

SCIENCE NEWS

Science Service, Washington, D. C.

FOOD FOR ITALY

THE Allies are reported to be helping to feed the Italian population now in areas from which the Germans have been driven, and will have to continue to do so until 1944 crops are harvested. This year's surplus olive oil, citrus products and sulfur may be used in payment, in part at least.

Italy's crops this year are reported good. The season has been favorable. Fertilizers were available. Manpower shortages were overcome. The wheat crop is estimated by the U. S. Department of Agriculture to be the biggest ever produced in that country. How much of it will be available to Italians is a question. Their wheat areas are in the Po valley and to the north, where the country is now under the control of German forces. The winter fruit and nut country is also in the north.

Fish food from the Mediterranean can supply much of the need if fishing experts show the way and equipment is furnished. Italy, surrounded by water, has never developed an extensive fishing industry. Sardines from Sardinian waters and tuna from Sicilian seas have constituted the principal export catch. Much other fish may be taken and the Mediterranean is now safe for activities.

"Agricultural production in Italy during the 1943-44 crop year is not expected to be handicapped by any serious lack of commercial fertilizers," states the U. S. Department of Agriculture in a recent release, "unless the Nazis damage or requisition the output of domestic plants which in recent years have supplied most of the country's nitrogenous fertilizer requirements. Adequate phosphate should be available from North Africa. Potash, heretofore supplied almost entirely by Germany, constitutes a very minor part of Italy's annual fertilizer consumption."

The productivity of Italian soil is dependent on commercial fertilizers. The amount used in the past dozen years or so is considerably greater than in previous years. Italy was cut off from North African phosphates for only a short while so that the soil has not been impoverished by war conditions.

MT. VESUVIUS

NORTHWEST of Salerno is the famous volcano Vesuvius, which in 79 A.D. erupted and buried the ancient Roman cities of Pompeii and Herculaneum under deposits of ashes and lava from ten to sixty feet deep. Its western slopes extend to the shores of the Gulf of Naples. It is less than ten miles from the city itself.

Armies *en route* from Salerno northward, after crossing the mountainous promontory, the Sorrentine peninsula, which separates the Gulf of Salerno from the Gulf of Naples, pass through some ten miles of fertile farm country occupying the plains between the peninsula and the southern slopes of Mt. Vesuvius. They follow along the coastline or detour to the east up the valley between the volcano and the Apennines. By the coast route it is about thirty miles from Salerno to Naples.

The slopes of Mt. Vesuvius are fertile lands which produce large quantities of food in normal times. The disintegrated lava and the ashes emitted from the volcano have made a productive soil rich in plant food. The slopes are noted for their vineyards from which some of Italy's finest wines are made.

Vesuvius has erupted many times since the great catastrophe in the first century. Lives were lost in many of these outbreaks, but they were few in comparison with the estimated 18,000 lost in 1631, when a very great convulsion occurred. This had been preceded by a period of 130 years of inactivity in which trees and brush grew in the crater among which herds of cattle grazed without a thought of the dangers beneath them.

During the eighteenth and nineteenth centuries Vesuvius was active many times with at least ten eruptions that may be classed as of major importance. A period of increased activities began again in May, 1905, with a flow of lava lasting until April, 1906, when a very violent eruption occurred. A minor outbreak took place in 1913, and during the years 1926 to June, 1929, streams of lava issued from the volcano at various places many times. Since then Vesuvius gives plenty of evidence that it is still alive. Dangerous gas, smoke or steam issue from it almost constantly.

WHITE RUSSIA

WHITE RUSSIA is one of the six republics which were included in the Union of Soviet Republics. The westward paths of retreating former occupants of the Smolensk district are through its forests, over its grain and grazing lands, or across its many swamp and marsh areas. A stretch of land from Smolensk southeasterly through Minsk to Warsaw follows roughly the divide or watershed, with rivers running north to the Baltic and south to the Black Sea. The region about Minsk, 1,000 feet above sea-level, is the highest area along the route.

White Russia occupies an area of nearly 5,000 square miles extending from the border of pre-war Poland eastward to the Smolensk and the Bryansk provinces. The Pskov district is to its north, and on its south is Ukraina. About a quarter of its area is forest land. A large section in its southeast is swamp and marsh land hard to cross in warm weather but firm and solid when frozen. The rest of White Russia is grain and grazing land, not suitable for general agriculture.

About four million of the five million pre-war population of this division are White Russians. This name distinguishes them from the Great Russians, which constitute the population of most of Russia, and from the Little Russians, or Ukrainians. The White Russians are said to be the purest of these three great Slav divisions. They are akin to the Poles and larger and blonder than the Great Russians.

White Russians are said to take their name from the garments long worn by them—white homespun smocks and white leggings.

MENINGITIS IN TRAINING CAMPS

It appears from a report in the *Journal* of the American Medical Association by Colonel Henry M. Thomas, Jr., medical consultant, Fourth Service Command, that great progress is being made in the control of meningitis. The World War I death rate for meningitis in the U. S. Army was 39 per cent. This was cut to one fourth (8.8 per cent.) during the early months of last winter's outbreak in the Fourth Service Command, and during the last two months of the outbreak the death rate was again cut to one fourth or 2.1 per cent. in 761 cases, Colonel Thomas reports. "It is safe to prophesy," he states, "that the mortality rate for the remainder of this war will be held to a low level."

Sulfadiazine is the weapon chiefly responsible for the amazingly low death rate. However, the second reduction of the death rate to one fourth its previous figure was not achieved until medical officers and nurses throughout the Fourth Service Command had been trained to recognize the various symptoms, especially in the early stages, and the need for immediate adequate treatment.

Colonel Thomas states that "it seems probable that all members of the medical corps on duty in the zone of the interior during the past few months will continue to be on the watch for cases of meningococcic infection and will be familiar with proper treatment."

Prophylactic treatment with sulfadiazine of meningitis carriers has also been used so successfully in the Army during the past few months that Colonel Thomas feels that it is safe to prophesy that in the coming years the number of cases as well as the death rate of this disease can be greatly reduced.

NEW PLASTER CAST TREATMENT OF BURNS

Good results with a new plaster cast treatment for burns of arms, legs, feet and hands are reported by Dr. Stanley M. Levenson and Dr. Charles C. Lund, of Boston City Hospital and Harvard Medical School, in the *Journal* of the American Medical Association.

Possibility that the method may in the future be used for treating burns in the armed forces appears from the fact that the work reported was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and Harvard University. Further suggestion of this appears in the emphasis the doctors put on the wide availability of the materials needed for the treatment, their lack of bulk and the fact that the cast will protect the burned extremity from injury if the patient has to be moved. Healing is as rapid as with other methods of treating burns, and ability to move the burned arm, leg or hand returns more rapidly.

The lack of pain felt by the patients, from the start of treatment to complete healing, is described as "remarkable." As soon as the cast is on, the pain disappears. A slight dull ache was felt for three days by three of eight patients whose cases are reported. A total of 22 patients have had burns treated in this way with "very satisfactory" results.

The casts do more than give the burned part rest and

protect it from further injury. They prevent swelling, which other scientists have recently reported as a harmful feature of burns, and prevent slowing of the blood circulation in the burned area. The prevention of swelling also means that less plasma is being lost from the burned area, and in large burns this would lead to considerable saving in the amount of plasma that would have to be given the patient. Applying the cast is relatively easy. The casts used for the burn cases are thinner and lack the bulky padding of casts for broken bones.

ITEMS

INFANTILE paralysis cases throughout the nation decreased from a total of 1,020 the week ending on September 18 to 818 the week ending September 25, according to reports made to the U. S. Public Health Service. Health authorities believe the epidemic is now past its peak. Decreases were reported from all but six states: New Jersey, Wisconsin, Minnesota, Arizona, Utah and Oregon. The only substantial increase was in Minnesota, from 10 to 23. In Illinois, where the epidemic had been particularly fierce, cases dropped from 208 to 140. Texas, one of the first states to feel the epidemic, reported a decrease from 57 to 41. Cases in California, another hard hit state, dropped from 150 to 117.

THE U. S. Department of Agriculture states that approximately 20,000,000 gardens were cultivated this year. About 4,000,000 acres of land were used for them. Some 8,000,000 tons of food were produced. This means that approximately one out of every two families in the country had victory gardens. In the two severe drought areas, the Middle Atlantic states, centered about the District of Columbia, and the Oklahoma-Texas region, many of the gardens were a failure. Throughout the nation as a whole they produced abundantly. In tonnage the production is as great as that of the food for the entire Army. A soldier uses a ton of food a year. The Victory Garden production amounts to about 125 pounds for every man, woman and child in the civilian population.

MONT CENIS tunnel through the Alps connecting Modano, France, with Bardonecchia, Italy, reported to be partly destroyed by Italians to render it useless to the Germans, is sometimes confused with Mont Cenis Pass seventeen miles to the east. Both are of strategic value. The tunnel is used by the railroad from Paris and Lyons in France to Turin and the rest of Italy. It is eight miles long and approximately twenty-six feet wide. It is the earliest of the Alpine tunnels, having been opened in 1871 after fourteen years of effort in its construction. Mont Cenis Pass crosses the mountains at an elevation of nearly 6,900 feet near the junction of the Cottian and Gracian Alps. This is about 1,600 feet higher than Denver, Colo. A carriage road was built through it 140 years ago and a railroad was constructed along the carriage road in 1868. This railway was destroyed in 1871 when the tunnel was put into use. Hannibal, the Carthaginian general, used this pass, it is claimed by some historians, in his invasion of Italy in 218 B.C.