CHEMISTRY

Fats Can Be Tailored

Chemists can duplicate any of the oils affected by war shortages by using any of the common fats we happen to have. Commercial production stage reached.

➤ WAR-CAUSED SHORTAGE in such oils as coconut, palm, China-wood and perilla need not worry us much in the future, as soon as general use begins to be made of a method for "tailoring" any kind of oil we want out of any kind of domestically-produced vegetable oil or animal fat we happen to have. The method was described before the meeting of the American Chemical Society in Buffalo, N. Y., by Dr. Stephen E. Freeman, paint chemist of the Pittsburgh Plate Glass Company's Laboratory in Milwaukee.

The new method, Dr. Freeman announced, has already passed through the critical pilot-plant stage into the beginnings of commercial production.

It depends on the fact that any given natural oil is really a mixture of several different oils. All commonly used food and industrial oils have been thoroughly analyzed, so that we know pretty well what they are made of. It is possible to separate these oils into their respective fractions by using solvents that will take out certain fractions and leave others. Then the fractions can be recombined in any way desired.

Thus, it has been possible to split common linseed oil into two fractions, one of which resembles China-wood oil while the other is like soybean oil. Soybean oil in turn can be split into fractions resembling linseed and cottonseed oils, and so on, with all the natural oils and fats.

Science News Letter, September 19, 1942

Keeps Fats From Spoiling

➤ OTHER CHEMISTS have been at work on the problem of keeping oily and fatty foods from spoiling. The problem is basically one of keeping oxygen away from the fats, because they become rancid by oxidizing. A good anti-oxidant has been found by Dr. H. S. Mitchell and Dr. H. C. Black of Swift and Company's research laboratories, in a well-known product of tropical American trees, gum guaiac. Two years of large-scale testing have shown it to be highly successful in the preservation of lard and on wrappings for other oily foods. It was suggested as a possible solution for the still unlicked problem of preserving dehydrated pork products.

Science News Letter, September 19, 1942

New Packages Save Tin

➤ GLASS CONTAINERS for foods and other commodities formerly packed in tins were cited as a war-time solution of two scarcities problems by Dr. A. H. Warth of the Crown Cork and Seal Company. From the same quantity of tin-coated steel that goes to make only 265 quart cans, 14,400 closures for quart glass containers can be made, he pointed out.

Thirty-pound cans of eggs, used by bakeries and restaurants, are being replaced by equal-sized packages of frozen eggs enclosed first in cellophane, then in cardboard. Each such package releases a whole pound of tinned steel sheet.

The only place where glass cannot compete with tin is in packing goods for Army and Navy use. Glass is too breakable for the rough handling that stores often get at sea or in the field. But civilians at home can do their share by accepting glass-packaged commodities, so that the canned goods may go up to the fighting fronts.

Science News Letter, September 19, 1942

CHEMISTRY

Oil Breakdown Cause Found

➤ DISCOVERED: what makes lubricating oil break down in auto engines. It is the tiny black powdery particles that flow in all long used oil. The deterioration of lubricating oil, shortening both the life of the oil and the life of the motors, was explained by R. G. Larsen and F. A. Armfield of the Shell Development Company, Emeryville, Calif., to the American Chemical Society.

Several things have been blamed for oil breakdown, they stated, including the heated metal of the engine, unburned gasoline, oxidation products of the oil itself, etc. The two researchers found the real culprits to be the tiny black powdery particles that float in all long-used oil. These act as catalysts, aiding the oil to contract an undesirable union with oxygen and then deteriorate. The black particles themselves are of

CARGO CARRIERS AND FIGHTER PLANES, turned out in increasing numbers at Curtiss-Wright, has won the company the joint Army-Navy "E" award for efficient production. Curtiss Commando military transports are shown in the background, while Kittyhawk and Warhawk fighters are seen being assembled in the foreground.