



FROZEN CANNED BERRIES

When opened in a U. S. Department of Agriculture laboratory they come out as fresh and flavorful as they were when the cans were sealed, months ago.

You don't just freeze any old thing, for the frosted-vegetable market. Some varieties give much better results than others, due to peculiarities of internal biochemistry. That is where plant physiology comes in. Also, probably, genetics; for it now appears likely that the best way to get first-class frozen vegetables and fruits is to breed them especially for the purpose.

Retail marketing of frozen foods is to a considerable extent a matter of attractive packaging, as is marketing of all kinds. Commonest, perhaps, is the simple rectangular carton, now frequently provided with a transparent window, so that the customer can see what she is getting. However, many other types of container are in use, including glass jars and tin cans. These latter, being liquid-tight, have particular advantages when fruits are being offered in their own juices or in syrups.

Fresh fruit juices are also being marketed in the frozen state. This offers considerable advantages over the older methods of handling in glass or tin, in many instances, for certain kinds of fruit juices lose flavor or vitamin content when heat-treated, as is necessary in bottling or canning. Moreover, you do not need to put ice cubes into your juice if you want to serve it cold: just dump a sufficient quantity of orange or grape-

fruit juice cubes into a pitcher, and when they have partly melted go ahead and fill up the glasses.

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MEDICINE

Cancer Fight Advanced by Success of Slow Neutrons

CURE of a certain type of cancer in mice by slow neutrons is announced by Dr. Paul A. Zahl, Dr. Franklin S. Cooper and Dr. John R. Dunning, of Memorial Hospital, the Haskins Laboratories, and Columbia University, in a report to the National Academy of Sciences. (*Proceedings*, Oct.)

This appears to be an important step toward the better treatment of human cancer which physicists and physicians have hoped would come from the atom-smashing cyclotron in which the neutrons are produced.

Fast neutrons, like X-rays, can destroy cancer but their usefulness in treatment is limited by the fact that they also destroy other living tissue. Slow neutrons, of the kind used in the spectacular splitting of the uranium atom, should be able to pass through the body with little or no damage to the tissues. When slow-neutron-capturing chemicals, such as boron or lithium, are injected in or

around a cancer, the action of the neutrons on the capturing chemical should result in destruction of the cancer, while surrounding body tissues are unharmed.

Test-tube experiments with cancer tissue removed from the body showed that the boron-slow-neutron attack on cancer was five times as effective as a fast-neutron attack on cancer. This was reported by Dr. P. G. Kruger, of the University of Illinois.

The mouse experiments now reported by the New York investigators show the effectiveness of the slow-neutron-boron attack on cancer in living animals.

For any possible future use of this attack in treatment of cancer, the New York investigators believe that a better device than hypodermic injection should be developed for localizing either boron or lithium in the cancer tissue. Attaching lithium to large-particle colloidal dyes and injecting this into the veins is a promising improvement in the technic now being investigated.

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ENGINEERING

Diesel-Powered Buses Prove Good To Cross Continent

BUSES operated by Diesel engines have proved satisfactory in more than a year's service between Chicago and California. W. A. Taussig, of the Burlington Transportation Co., told the National Fuels and Lubricants Meeting of the Society of Automotive Engineers in Tulsa.

In the first few months of operation, during the summer of 1939, he said, a great deal of trouble was experienced with engine failure. However, these difficulties were overcome and changes were made in the engines to improve their service. As a result, 17 more buses were added to the original fleet of 21.

"A fuel saving of approximately 30% has been realized by the introduction of Diesels," Mr. Taussig stated. "While there have been some exceedingly discouraging experiences in the past, it now appears that the hardest part of pioneering is over, and unquestionably, in the future, more and more operators will avail themselves of the possibilities of fuel economies through Diesel operation."

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At the National Bureau of Standards, the most accurate of *thermometers* show an error of at least a twentieth of a degree.