

into the armed services with only a few of them in a position where they can use their technical knowledge.

"The research organizations associated with industry, which find new products and upon which industry relies for expansion and for creation of new jobs, are at a low ebb. There is no possibility that they can recover quickly in the near future. This is a matter of great concern to the scientists and should be to the

public, for only by years of patient research by trained and competent investigators can we maintain the high level of achievement in the field of science, on which is based position of eminence among nations."

Dr. Adams talked during the intermission of the New York Philharmonic Symphony broadcast sponsored by the United States Rubber Co.

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METEOROLOGY

Pacific Area Typhoons

Due during the summer and fall months, they are similar in violence, velocity and rainfall to the Atlantic and Gulf Coast hurricanes.

► TYPHOONS in the Pacific war area, due during the summer and fall months, will be something new to many American soldiers and sailors, but not to those who know the hurricanes of the Atlantic and Gulf coasts. They are similar in origin, nature, violence, velocity and the amount of rainfall accompanying them. They constitute real hazards for both sea and aircraft. Some 20 severe typhoons occur each year in the Philippine-Okinawa-Japan region.

The usual path of the Pacific typhoon is northerly, along the 1,000-mile eastern coast of the Philippine Islands, sweeping Formosa, and Okinawa and the other Ryukyu islands, and passing northeastward along the coasts of the Japanese mainland. Some pass through the Philippines into the South China sea and the coasts of Indo-China and southern China. Others pass through the Ryukyu islands into the East China sea.

The season for these typhoons extends from early August until late October but many of the most severe of them have occurred in July and in November. They occur in the season when the belt of equatorial calms in the Pacific reaches its most northerly extension. They are usually from 50 to 100 miles in diameter, and move forward rather slowly, but the circular whirl of air in them often reaches a velocity of 100 miles an hour or more.

They are usually accompanied by heavy rains which extend inland, covering western ports on the Philippines and other islands, making land movements as well as ship movements difficult. In one typhoon, Baguio, the summer capital of the Philippines, experienced the heaviest 24-hour rainfall ever

recorded, 46 inches, approximately the annual rainfall in eastern United States. This storm was on July 14-15, 1911.

Tropical typhoons and hurricanes originate over oceans, where there is plenty of moisture and little resistance to winds, in the regions where the trade winds are dying out and merging with the doldrums or calms. The heat and the moisture of the doldrums are probably responsible. Typhoons and hurricanes form when the doldrums have moved away from the equator, where the defective force of the rotation of the earth is sufficient to set up the whirl. In most cases the storms move westward as carried by the trade winds, then curve toward the poles of the earth. When they reach the middle latitudes, or over land, they lose some of their intensity and spread out, becoming less destructive.

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HOME ECONOMICS

Vitamin C to Keep Canned Fruits Bright

► A WAY has been found for home canners to keep their fruits from turning dark in the jars and developing an off flavor. It consists in adding vitamin C to the fruit during canning. Research showing that this will work and how the housewife can apply the findings is reported by J. J. Powers and Dr. C. R. Fellers, of Massachusetts State College, in the *Journal of Home Economics*.

The home canner gets her vitamin C in tablets at the drug store. Another related chemical will do the job, too, and is cheaper but because of the war it is not now available commercially. Each vitamin C tablet sold in drug stores is made

to contain either 25 milligrams (abbreviated mg), 50 mg or 100 mg of the vitamin. The label tells which.

For each pint jar the home canner should use one and one-fourth tablets of the 100 mg strength, or two and one-half tablets of 50 mg strength, or five tablets of 25 mg strength. If the label gives the strength in International Units, abbreviated IU, instead of milligrams, divide by 20 to convert into milligrams. If the potency of strength is 2000 IU, this is equivalent to 100 mg and you use one and one-fourth tablets for each pint jar. The 25 mg (500 IU) strength tablets would be easier to use, since they do not have to be divided.

This method of keeping home canned fruit from darkening is not expensive, however. Mr. Powers and Dr. Fellers estimate it, on the basis of prices in drug stores in their town, at between one and two cents per pint jar when the 100 mg tablets are used.

The vitamin tablets are put into the jars before they are filled with the fruit. All the other details of the home canning procedure are followed as usual. If quart jars are used, of course twice the amount of vitamin should be put in each of these larger jars. The method is good for pears, peaches and plums. It does not keep home canned applesauce from darkening though it improves its appearance. Darkening of the applesauce depends more on the variety of apple.

Vitamin C prevents surface darkening and development of off flavor by preventing oxidation, the cause of the condition. Even commercial canners must face this problem. They can overcome it more easily than the housewife, however. For one thing, there is less headspace in the usual commercial jar, so there will be less oxygen to cause deterioration. The commercial canner, moreover, vacuum seals his jars, which means less air is entrapped, and he can, if necessary, deaerate the food.

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ENGINEERING

Liquid-Cooled Dynamos For Electric Generators

► THE LIQUID-cooling principle, long standard with internal combustion engines, is applied to electric generators, in patent 2,376,441, granted to Harold M. Martin of Schenectady, N. Y., assignor to the General Electric Company. Tooth-like recesses are cut into the rotor, and in these the coolant is carried around, held against escaping by the opposed smooth surface of the stator and by confining baffles at the sides.

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