

## AGRICULTURE

# Europe's Dire Food Needs

Bad weather and disruption by the war of agricultural needs such as men, horses or tractors, seed and fertilizers, leave Europe on the brink of starvation.

By DR. FRANK THONE

► EMERGENCY food needs in Europe have forced a special session of Congress, which neither President Truman nor the assembled statesmen wanted. Yet here they are, and even those who went to Europe with their minds made up against helping the people there are for the most now ready to vote aid, even in terms of billions.

In the meantime, many Americans who have not had a chance to see present conditions in Europe are demanding, "Why help them at all? Isn't it their own fault if they're hungry? What have their farmers been doing for the past two years, anyway?"

These are simple questions, assuming the possibility of simple answers. Unfortunately, the farm situation in Europe is anything but as simple as the questions assume, hence simple answers are not possible.

## Weather Woes

Simplest single factor, and the one most easily understood in this country because we ourselves had a taste of the same bitter medicine, was the wicked weather in 1947. For Europe, weather woes began with the fall of 1946, which ushered in the most bitterly cold, most violently windy, most burdensomely snowy winter in all the recorded history of the continent. Destructive floods over many fields in England, freezing of nearly half of France's winter wheat crop, are sample items from that winter's long tale of catastrophe.

The polar winter was followed by a Saharan summer. Drought destroyed much of what the cold had spared, just as drought scoured our own cornfields. Only in Europe the drought took toll of everything. In France, some of the winter-killed wheat had been replaced by spring-sown grain; drought struck this, too. Italy's wheat harvest dwindled before the scorching sun. In Germany, potatoes and fruits suffered along with grain crops.

But Europe's weather troubles came only as an added blow after all the scourings of the world's most terrible

war, like Job's curse of sore boils capping all his other losses and griefs. Even with a normal season, Europe would still be in deep trouble and needing help.

Most of this deep pit of trouble in which Europe is struggling was dug and blasted by the war. Agriculture has five great requirements, besides the basic land: it needs men, horses or tractors, implements, seed and fertilizer. The war killed men and horses or led them off into captivity, took for guns and shells the steel needed for tractors and plows, destroyed or ate up the seed, turned fertilizer chemicals into explosives and incendiaries. These violent dislocations cannot be set right in two years—hardly in 10.

## Shortage of Manpower

The first requirement for farming, manpower, is going to be short in Europe's principal agricultural areas for at least that long. The dead cannot come back, and the underfed young are not growing up into strong farm workers. Not all the German war prisoners have been repatriated: there are some in England and France and an unknown but probably much larger number in Russia. There are thousands of displaced persons in western Europe—Balts and Poles who fear to return to their former homes, Germans from Poland and the Sudetenland who could not return if they would. Those among them who are farmers have no fields to till where they are; the farms they once had are no longer part of the economy of western Europe. Finally, the farm-labor migrations that used to mark harvest-time—Poles into Germany, Italians into southern France—are stopped, at least for the present.

One other factor is not so much an actual lack of farm labor as lack of incentive to farmers. In France, farmers can sell their crops but can get nothing but money for them—they cannot buy anything they want with their money. So they either grow less grain, or feed part of their grain to their farm animals which replace the sock under the mattress as tangible savings. The Argentine government, which is the sole exporting agent for that country's grain, refuses

to pay even a third as much for the grain they buy as they get for what they sell in Europe. So the Argentine farmer cuts his acreage too. We may berate such conduct as selfish—but we'd better not do it within the hearing of any American farmer!

Farm horses and other draft animals are being bred again in Europe; but colts must be given a couple of years before they can be broken to the plow. And since there isn't enough grain to feed the human population, not very much can be spared for these competing mouths.

## Slowly Recovering Factories

Tractors that might partly replace horses in front of the plows are not being built fast enough in Europe's slowly recovering factories: coal and steel are lacking, and undernourished factory workmen could not drive their machines at normal speed even if they had the raw materials.

Europe looks to America for farm implements as well as for tractors to pull them. We have sent many cargoes of this food-producing machinery and expect to increase these life-saving exports under the economic rehabilitation measures now pending. But the best we shall be able to do in 1948 will be only half enough to meet the stated needs of European lands.

The story of seed may be very briefly told: there simply isn't enough. We shall have to send considerable quantities. But no one, surely, will grudge this basic means of self-help.

The same story, with variations, might be told of the fourth great requirement of agriculture, fertilizers. In ordinary mixed commercial fertilizer three compounds bulk largest: phosphates, nitrates, potash. War has upset the fertilizer-cart, too, partly by cutting off sources, partly by interfering with transportation.

Nearest to normal is the phosphate situation. There are great phosphate-rock deposits in North Africa, which are being worked by the French; lesser sources on the Continent itself supplement this supply. But the whole European production is not enough; we shall have to supply some from our own none-too-well-stocked bins.

War's disruptive effects are felt most severely in the nitrate supply, for nitrates are materials for munitions as well as for fertilizers, and the great nitrogen-fixation plants of Germany were legitimate targets for the heaviest bombs that Allied planes could lug over them. Those that survived the bombings have not

been permitted to operate at more than a fraction of capacity, largely because of French fears of a resurgent German munitions industry. Our own fixation plants, geared mostly to war needs, adapt only slowly to peacetime production; though these are being put into use as fast as possible. The one great source of natural nitrate, the desert of northern Chile, is being worked for all it will yield; but there is a limit to the capacity of mining and handling machinery and to shipping space.

Potash presents Europe's greatest fertilizer anomaly. For many years the world's greatest source of potash has been a limited area near Stassfurt, in Saxony. We ourselves have been to a considerable extent dependent on German potash, although since World War I a sizable American industry in this mineral wealth has grown up. The post-war zoning of Germany has placed the Stassfurt potash mines under Soviet control. The Russians quite naturally have seen to it that their own needs are satisfied first, and are said to be demanding a rather high price for what potash they permit to move westward.

Even if, by some miracle or magic, all these dislocations in Europe's food-producing capacity could be immediately adjusted, Europe would still need food imports. Since the maturing of the industrial age, western Europe has always been an importer of food. Grain and meat have flowed to Britain, Germany, the Low Countries, Italy, from the United States, Canada, Australia, Argentina, South Africa. Industrial Germany has received grain from Russia and Poland, and from the latter country also

pork—which of course is to a major extent grain on the hoof.

From this country and the members of the British Commonwealth the food-export stream is not only remaining normal but is being accelerated. Australia especially has had a great crop, and is looking hopefully towards another, as spring gets well under way in the Southern Hemisphere. Argentina's wheat-price policy is cutting into that country's sales: Argentine farmers, as already mentioned, are reluctant to produce for what they can get; European consumers make only distress purchases at the high price Argentina demands.

The 1947 wheat crop in the USSR is said to have been very large—how large, though, nobody but the Soviet officials know. It is known that they offered Britain a two-million-bushel grain deal—one million bushels of wheat and one million of corn and other feed grains. However, the British government could not agree to the price asked, and it was no sale. Since then, 350,000 bushels of Russian wheat has been consigned to Poland, which country in turn has been selling part of its potato surplus to American buyers for use in Germany and Austria. Poland expects to have exportable wheat of her own when the 1948 harvest comes in.

This is only a very sketchy outline of the European farm and food situation, with most of the details left out lest the story become simply interminable. It should be enough, however, to give an inkling what a complex and difficult situation faces our legislators, administrators and economists.

*Science News Letter, November 22, 1947*

#### ELECTRONICS

## Metal Detector for Logs

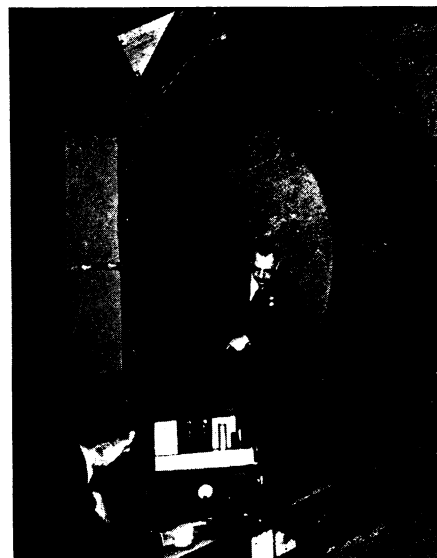
Hidden shells or metal fragments in trees can be located by new device so that the timber can be sawed into usable lumber.

► HIDDEN metal shells or fragments in logs are to be located with an electronic device, a "metal detector", reports General Electric. In the process the logs will be floated through a magnetic field set up by the detector coil system.

The device was perfected for the U. S. Army, and is being used on the Fort Lewis Military Reservation in Washington state where there are some 3,700 acres of forest containing many trees

which have hidden shells within them. No one seems to know where the shells came from, but the timber can not be sawed into usable lumber until the saw-destroying metal is removed. Some buried shells which had not exploded were found in logs, it is reported.

In use the device will be placed in water. When logs pass through the magnetic field set up by the detector coil system, an electronic circuit measures



**SHELL DETECTOR**—An electronic detector that will look like this apparatus will be used to find unexploded shells and metal fragments in trees being harvested at Fort Lewis, Washington.

the amount of voltage unbalance in the field created by any metal in them. If the unbalance is great enough, both visual and audible alarms are affected, and workmen can mark the section of the log containing the metal.

*Science News Letter, November 22, 1947*

#### ENGINEERING

## Germes Removed from Water By Electric Precipitation

► WATER need no longer taste of chlorine to assure you of its safety, if the patent claims of G. P. Ham and Dr. R. B. Barnes, researchers for the American Cyanamid Company, are made good on a large scale. Their process, covered by newly-issued U. S. patents 2,428,328 and 2,428,329, gets the germes out of water by electrically precipitating them on sand or other granular dielectric material.

Typical setup consists of a cylindrical, rubber-lined tank containing a mass of sand separated into layers by thin mats of glass wool. Platinum electrodes, properly spaced, pass an electric current through the sand as the water filters through. The bacteria are not killed, but are found alive, adhering to sand grains in the uppermost layer. They may be destroyed in any manner desired, or saved alive for scientific use.

*Science News Letter, November 22, 1947*