SCIENCE NEWS

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FOOD PLANTS OF THE SOUTH PACIFIC AREA

FINDING food enough in the jungle should become less of a problem for our fighters in the Pacific theater of war: introductions to a large variety of edible plants have now been arranged by one of the world's leading botanists, Dr. E. D. Merrill, of Harvard University, through a new technical manual of the War Department, entitled "Emergency and Poisonous Plants of the Islands of the Pacific."

The handbook is small (pocket-size, and only 149 pages), but it is complete, thorough and practical. A large proportion of the species described are also pictured; there are 113 simple but adequate pen-and-ink drawings. Names are given first in English, then the botanist's Latin for positive identification, then native names in anywhere up to 20 or 30 local dialects, just in case you have a chance to ask a brown neighbor any questions.

Divisions are along strictly practical lines: plants with edible leaves and stems, with fleshy tubers or roots, with good fruits, with edible seeds. Some are not native to the jungle, but may be found where gardens once have been, or "gone native." The latter group include such familiar American species as peanuts, lima beans and small wild tomatoes.

There is a short special section of plants used to stupefy fish, which includes the derris which has become a standard source of insect sprays. Another brief section is devoted to ferns, all of which are given a clean bill of health so far as danger from poison is concerned. The tree ferns can yield tasty and nutritious "cabbages"—their terminal buds. Similar "cabbages" can be obtained from many kinds of palms.

The rather numerous tribe of the aroids, identifiable by their "elephant-ear" leaves, some of them very large, include the taros, staple food source for thousands of dark islanders, but reputed to be poisonous to the uninitiated. They are not really poisonous, but they do contain myriads of sharp-pointed microscopic crystals, which can cause extreme irritation to the lining of the digestive tract. These can be eliminated by thorough cooking, after which the plants become one of the best sources of emergency food.

Unnecessary fears are often entertained about the "poisonous" character of the tropics. Dr. Merrill lists only half-a-dozen plant species as poisonous, among them the familiar castor-bean. He states also that the chances of getting bitten by a venomous serpent in the tropical jungle is rather less than that of being struck by a rattlesnake right here at home in the United States. Insects and other creeping things are really more troublesome—and more dangerous.

Dr. Merrill is in position to speak as one having authority. He was in active botanical work in the Philippines for more than twenty years, with a number of expeditions into other tropical lands. At present, besides being professor of botany at Harvard, he is supervisor of the university's great collection of living trees, the Arnold Arboretum.

Although the book was prepared specifically for the use of the armed forces in the field, it can be obtained by any one from Superintendent of Public Documents, Washington, D. C., for 15 cents per copy.

FOOD SHORTAGE IN AMERICA

FOOD shortage may become a permanent, gaunt, unwelcome guest at the American table, instead of the fleeting specter it is now considered to be, if bad farming practices of the past are projected into the future. Such was the warning of Louis Bromfield, novelist-agriculturalist and vice-president of Friends of the Land, before a meeting in Tar Hollow, Ohio, of the second annual Conference on Conservation, Nutrition and Human Health.

Farms increase in size and diminish in number from decade to decade, Mr. Bromfield pointed out, deploring the passing of the small farmer with his family-sized farm. Factory methods on the farm, especially the practice of concentrating on the production of a single cash crop over wide sections, the speaker regarded as especially pernicious.

Mr. Bromfield also pointed out our national failure to replace our forests as fast as they are being depleted: "This was largely a forest country and for more than a hundred years we have been cutting down forests recklessly, until now even the worst offenders, the lumber and paper-pulp industries, are alarmed over the fact that in a few more years their supply of raw material will largely have vanished. And this at a time when the uses of wood are supplanting metals, wool and other fundamentals to a degree which establishes what might be called a 'wood economy.'

"Worst of all, little effort has been made to restore our forests. We have only to look at Europe to realize the vital importance of trees, not only to peace but to wartime economy. . . . Forests require lifetimes to grow. They are not made over night."—FRANK THONE.

INTER-AMERICAN STANDARDS FOR GOODS OF COMMERCE

How the good neighbor policy is being extended to develop inter-American standards for the goods of everyday life was pointed out at the annual meeting of the American Institute of Electrical Engineers by Alberto Magno-Rodrigues, of the American Standards Association.

The metric system of measurement, using centimeters and grams instead of inches and ounces, has been one of the biggest obstacles in adopting mutual standards between countries. Germans and other Europeans who use the metric system along with the Latin-Americans have long capitalized on this advantage.

Mass production, which makes standardization so valuable, now reduces the importance of the unit of measure-

ment as compared with the specified size of the product. This makes the "go" and "not go" type of gauge popular over the inspector's scale and micrometer formerly used. The acceptance of the 25.4 ratio for the conversion of the inch to millimeters is also helping to pave the way for better understanding between the groups of nations who use different systems of weights and measures.

An Inter-American Department of the American Standards Association has been formed which is now conducting a survey among South American standardization groups and business men.

This country's experience in formulating standards for the goods of commerce is being used by a committee of Chinese technical men now in this country. They are formulating standards with an eye on the postwar period as part of a study of the economic rehabilitation of China.

More active cooperation with Mexico is also developing since a Department of National Standards was formed out of the old Department of Weights and Measures.

In Peru a project is under way to establish an official standardizing body for the first time. Chile expects to have a similar group in the near future, either sponsored by the engineers or under government support.

A STATIC NEUTRALIZER

THAT static has finally been exorcised was announced at the dedicatory exercises opening the new Goodyear Research Laboratory at Akron, Ohio. A new device, developed by Goodyear engineers and officially christened the radio static neutralizer, eliminates the disturbing atmospherics caused by lightning flashes and sparks from powerful electrical apparatus, that cause such annoying crashes and sputterings in radio programs and manifest themselves by black spots and streaks on radio-transmitted pictures.

The static neutralizer will be used for the present by the armed forces in improving communications between planes, ships, tanks and ground stations, in bettering the performance of radar, and in securing clearer transmission of military maps and reconnaissance photographs. After the war it will become available for use on civilian radio sets.

The neutralizer makes use of small electronic tubes, which are automatically adjusted to each radio signal, whether weak or strong. They discriminate between static and the desired signal, and automatically control the amount of static energy that can pass through the radio set. It also gets rid of static on the same frequency as the incoming signal, by means of a circuit that uses the energy of the static to build up an electronic current of opposite sign. This current then neutralizes the static so that it has no effect on the signal.—FRANK THONE.

ITEMS

PENICILLIN, the potent germ-fighter from mold, is "far superior" to the sulfa drugs in the treatment of gas gangrene, one of the most serious complications of war wounds, Dr. Lucile R. Hac and Dr. Agnes C. Hubert, of the University of Chicago and the Chicago Lying-In Hospital, report to the Society for Experimental Biology and Medicine. Their report is based on laboratory experiments with mice and guinea pigs infected with Clostridium welchii, the germ most frequently found in cases of gas gangrene. A single injection under the skin of 50 Florey units of penicillin given at the time the gas gangrene germs were inoculated into the mice protected 98 per cent. of the animals. Repeated small doses gave as good protection as single large doses. Delay in treatment lowers the survival rate, but not appreciably unless the delay is over three hours.

MOBILE housing is proving particularly useful where new war industries have been built. No ghost town will be left after the war, however, for the entire community can be folded up and moved elsewhere. Mobile houses for one and two families, such as those produced by the Palace Travel Coach Corporation, are even now being used to help alleviate the housing shortage. Some of the homes have four rooms. Already over 500 of the two-family units alone have been set up in a center near the Willow Run bomber plant. Utility units have been developed so that when the need for housing in a particular community has ended, they may be transferred to another location. These units consist of bath and toilet, laundry and office units. They are designed to accommodate from thirty-five families to an entire mobile community. Still in the experimental stage are houses to consist of five rooms, bath and reception hall. These houses, equipped with folding wings, ceilings and floors, are so compact that they can be hauled over the highways by truck trailers. Mobile houses at present are available only to war industries.

A NEW line of attack on malaria was predicted by Dr. W. McDowell Hammon, of the Medical School of the University of California, at the meeting of the Northern California Public Health Association. The new attack will probably aim at stopping the disease during the six days between the bite of the infected mosquito and the appearance of the malaria trophozoites in the red blood cells. This six-day period represents a stage in the cycle of malaria germs which scientists have only recently studied. Treatment heretofore has been aimed at the germs after they are seen in the blood stream. Studies of malaria in birds, however, show that the malaria germs develop in the reticulo-endothelial cells of the spleen, bone marrow and capillaries of the brain before they enter the blood cells. Although future research will probably be directed toward stopping the infection at this early stage, Dr. Hammon stated that "at present we must depend on mosquito repellants and larvae control. We must not relax our vigilance or our mosquito abatement budgets."

THE electrolytic process now employed in making tin cans will continue in use after the war, was reported by Dr. Charles Olin Ball, technical director of the Owens-Illinois Can Company, at the St. Louis meeting of the Institute of Food Technologists. This revolutionary change in the process was evolved because of the necessity of conserving tin, but is more efficient, more economical, and produces a better quality can than the old hot dip method.