NUTRITION

Change in Food Habits May Avert Famine in Europe

Good Corn Crop Offsets Shortages in Wheat and Rye; Oils and Fats Figured at 25% Less Than Normal

HUNGER for some of Europe's millions will be lessened in days ahead, provided they can do a difficult thing—change their food habits. So it appears from latest reports from the European war food front, studied by agricultural economists.

The Continent's short crops of rye and wheat, for example, may be balanced against a good corn crop in southern Europe and against a good potato crop, for somewhat reassuring totals on "food." But can peasants in countries unaccustomed to corn make good use of it? There's a catch in the arithmetic. Yet, from German sources has come the grim warning that conquered areas must exert themselves to the utmost to feed themselves.

"By tightening their belts and making some changes in their food consumption habits, they should be able in most sections to get through the winter," is the way the situation looks to the U. S. Bureau of Agricultural Economics.

It foresees likelihood, however, of a serious situation in some regions, and among some consumer groups, because of difficulties in adjusting the food available to the requirements of the people.

Americans will recall that teaching hungry French and Belgians to eat American cornmeal, instead of wheat flour, during World War days proved so Herculean a task that the United States settled down to using the corn and sending more wheat to Europe.

Nutritionists explain that this was not sheer contrariness on the part of hungry peasants. The French are more used to buying bread than baking it. Their farmhouse ovens are far different from quick American stoves. Cornmeal was thus a double problem—unfamiliar to taste and a major problem to handle.

As for rice, some Belgians found it too strange for eating. Paradoxically, in rice-eating areas of India efforts to break rice famines with other foods have met with difficulty. It had to be rice.

In our own country, the southern share-cropper clings to a pellagra-causing diet of monotonous cornbread, fat-back, and molasses. It is a major victory when nutritionists can win over these, or other Americans, to unfamiliar foods needed to round out a diet.

Europe's worst food debits are in the rye and wheat crops, as the situation appears now. The fruit crop is also figured as smaller than last year's large crop. Supplies of fats and oils are probably 25% less than normal. The Continent depends on outside sources for about half of the fats and oils it uses, and what its hoarded reserves now amount to is not known.

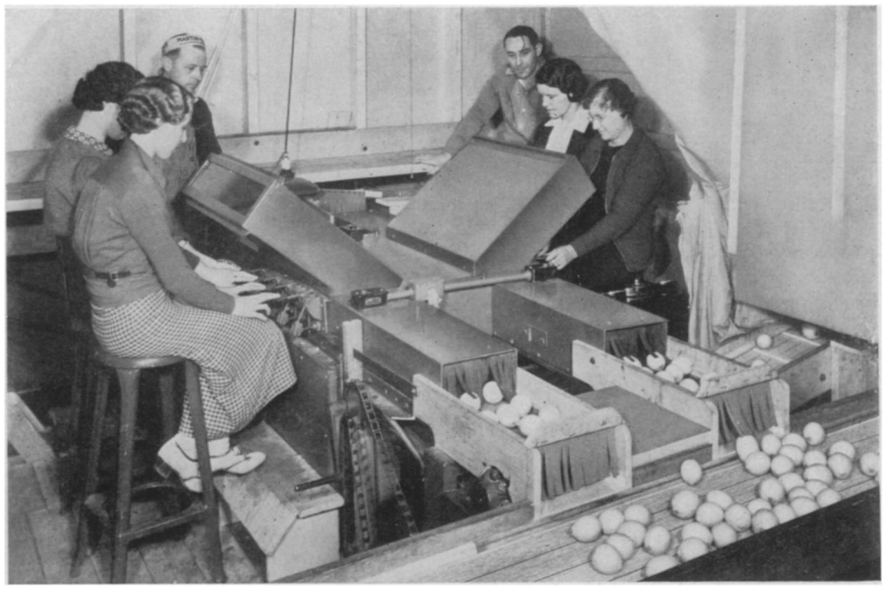
On the credit side of the food ledger, however, are the large corn and potato crops; a large vegetable crop; adequate supplies of sugar, doled out by rationing; considerable supplies of meat for the present, due to slaughter of more animals than usual.

Balancing conditions on the egg situation, it is figured that, while many of northwest Europe's hens will be killed and commercial egg production reduced, the loss of the British market for eggs "may leave almost normal supplies of eggs available for Continental consumption."

Disposal of these uneven supplies is another problem, hinging on transportation uncertainties and other fortunes of war. Eating whatever comes their way is the prospect for Europeans caught in these war tangles, and faced with what the most conservative observers term an "uncomfortable" winter.

Science News Letter, September 7, 1940

The most populated regions of South America are geographically *closer* to Mediterranean lands, or even to England, than they are to the United States.



X-RAYS FIND HIDDEN FAULTS

Beneath the fair smooth skin of an orange may be a ruined, inedible fruit. Watchers at the fluoroscopes over this conveyor belt in a California packing plant can see right through the oranges, discarding the good-looking bad ones. X-rays serve in like capacities in a thousand other industries, from breakfast food to armor plate.

PHYSICS

X-Rays Bring Many Helps To Nation's Industries

By WEBB WALDRON

THE X-RAY has gone into business. The machine, developed primarily to aid in diagnosing human ills, now works in packing plants, in foundries, in service stations, and in a dozen ingenious ways contributes to precision and accuracy in industry.

Maintenance men for the Detroit Edison Company, to be on the safe side, condemned and replaced many poles which seemed to be rotting but later proved to be perfectly sound at heart. Now an X-ray machine mounted on a truck peers into the poles where they stand, determines their condition, and thus saves the company a lot of poles and a lot of money.

California and Arizona citrus fruit growers use 100 X-ray machines to sort their crop. With them, after one severe frost, California salvaged 2,000,000 boxes of oranges which would have been condemned by ordinary methods. The machines had cost $250,000; the oranges they saved for market brought $7,500,000.

Peanuts coming into the packing plant bring with them pebbles and lumps of dirt. Neither screens nor the electric eye could detect them all, but the X-ray spots them. Makers of chewing gum, candy, and tobacco now use it similarly to detect foreign substances.

Firestone Tire and Rubber Company X-rayed the tires on 100 cars chosen at random, found nails or bits of glass imbedded in 99% of them. Fabric breaks, good for eventual blow-outs, also showed up. Now service stations are installing X-ray, which is cheaper and better than demounting tires and inspecting them by sight and feel.

"X-ray your tires?" said an attendant at a service station. He jacked up my car, pushed an X-ray machine into position, put his eyes to the viewing hood and slowly began to revolve one of my front wheels. "There, look," he said. Peering into the hood I saw a dark mark at right angles to the tread of the tire. "Nail," said the attendant. The X-ray apparatus found two more nails in that tire, all imbedded deeply, invisible from the outside.

Five thousand stores fit shoes by X-rays, at least one manufacturer designs his shoes with the help of the machine. Golf balls are X-rayed to be sure the core is in true center—otherwise the ball will be erratic in flight.

In testing metals, X-ray shows up interior bubbles and cracks otherwise never suspected until some machine smashes up under stress. All airplane parts subject to strain are X-rayed. Navy inspectors, X-raying a turbine for a destroyer, discovered that a contractor had filled a crack in a casting with a metal plug and hidden the trick with a plating of metal. All steam tubing for warships is examined by X-ray; bursting steam lines might cripple a ship in action, mean horrible death for men below decks. One of the biggest jobs ever tackled, speaking of sheer physical dimensions, was the examination of 80 miles of welds on Boulder Dam penstocks.

At the Bureau of Natural Pearl Information in New York I saw a $20,000 necklace run through an X-ray machine. In it were four culture pearls which experts had not detected—worth about $1 each. I could spot them myself; the natural pearls showed innumerable concentric layers, the culture pearl was a bead which the oyster had coated thinly.

Museums have found by this method that some paintings supposed to be by old masters are fakes. In addition to testing authenticity the X-ray is valuable to students in revealing the way an artist works and the changes which a painting may undergo before it is completed. At the Metropolitan Museum, New York, I saw plates of Veronese's famous *Mars and Venus*. Through layers of paint the ray reveals that Venus, who now stands nude beside Mars with Cupid at her feet, in the first version of the picture wore clothes and sat stiffly on Mars' lap, and Cupid wasn't there at all.

The pearl counterfeiter and the contractor who tries to gyp the Navy can be caught, but it is too late to do anything about some of the cheating the X-ray reveals. For instance, the Field Museum of Chicago can prove that one Egyptian embalmer was a crook. Examining a mummy by X-ray, it discovered that the body is missing. Head and feet are connected by a stick.

Industry is constantly calling on the X-ray people to solve new problems, and X-ray men are constantly thinking up new ideas to propose to industry. One would hesitate to predict what X-ray may not be doing tomorrow.

Some things it probably never will do. One man wrote in, asking whether an X-ray machine could be built to carry in your vest pocket, to read your opponent's poker hand. Another inquirer wanted a machine to see through the walls of his neighbor's house.

Science News Letter, September 7, 1940

Since soaps and shaving soaps are *standardized*, trade names have disappeared in Germany.