NUTRITION

America Builds Food Defense

Food Front on This Side of the Atlantic is Solid, While Beleaguered Europe Fears a Winter of Famine

By EMILY C. DAVIS

AMERICA'S food defense is stronger today than it was during the first World War.

That means a lot in a world that does its fighting with butter as well as guns.

"Hungry people, ill-fed people are a liability in a defense program," declared Miss Harriet Elliott in a statement following her appointment as consumers' representative on the President's National Defense Advisory Commission.

That sums up neatly the food angle of this 1940 American defense situation. Remember the 1918 food slogan: "Food will win the war"?

Overseas, Europe looks forward at best to a winter of too little food. At worst the spectral horseman Famine will ride, taking horrifying toll. Chinese and Japanese are stretching supplies, concerned over too little grain.

U. S. Supplies Best

The United States reassuringly has the best food supplies in the world, and not only the most abundant food, but the most varied. No country on earth is better fed than ours, and probably it would be safe to say that no country is so well fed as ours.

Nutritionists cannot forget for an instant that we do have millions of under-nourished people in this country. There is chronic famine among large numbers of Americans for want of vitamins, minerals, and other precious substances that occur in tiny quantities in foods, so Dr. Tom Spies of Birmingham, Alabama, told the American Medical Association recently. There is too much scurvy, pellagra, and beri-beri among the poor of this country, public health officials declared at the same meeting.

These pale forms of famine do not kill outright. They weaken, and render people unfit. Since they drag down fitness in this land of abundance and scientific knowledge, then it is probably startling, but true, that no great nation in history has ever been really well fed. A report of a nutrition committee of the League of Nations appalled the world in 1937 by revealing malnutrition as worldwide.

Nutritionists, who do not want to see the United States take these conditions calmly, go around worrying over the dark side of the picture. They grade diets from minimum—enough to keep people alive in emergency—on up to liberal. They say that relatively few people in this country have really good diet.

But taking all this into account, the United States is still in a strong position in its food defense, and better off than in 1917.

Here are some reasons:

We have learned a vast deal about eating for strength and well-being since 1917. Most people have probably forgotten that in World War days the average American had not been introduced to vitamins. Laboratory workers were just beginning to discover these minute factors that had lurked unsuspected in food.

Florentine pharmacists are credited with selling lemonade as a scurvy remedy in the middle ages, but they knew nothing of the vitamin C in the citrus fruit that did the trick.

Earlier than that, about 1500 B. C., Egyptians and Chinese hit upon the discovery that eating livers would improve vision in dim light. But the scientific explanation that vitamin A is a protective food factor for night vision did not come for more than 3,000 years, in our own time.

Vitamin Researches

Success of chemists in isolating the elusive vitamins and duplicating their qualities synthetically has made it possible, within our present generation, for the first clean-cut experiments to be made, showing exactly what a given vitamin does for the body, by showing what lack of it does to blood, or bone, or other tissue.

Unknown in 1917, almost a whole alphabet of vitamins is known to specialists today, and school children glibly tell you that fruits and vegetables and other foods contain the vital vitamins.

The important role of tiny quantities of minerals, such as manganese, tin, and copper, in foods has also been mainly a revelation of the post-World War era.

We are still only at the beginning of knowledge about human nutrition—so, paradoxically, states the Department of Agriculture's bulky master-volume, *Food and Life,* which brought American nutrition up to date to 1939.

But while nutritionists look forward to greater possibilities in eating for health and happiness, they declare strongly that right now there is enough information to improve health and make lives longer and more useful. What makes them downcast, is the fact that the knowledge gained is far from being used by the public as it might be.

This does not mean that food specialists want you to puzzle your brain over tin and manganese and vitamin B complexes when you dicker with the butcher or order a restaurant dinner. If you manage to eat as large a proportion of the protective foods as you sensibly can, you will probably be getting a well-balanced diet. These protective foods, that figure so large in America's food defense, are the fresh vegetables and fruits, milk and its products, and eggs.

A diet that contains at least 50% of protective foods has been commended

VITAMIN TROOPS

Digging in the home garden, where vegetables produce most of the needed vitamins, is just about the best defense a family can put up against the most insidious of foes, malnutrition.

as what America should have, by Dr. Henry C. Sherman, Columbia University chemist and authority on vitamin and mineral requirements. This would represent a major shift in the food habits of our people, nutritionists say. The trend is already in this direction.

At present, Americans get less than 30% of protective foods, making up over 70% of their food from grains, meats, sugars, potatoes, fats other than butter, and mature legumes. Before the World War, they were eating an even larger proportion of the latter foods—80%.

Nutrition-Consciousness

There is plenty of evidence that Americans are more nutrition-conscious now than they were back in 1917. Home economics is a flourishing subject in high schools and colleges. Nutritionists, and nutritionists' organizations have increased in numbers. Almost every health organization has its staff member who understands food problems.

Housewives are more astute grocery shoppers, increasingly aware that it is smart to read labels and to get their money's worth. Even children in some schools make laboratory experiments and do comparative shopping, with a view to becoming efficient consumers.

A sample of the widespread interest in better balanced eating: A farmer's bulletin such as Dr. Hazel Stiebeling's *Diets to Fit the Family Income,* which the government distributes through requests to the Bureau of Home Economics, Department of Agriculture, is a federal "best seller" with a record of over half a million copies asked for.

That Americans are profiting by what they learn is indicated by a shift toward the protective foods. In a new study of how people with moderate incomes spend their money, Dr. Faith Williams of the U. S. Bureau of Labor Statistics has learned that people of this class bought for instance, more milk, oranges, lettuce, spinach, and canned tomatoes in 1934-1936 than similar families did in 1917-1919. The tomato juice and grapefruit juice consumption in these families was larger in 1934-1936. They bought many other foodstuffs in 1934-1935 that were not on the market or in reach of people with moderate incomes back in World War days.

"Striking changes," Dr. Williams calls the shift in food expenditures of American wage earners and clerical workers. She attributes it to the awareness of minerals and vitamins and their importance, to lower food prices in general and lower prices of some of the nutritionally valuable foods in particular, and to the fact that fresh fruits and vegetables are now more available all the year round.

FOOD HELPED WIN A WAR

This was in 1917, when a group of War Department experts examined foods intended for the Army. Newer knowledge gained since then makes the work of similar bodies nowadays much more efficient.

But what about the set-back that American nutrition suffered when economic depression set in in 1929, and unemployment threw families on relief, and droughts of 1934 and 1936 turned farms into dust bowls?

Surprisingly, at least one conservative nutritionist suspects that the set-back may not have been so serious as is supposed. The emergencies spurred agencies, governmental and others, to rapid and renewed efforts to feed the hungry and to ward off malnutrition diseases.

Over a million needy children a day fed hot lunches by WPA workers at 11,000 schools over the country, has been one answer to the threat of malnourishment among the children. Over 2,500,000 young men enrolled in the CCC camps have been put in physical fitness, fed on the garrison ration of the Army—and our Army likes to boast that it is the best fed in the world. The average CCC boy gains 7 to 12 pounds in the first six months in camp, has been the usual report. In addition, there have been such projects as the WPA work of canning large quantities of foods, of teaching people to plant vegetable gardens.

The appropriation by Congress of funds to buy surplus commodities, thus taking surplus food off the farmers' hands and making it possible for relief families to buy at low prices is another line of nutrition defense. The food stamp plan, now operating in over 100 areas, and requested by nearly 1,000 communities, is for the first time making it possible for people on relief to do what dietitians so urgently advise them—buy more protective fruits and vegetables in season, and less proportionately of the important but heavily starchy foods.

Former Secretary of Agriculture Wallace has estimated that American consumption of butter will be increased 56,000,000 pounds in a year, and eggs 59,000,000 dozen, by the stamp plan buying, which now is available to 1,500,000 people. In addition, a good many of these Americans are getting a nutrition lesson, as they become conscious for the first time of what a broader diet is like, and learn from leaflets—handed out with the marketing—what foods they need.

The surplus milk plan, enabling relief families to buy milk at five cents a quart, is another of the government efforts to build nutrition, while aiding farmers. Tried experimentally first in Boston, the surplus milk plan has been expanded to several other cities.

Should the United States need to mo-

bilize against invasion it would benefit by experiences in feeding large groups. Not a pretty thought, nevertheless it cannot be overlooked. Such projects as preparing lunches for children on relief, and the Red Cross feeding of thousands made homeless by Mississippi floods and other disasters, are a form of preparedness. The WPA alone has trained 36,000 workers in cooking and serving school lunches.

The British were told by food officials last autumn to dig for victory. Meaning that they were to plant gardens to stretch the home-grown food supplies. While the United States now has surpluses, there are places in this country where home gardening is filling a special nutritional need, and is being expanded. Some of the plantation owners in southern states are requiring tenants to cultivate gardens, and some plantations operate a community garden, where tenants may obtain a variety of food at small expense.

Gardens are a means of warding off pellagra, a disease which Public Health Service officials say occurs among 100,000 people in the South each year. It plagues the poor who live mainly on corn as cereal food.

Gardens For Vitamins

A garden patch carefully planned can fortify a family with an impressive array of the vitamin-rich fruits and vegetables, plus vitamin D gained from the sunshine while working the patch.

Precisely measuring the advance of American nutrition since 1917 is a problem in fine figures that stumps statisticians. They can tell you readily that 468 draft men out of 1,000 in World War days had some physical defect. It was easy to count the number of men with flat feet or weak eyesight. But no special effort was made to detect the obscure physical conditions due to eating the wrong kind of food, or too little. As has been said, less was known about nutrition, then. It was not until post-World War times that nutritionists gave up laying heavy stress on charts decreeing a proper weight for each height. They learned that a person might be heavy enough or even over-weight, and still be starving for want of some food factor essential to sturdy well-being.

It was not known in 1917 what people in different parts of the United States ate, though it was familiar knowledge that the dinner tables of New England differed from those of the South or Midwest. Lack of this information was a problem for American food officials, when they set about rationing supplies in war days.

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VETERINARY MEDICINE

Swine Erysipelas May Infect Human Beings

American Veterinary Medical Association Meeting Hears of Many Advances in Keeping Animals Healthy

ERYSIPELAS in one form can be "caught" from pigs by human beings, Dr. Glenn S. Everts, Philadelphia physician, stated before the 77th annual meeting of the American Veterinary Medical Association, held in Washington, D. C., Aug. 26 to 30.

Swine erysipelas is caused by a germ that is found practically everywhere and is exceedingly hard to kill, said Dr. Everts. It occurs wherever nitrogenous substances are decaying, and can grow in the soil without contact with a living animal host. It resists the processes commonly employed in processing pork, such as boiling, salting, pickling and smoking.

In swine, the disease manifests itself in three forms; mild, acute and chronic. The mild form is fairly common in human cases, the other two rather rare. In one pork packing plant that came under Dr. Everts' observation, 2% of all employes who handled the product developed symptoms.

Infection always starts in some slight break in the skin of the hand. Pain is the first thing noticed, followed by swelling and reddening. The infection usually tends to spread, although it rarely goes beyond the wrist, except in unusually severe cases. The disease runs its course in about three weeks. About a fourth of the men attacked lose from one day to two weeks of working time.

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Parentage Tests For Cattle

CASES of disputed human parentage get into the courts occasionally, and when they do they are usually page one news because of the drama involved. Doubtful parentage among animals may be of importance, too, because of loss in cash value if the wrong strain has entered into the pedigree.

Blood tests can be used to settle paternity questions among cattle, Dr. Lloyd C. Ferguson of the University of Wisconsin told the meeting. Procedure, however, is not the same as in human cases. Human paternity is decided on the basis of blood types, such as are used in "matching" blood for transfusions. In cattle, the things used are antigens—definite chemical entities in the blood that react in the presence of one particular substance.

Cattle blood has been shown to possess something over 20 such antigens, each dependent on a single hereditary character or gene. Not all of these antigens are present in the blood of any one animal, but a characteristic pattern, almost as definite as the spectrum of an element, marks a given strain of descent. By matching these antigen patterns it is possible to tell whose calf is whose.

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Brucellosis Vaccination

VACCINATION can protect cows against the serious disease, brucellosis or contagious abortion, which causes heavy money losses to farmers and stockmen, Prof. C. M. Haring and Prof. Jacob Traum of the University of California reported before the Association.

The vaccine consists of a suspension of weakened germs, which are related to the cause of Malta fever or undulant fever in man. Protection with this vaccine has been conferred upon large numbers of animals over a period sufficiently long to justify the belief of the two researchers in its efficacy.

They reported comparative observations, on vaccinated and unvaccinated cattle: "Data show that 2,872 parturitions of vaccinated animals yielded 94.1% normal calves, whereas 1,763 parturitions of the older nonvaccinated cows in these dairies, including both negative and reacting animals, resulted in only 86.1% normal living calves."

The vaccine is administered to heifers while they are quite young, and usually gives protection until the first calf is born. Protection is not absolute: too close association with infected cows during the last six months of pregnancy may cause the loss of the calf.

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