AGRICULTURE

Super-Normal Granary

Plan for Storing Twelve-Billion-Dollar Reserve Of Foodstuffs and Fibers Is Proposed by Scientist

By DR. FRANK THONE

UNCLE SAM is stacking up things in his armory: a dozen tremendous new battleships, to carry 108 sixteen-inch guns, along with scores of new cruisers, destroyers, submarines and auxiliaries; 10,000 new airplanes and plenty of extra engines; the new semi-automatic Garand service rifle—a million or more of 'em; thousands of field pieces and machine guns; millions of shells, billions of cartridges. He hopes he'll never have to use any of 'em, but wants to be ready if he does have to.

Preparedness of this kind is good only for war. But there is another possible kind of preparedness that will be equally necessary if war comes, but which will also have its value in time of peace. It would consist of an immense hoard of food, fuel, clothing and building materials; it would be in effect a super-normal granary, to match the tremendous super-arsenal that the nation is in process of acquiring.

This super-normal granary has been proposed by Prof. R. B. Harvey of the University of Minnesota. Much bolder than the ever-normal granary proposal of Secretary of Agriculture Wallace, Prof. Harvey's scheme would pile up surpluses to a gross cash value of 12½ billion dollars. That would of course give economists the shivers, but the Minnesota scientist is thinking of human needs and uses rather than price indexes: he is a physiologist, not an economist.

Has Support

"A few years ago," Prof. Harvey says, "I advanced the idea for a national reserve. It got into the newspapers, and from the plans of the Department of Agriculture it seems to have some support.

"If we had a twelve billion dollar reserve of plant and animal products in long-time storage, deliberately set aside, it would be of more value than gold in emergencies of drought, war, and other plagues."

He points out that these reserves would be of particular usefulness in an emergency that would demand a wholesale shift of man-power out of production, such as war would represent. In wars of the past and the present, women have to step into the places vacated by men in the field and at the factory bench. With their best efforts, and the labor of men not called for front-line duty, war-time production is still apt to fall behind that of the smoother schedules of peace. With a crammed national pantry at the outset, the nation would be in better shape in both materials and morale.

In Germany

Something of this kind has actually been going on in Germany, under the strict discipline of a totalitarian dictatorship. Nobody knows what the size of the Reich's reserve stocks are, but it is commonly reported that while German citizens have been getting along on *ersatz* butter and on eggs imported from China, the products of home agriculture have been going into cold storage in immense quantities. It is not at all likely that Naziland has been able to build up even an ever-normal granary, let alone a super-normal one, but just the fact that it is being attempted under heavy economic handicaps shows that the idea does not shock a group of administrators who have to think about the possibility of war at any time.

Nor does a nation have to be under totalitarian rule for the successful operation of a super-normal granary scheme. Switzerland, oldest of the world's democracies and apparently one of the most stable, is laying in food and fuel reserves. The only disagreements among the Swiss statesmen are over the question of where to put the stuff. One group favors boring tunnels deep into the granite of the Alps. The opposition would seal wheat and gasoline up in great tanks and sink them in deep water in Lake Geneva. Either way would seem safe.

Both the German and the Swiss experiments are, of course, being made under the spur of the fear of war. This is not without precedent. The principal method for long-time preservation of ordinary perishable foods, canning, was a war-baby a century and a quarter ago. For it was during the days of Napoleon, when France and her conquered neighbors were under virtual siege for years on end, that French scientists evolved the method for keeping meats and vegetables in tinned cylinders that with some improvements evolved into the familiar tin cans of today.

Great warehouses stacked full of cases of canned goods would of course figure prominently in a national food hoard such as Prof. Harvey proposes. But canning would not by any means be the only preservation methods that would be used. We have learned some new tricks of the food preservation trade in the days since Napoleon's chemists tinkered with tins. There is the technique of dehydration, for example, the modern last word that makes "dried" fruits and vegetables obsolete. There is also quick-freezing, which has revolutionized preservation by cold.

One class of foods, however, needs no particular thought or effort to prepare them for long-time storage. The grains are prepared for such storage by the plants that grow them. All man needs to do is put them into containers that will keep out mice and other vermin and protect them from the weather, and they will attend to their own preservation for long periods—as much as fifty years, Prof. Harvey claims.

In Russia

"I saw the storage of grain in the dry region east of the Black Sea in Russia, where wheat and other cereals are kept in stone silos for many years," he states. "Evidently in this hot, dry climate, the growth of fungi is not a serious problem. We probably could do the same thing in the drier parts of the United States. In addition to this, we could apply the information we have on the use of such materials as ethylene dioxide and sulfur dioxide for preventing insect attack of dry materials. It is probable that a number of dried fruits and vegetables could be stored also in this manner."

Long-time storage of food products will have problems, however, even after the task of insuring their keeping without actual spoilage has been successfully completed. There is a more subtle spoilage, not due to weevils or mice or molds: the slow loss of quality and the deterioration of the vitamin content through their own internal physiology.

And since much of the nutritional value of stored foods depends on the retention of their vitamin potency this invisible leakage cannot safely be overlooked.

This problem is frankly faced by Prof. Harvey. He does not consider that we have a satisfactory answer to it as yet. That is one reason why he would have the government employ a corps of well-trained plant physiologists for a long-range program of research.

Welcomes Surplus

Piling up vast stocks of cotton, linen and other clothing materials, as well as national hoards of building materials and fuel, would present fewer problems, for these things do not spoil so readily as foodstuffs. Particularly is this true of cotton. Keep it dry and it will stay unchanged and in usable condition indefinitely. According to Prof. Harvey's way of looking at things, the present oversupply of cotton should be considered national good fortune rather than a near-calamity. It would be, but for a chronically jittery market.

Paradoxically, coal is a much less stable stuff than cotton, so far as long-time storage is concerned. Exposed to the air, it deteriorates through slow oxidation. Railroads, smelters, and other large users found that out long ago. They found out, too, that coal keeps much better under water. If coal is to be included in a scheme for a great national stock-pile, it may be a good thing literally to dump it into the lake, and dredge it up as needed.

We commonly think of wood storage in terms of lumber yards, with their great stacks of pungent-smelling boards. But as with coal, storage under air is not the best way of keeping lumber, for more than a few months. Besides the ever-present danger of fire, there is the tendency to dry out, crack and check, as well as the almost inevitable invasion by insects and fungi.

So in some parts of the country logs are kept in storage ponds and hauled out for preliminary drying only a short time before they are to be sawed. This practice is now being carried out on a large emergency scale in New England, to save as much as possible of the timber felled by last fall's hurricane.

Parodoxical as this way of storing wood may seem at first glance, it is no new thing under the sun. It was, indeed, a trick of nature long before man thought to imitate it: some of the best cypress logs are "mined" from the bottom of lakes and swamps in the South, where they have lain for centuries.

Prof. Harvey does not envision his proposal for a national super-normal granary as being of value only in case of war or other large-scale, nation-wide emergency. The stocks accumulated would necessarily be kept in many scattered population centers and would be available for use in regional or local emergencies. If vast forest fires should get out of control in the Northwest, if an earthquake should strike again as it did in San Francisco in 1906, if flood or hurricane should cut off cities in the Midwest or Southeast, there would need be no delay in issuing relief supplies, for they would be nearby and not at the wrong end of a long railway trip, as has too often happened in the past.

In one sense, this country has just been through an experience such as the super-normal granary would be designed to meet, only it was unforeseen, not planned for, and was met only through our fortunate ability to turn what seemed bad fortune into good.

Crop Reduction

When the present national administration came into power, there were enormous surpluses, disrupting the markets and bankrupting farmers and farm bankers, in wheat, corn, cotton, meat and several other commodities. To reduce these surpluses and get farm prices up again, crop reduction through acreage restrictions was planned as the big job of the new A.A.A.

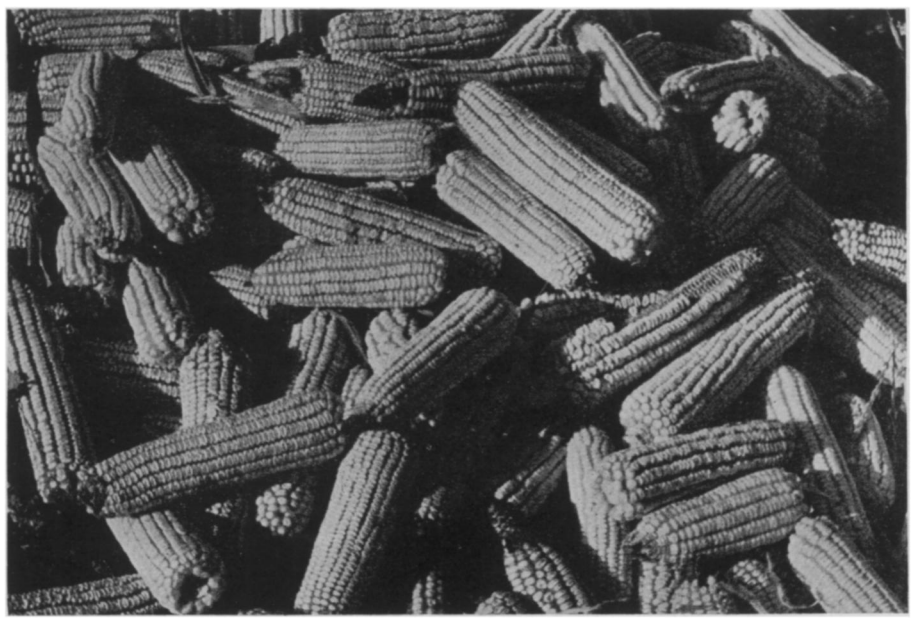
But a force greater than any government agency intervened. Drought cut down farm yields, year after year, far more than the A.A.A. ever dreamed of or desired. The surpluses melted; they proved an invaluable cushion against the shock of shortage through natural causes.

Ever-Normal

It was in an effort to harness a controlled surplus into national service that Secretary Wallace put forward his scheme for an ever-normal granary. But he undertook to carry out the idea only within the frame of existing economic conditions—inevitable, probably, for an administrator with large responsibilities but without unlimited powers.

But, asks Prof. Harvey, why let an economic set-up dictate to us? Everybody admits that having the national pantry filled, even over-stuffed, would be a mighty good thing—if it weren't for the perverse habit of the market, of slumping whenever that shows signs of happening. Admitting that it can't be done right now, what's the matter with seriously trying to find a way to accomplish this highly desirable end?

An electric-eye device linked with a buzzer is found effective to guard sleepwalkers.



POTENTIAL PORK

Well-dried corn is less expensive to store than meat or other animal products. Part of our food hoard might therefore consist of the yellow grain.