in food, and farmer’s incomes had suffered from cheap foreign competition. Afterwards, the government’s new priority was clear – it would intervene to maximise production. Subsidies stayed and although the volunteers stopped farming, mechanisation increased, as did the use of chemicals to boost output.

Rations were a way of controlling limited supply and making sure that everyone had enough (or nearly enough) to eat, but the rationing system was never ‘one size fits all.’ People in the armed forces had better rations, the rich could eat unrationed food in restaurants, there was a lot more food around in the countryside than in the towns (rabbits were tasty), and people with the time to queue up for unrationed food ate better than those who were too busy working.

The Ministry of Food issued recipe books, but it also took close control of the diet of the population as a whole. Children, nursing mothers and pregnant women all got special consideration. The Ministry was tweaking the nation’s food supply throughout the war, releasing fifty thousand tons of tinned meat one month, then raising the chocolate rations another. It kept tabs on what was getting through the blockade, what was being grown (and slaughtered) in the UK and what the USA could be persuaded to spare.

So, outside each individual farm there was a whole complex system of production, supply and distribution, designed to feed a country at war whilst not getting in the way of the war effort. It spawned all sorts of innovations which we’ve now mostly forgotten – the Queen’s Messengers, whose job it was to feed air raid victims, the Meat Pie scheme for rural workers and the state-run British Restaurants among them. The system was not perfect, and was never positively popular, but it did the job.
Diverting the country’s manpower and production into the war effort meant that many goods became scarce and shortages became commonplace. To try to make sure everyone had access to basic essentials, rationing was imposed through a ‘points’ system and prices were controlled by the Ministry of Food, which had been set up just before the war.

“[people] with pens and paper in their hands appeared in every doorway, taking a very methodical census. Almost overnight or so it seemed, every living soul had been issued with an identity card, and, little later, ration books.”

Ration books and clothing coupons limited your ability to buy scarce items, as you needed both money and coupons to purchase rationed goods. Although there was grumbling, overall the population accepted the system as it was seen as ‘fair’ – even the Royal Family had ration books - and adjustments were made to meet special needs, such as pregnant women, young children and vegetarians. Although prompted by the need to prevent shortages and cope with limited imports, food rationing overall improved the nation’s health through the imposition of a balanced diet with essential vitamins.

Meat, butter and sugar were rationed from early 1940; other foodstuffs, including tea, were added later, with the ‘value’ of each coupon varying at different times. Many things were never rationed, including bread, potatoes, coffee, vegetables, fruit and fish, but this did not mean they were always available.

Ration books tied people to a designated butcher and grocer, who had to register their customers and were then allocated the appropriate amount of rationed goods via the Ministry of Food. Although they had to provide all their registered customers with the regulation amount of rationed goods, there were ways in which they might ‘improve’ on this for favoured customers. As the Ministry factored in a certain amount as ‘waste,’ skilled butchers could end up with a surplus which they might sell on to favoured customers.
Managed to get a few eating apples yesterday to my great joy. I treated myself – they are one shilling and one penny per pound. I carried them home as if they were the Crown Jewels. Also had some luck over cheese. Went for my bacon ration and while he was cutting it had a word with the man… He got rid of the other customers and then whispered, ‘Wait a mo.’ I found half a pound of cheese being thrust into my bag with great secrecy and speed. Then going to the Dairy for my butter ration I was given four eggs and a quarter of cheese! Had no compunction in taking it… I could not resist, when I got in, cutting off a hunk of my piece and eating it then and there. I always sympathise with Ben Gunn when he dreamed of toasted cheese on that desert island.
Having a dedicated grocer could work against those with mobile occupations—including travelling salesmen, show-people and Gypsy Travellers—who were issued with ‘travelling’ ration books, as one Gypsy explained:

“We likes tea, sugar and bacon the same as you, and it’s even more difficult for us to get. We’ve got them travelling ration cards, and as we can’t read nor write we didn’t get anything for several weeks because we didn’t know what to do. We go from place to place and only get the bare leavings, because it stands to reason that the shopkeepers are going to serve their regular customer gents with all the best stuff first.”

Despite distribution difficulties and reduced imports, the rationing system meant that unlike many other countries, the population didn’t go hungry. Instead there were on-going complaints about the dreariness of the war-time diet, how everything took longer and was tied up with bureaucracy. Queuing for scarce goods and trying to prepare appetising meals from lacklustre ingredients hit women hardest:

“‘Our ration of margarine is so small that I can’t think of any pudding save milk pudding. We have no sugar to make sugar puddings: no pastry unless I buy it ready made. The shops don’t fill until midday. Things are bought fast. In the afternoon they are often gone. Meat ration diminishes this week. Milk is so cut that we even have to consider the cat’s saucer. I spent an hour making butter from our skim of cream—a week’s takings provide about half a pound… These are inconveniences rather than hardships. We don’t go hungry or cold. But luxury is nipped off, and hospitality. It takes thought and trouble to feed one extra.”
The Atlantic trade routes managed to stay open throughout the war despite the threat of U-boats, and Britain was able to bring in vital foods, particularly high-protein products, to the extent that 56% of calories consumed in the UK during the war were imported. However, many of these foods were in a more concentrated form; for example, eggs were brought in from the USA, but in order to save space they were spray-dried and powdered before shipping. Every month each household was entitled to a packet of dried egg, seen to be the equivalent of a dozen eggs, but were almost universally reviled, despite Ministry of Food attempts to advertise the versatility of the product:

*The two words which still make my blood run cold, are DRIED EGG. The very worst breakfast... was a two-inch block of hard scrambled egg oozing with water... and the TASTE - ugh!*

Consequently, holding a ration book was an essential part of life during the war – it was the means by which the Ministry of Food could work out how many people they needed to feed and it ensured you received your allocated amount. As producing, regulating and distributing food was such an important part of the war effort, those who lost or misused their ration books could face bureaucratic hurdles or court fines.

*We took the necessary steps to get new ration books this morning and we had to go to the police station to have our signatures witnessed by a police sergeant... [later that day] The ration books came back. What a lot of trouble can arise from the loss of ration books.*

16th February 1945 – two women were fined £25 for obtaining duplicate food and clothing coupons. The magistrates insisted on such a heavy penalty because the ‘offences went to the very heart and security of rationing’.

8th August 1945 – a woman was fined £20 for defacing her ration book, she ‘said she had taken her books into a shop in Romford and the girl had inadvertently cancelled the books instead of the cards. She rubbed the marks out when she got home.’ This was not accepted by the court and she was found guilty.
Ration books were printed by the million and they can help tell us the story of what getting food in wartime was like for ordinary people. This, though, is an example of a different kind of document, from the Ministry of Food files in the National Archives at Kew. It’s one of many records relating to government policy, which can tell us how wartime food was organised... if we know where to look.

22.3.42
This date is four months after the Pearl Harbor attack brought the US into the war, though in practice it had been helping the UK since 1940. US belligerence made the food situation worse, as the American government massively expanded its Army, which then placed huge orders for food that competed with British ones.

Ration 2985
This was the file reference for the document. Governments like to keep copies of their correspondence – so that they know what has been said – and this makes life easier for historians.

Oils and fats
These were high calorie dense foods. The British war plan was to import as much dense food as possible, in order to use the scarce shipping space as effectively as possible.

Lend Lease
This scheme was the lending of an immense amount of raw materials, weapons and food from the USA to the UK which began in the summer of 1940 and continued through the war.
On the following lines
This is the propaganda message the MoF wanted to put over in the USA, describing how the British were making sacrifices and that despite efficient rationing and farming, they were less well fed than the USA. At all costs, they wanted to keep the US committed to exporting food to its poorer and hungrier ally.

British Food Mission
This was a small group of MoF staff in America whose job it was to obtain as much support as possible from the USA. This was vital in the key years when British food imports increasingly came from the USA. The MoF mission was also there to brief their US counterparts on the lessons they had learned from 2 years of war.

British Restaurant
These were the results of a government scheme dating from 1940. They were state controlled restaurants, often staffed by volunteers or local government employees. They were especially designed to help feed war workers in places which lacked existing cheap cafés. In 1942 they were serving around 2 million meals a day.

Black markets
The British did not want the Americans to think that food sent across the Atlantic would end up being sold to the highest bidder; they were keen to stress that it would be allocated fairly.
In the 1930s, Britain got a huge amount of imported food from Europe. In 1939 though, imports were rationalised (which meant no more bananas, for example) to free up shipping for the war effort. In 1940, however, Germany conquered Western Europe, and new sources of food needed to be found. Imports weren’t cut so much as shifted and concentrated.

During the war, Australia shifted its frozen beef exports to the US armed forces in the Pacific; Britain got much of its beef in tins from Argentina.

**Dairy produce**
Half of Britain’s pre-war butter imports came from Western Europe, conquered in 1940. New Zealand was asked to pick up the slack by expanding its production of cheese and butter to feed the UK. The British government also got the New Zealanders to shift from butter to cheese. As with other products, much of the gap was filled by imports from North America.

<table>
<thead>
<tr>
<th>Foodstuff</th>
<th>Major sources in 1944</th>
<th>How much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat and flour</td>
<td>Canada</td>
<td>3,000,000 tons</td>
</tr>
<tr>
<td>Eggs</td>
<td>USA</td>
<td>80,000 tons</td>
</tr>
<tr>
<td>Beef</td>
<td>Argentina</td>
<td>570,000 tons</td>
</tr>
<tr>
<td>Dairy products</td>
<td>Australia and NZ</td>
<td>232,00 tons</td>
</tr>
</tbody>
</table>

**Wheat and flour**
Unlike British-grown ‘soft’ wheats, foreign ‘hard’ wheats were used to make bread, so imports had to continue. Pre-war, only 20% of British wheat had come from Canada, but by 1944 the number had risen to 83%. To stretch flour further, in 1942 the Ministry of Food introduced a standardised bread recipe – the brown ‘National Wheatloaf.’ It wasn’t popular.

**Eggs**
In the 1930s 150,000 tons of fresh eggs were being imported annually. The wartime solution was dehydration – removing the shell and most of the water reduced the weight by 90%. However, dried eggs weren’t popular – poster campaigns were needed. One showed a chicken explaining that ‘Dried Eggs are my Eggs, my whole Eggs and nothing but my Eggs.’

**Beef**
Pre-war beef was imported chilled, which was expensive but tasty. In wartime, it was processed before importing to save shipping space. De-boned, compressed and frozen, or minced and tinned, more could be imported, but it didn’t taste so good.
How do the amounts of rationed food compare to what the British are eating in the early twenty-first century? Not every food was on the ration, and some rationing was done by ‘points’ which could be spent on a variety of foods, so it’s not quite as straightforward as you may think – but here’s one comparison.

<table>
<thead>
<tr>
<th>Item</th>
<th>Rations (April 1945) per week</th>
<th>Consumption in C21st per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacon and ham</td>
<td>4 oz (113 g)</td>
<td>4 oz (113 g)</td>
</tr>
<tr>
<td>Meat</td>
<td>1s 2d. (1 shilling and 2 pence in pre-decimalisation currency) The meat allowance was given as a monetary allowance rather than by weight. This would equate to approximately 540g</td>
<td>2 lb 13 oz (966g) This includes meat pies</td>
</tr>
<tr>
<td>Sugar</td>
<td>8 oz (227 g)</td>
<td>7.2 oz (205 g)</td>
</tr>
<tr>
<td>Preserves</td>
<td>2 lb (0.91 kg) marmalade or 1 lb (0.45 kg) preserve or 1 lb (0.45 kg) sugar</td>
<td>1.2 oz (33 g)</td>
</tr>
<tr>
<td>Loose tea</td>
<td>2 oz (57 g)</td>
<td>1.2 oz (34 g)</td>
</tr>
<tr>
<td>Cheese</td>
<td>2 oz (57 g) Vegetarians were allowed an extra 3 oz (85 g) cheese</td>
<td>3.9 oz (110 g)</td>
</tr>
<tr>
<td>Butter</td>
<td>2 oz (57 g)</td>
<td>1.4 oz (39 g)</td>
</tr>
<tr>
<td>Margarine</td>
<td>4 oz (113 g)</td>
<td>3.1 oz (89 g)</td>
</tr>
<tr>
<td>Lard</td>
<td>2 oz (57 g)</td>
<td>0.4 oz (11 g)</td>
</tr>
<tr>
<td>Sweets</td>
<td>3 oz (84 g)</td>
<td>2.3 oz (64 g)</td>
</tr>
<tr>
<td>Eggs</td>
<td>1 egg per week (vegetarians were allowed two eggs) or 1 packet of egg powder (makes 12 “eggs”) per month</td>
<td>1.5 fresh eggs (plus 2 eggs in processed foods)</td>
</tr>
<tr>
<td>Tinned and dried food</td>
<td>An allocation of 24 “points” for tinned and dried food to cover a 4 week period</td>
<td>This is so general, there’s no modern equivalent to it</td>
</tr>
</tbody>
</table>

Meat, offal and sausages were only rationed from 1942 to 1944. When sausages were not rationed, the meat needed to make them was so scarce that they often contained a high proportion of bread. Corned beef was used to make up the ration when meat ran out.

Eggs were rationed and “allocated to ordinary consumers as available;” in 1944 thirty allocations of one egg each were made. Children and some invalids were allowed three a week; expectant mothers two on each allocation.

Source: DEFRA National Food Survey
The agricultural legacy of the Second World War

The structure of British agriculture was transformed during the war. In particular, the state-directed expansion of arable farming established the pattern of farming which has continued throughout the post-war decades. The system of guaranteed prices and government support which was implemented during the war, and enshrined in the 1947 Agriculture Act, was probably the most important legacy of the conflict. This commitment to ensuring stability and efficiency for the agricultural sector prompted a revolution in farming practices. In arable farming, there was an unprecedented increase in the use of artificial fertilisers and of herbicides and pesticides, and plants were bred to be more productive. Meanwhile, livestock farming was transformed in a similar way by the development of more productive strains of animals and poultry, enhanced nutritional understanding and improved methods of disease control. These developments were primarily the result of initiatives instigated by publicly and privately funded research institutes and organisations which then disseminated their findings to the farming community.

As a result, farmers increasingly found themselves on a technological treadmill which required them to remain competitive – they had to produce as much as possible, which meant constantly seeking to produce the most food from every acre and every animal. This drive to achieve efficiency gains led to the role of farmers becoming far more technologically minded, constantly striving to adopt the latest, more productive methods, rather than regarding farming as a way of life and acting as custodians of the countryside as they had mainly done previously. The results of these changes were evident not only in terms of aesthetic changes to the countryside, such as the removal of hedgerows to make larger fields, but also less visually noticeable features such as the decline in the variety of flora and fauna.
Britain’s entry into the European Community in 1973 led to increased levels of subsidy in return for yet higher output. It was not until the 1980s, when agricultural surpluses were becoming a financial burden, that the EC finally attempted to decouple price support from levels of productivity. They implemented a variety of environmentally focused schemes which reflected, in part, a new approach to the role of the countryside. This shift in emphasis was also prompted by the fact that British agriculture had become a victim of its own success. Wartime policies to deal with the food shortages of the Second World War and post-war austerity had resulted in huge increases in output and productivity. Now the wheel had turned full circle: the challenge had shifted from producing enough food to keep the country going to implementing state initiatives to deal with food surpluses.
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Go to open.edu/openlearn/wartimefarm and try our World War Two interactive features:

Food in the Second World War.
Throughout the course of the World War II food supplies were affected in different ways across Europe and even further afield too.

Visit The Open University’s interactive map to reveal key events which occurred during the Second World War.

Visit open.edu/openlearn/wartimefarm

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