

Dehydration

Gains in Scope

Mary Schmidt tells of the progress which has been made in the dehydration of food products

THE Army and Navy have set down three requirements for their dehydrated food products. They must keep for a long time, in any climate. The food must be appetizing to the men, and essential food factors in the original fresh food must be well preserved.

In the testing laboratories, the dehydrated foods are stored in all-weather rooms. The experimenters have concluded that foods properly processed and packaged can be stored safely for reasonably long periods in any climate, from the tropics to the poles.

In dehydration, temperature, humidity and circulation must be rigidly controlled. In order to qualify for government contracts, commercial concerns must be equipped to process at least 500,000 pounds. The food products used must be top grade and rate optimum in color, flavor and nutritive value.

A variety of foods can be dehydrated including meats, eggs, milk, butter, vegetables and fruits. Tomatoes are dehydrated by spraying the cooked pulp on hot rotating drums and later scraping it off in dry flakes.

Carrots, beets and turnips when dehydrated become flaky slivers and dehydrated sliced cabbage looks like corn flakes. Strongly flavored onions are preserved by this process as others lack flavor in dehydration. Many soups and fruit juices are being dehydrated.

Orange juice in powder form is sent by the Lend-Lease Program to Britain's children. The young Englishmen have orange juice with dehydrated milk and soybean flour beaten in, forming a nutritious food. Dehydrated berries, too, are sent to England, where water and sugar are added to make the jams and jellies of which Britons are so fond.

The K ration carried by parachutists is comprised almost entirely of dehydrated foods.

The most amazing thing about dehydrated foods is the small space and light weight of these foods in comparison with these same foods canned or in bulk. Dehydrated, one ton of peas weighs about 350 pounds. Over 350 pounds of lean meat weighs 88 pounds when dehydrated. One ship-

load of dehydrated foods is equivalent to 6 or 7 shiploads of canned products. The 27 million pounds of potatoes a year normally purchased by the Army and Navy are reduced to 3 million pounds for shipment.

Dehydrated foods resist mold and bacterial attack but they lose quality and develop "off" tastes and odors unless their own internal enzymes are inactivated before they are processed. In order to prevent undesirable changes, most vegetables are blanched in steam or hot water before being dehydrated. To preserve color and prevent undesirable enzymatic change, most dehydrated fruits are exposed a short time to fumes of burning sulphur. Dehydrated vegetables have a lower sugar and acid content, must be reduced to a lower moisture content than fruits and require more efficient vapor-proof packaging.

This new method of preserving food shows great promise of lasting and thriving after the war. Dehydrated potatoes and soups, especially, will probably continue to be used. Homemakers will not find dehydrated food in large quantities on the market, however, until the industry has expanded. The Army and Navy consume almost all of the present output.

Dehydrated foods, extensively used in both Army and Navy, help solve space problems and are light in weight. Foods which may be processed are eggs and cabbage

