

FOOD TECHNOLOGY

Bacteria Grown to Order; Make Butter Uniform

Non-Explosive Cheese, Possible Need for Black Cans, Gland Injections for Bossy Described to Conference

DAIRYMEN may shortly cultivate certain types of bacteria and add them to cream to be churned into butter to insure a more uniform product of better quality.

This unusual procedure was outlined to the Food Technology Conference at the Massachusetts Institute of Technology, Cambridge, Mass., by Dr. M. E. Parker of the American Association of Creamery Butter Manufacturers.

The quality of butter, he explained, is largely dependent on its taste and aroma, which in turn are due to certain chemical compounds found in butter in varying amounts.

Concentrations of as little as two to four parts per hundred thousand of such chemicals give the desired butter flavors but these compounds must be produced by bacteria from the raw material, cream, from which butter is churned.

Until now the occurrence of the right type of healthful and helpful bacteria which produce these flavoring substances has been left to chance, much the same as wine distillers formerly allowed wild yeasts to ferment the grapes.

Scientists are now working on the problem of adding distillates from pure cultures of these same bacteria, grown to order, to butter to help produce a more uniform product.

Ozone Set to Work

Ozone, that pungent gas so frequently associated with an electric motor while it is running, may be the next substance set to work by food chemists in the never-ending campaign against germs and molds which hinder food storage, the Conference learned.

Increased use of the gas, a form of oxygen sometimes used as a bleach, was predicted by Prof. Arthur W. Ewell of the Worcester Polytechnic Institute.

Eggs stored in ozone for eight months, he declared, are indistinguishable from those but a few days old and meat can be stored up to 60 days in it with no mold or slime forming.

Better equipment and further knowledge of how to use the gas are pre-

requisites to its further development, the chemist concluded.

Non-Exploding Cheese

Canned cheese that will not "explode" and that will come to the consumer without the customary rind appears a probability.

A special one-way valve that lets out gas formed during the fermenting of the cheese, which continues even while the package is standing on the grocer's shelf awaiting sale, but still keeps out mold- and germ-carrying air was described at the Food Technology Conference by Dr. L. A. Rogers of the U. S. Bureau of Dairy Industry.

Previous attempts of the cheese industry to use cans for their products have been stymied by the fact that gas formed in the cheese after canning caused the can to swell up, and if the process continued long enough, finally to burst, much as those containing home brew beverages.

Rind formation is also checked in the new type package, Dr. Rogers declared.

Gland Injection For Cows

How an extract of the pituitary gland, when injected into a cow, can increase its milk production from 10 to 350 per cent. was described by Dr. A. C. Fay, laboratory director of H. P. Hood & Sons.

The research is still in the experimental stage, he said, but it gives promise of great utility to the dairy industry. The importance of the dairy industry in the nation's food supply, it was pointed out, is tremendous, for of the ton of food consumed annually by each person in the United States, 45 per cent. is composed of dairy products.

Dr. Fay also outlined new tests the industry has devised for rapidly checking the quality of milk. Until now, 48 hours was needed, but the new tests can be run off in less than an hour. New methods have also facilitated the detection of improperly pasteurized milk, he said, again with an important saving of time.

Black Cans

Housewives may some day have to get used to black cans because of a tin shortage—a future possibility by no means remote—the Food Technology Conference learned from Prof. Robert S. Williams of the Massachusetts Institute of Technology.

"Tin is costly and is a strategic material of which we have no domestic supply," Dr. Williams remarked, in suggesting that America's canning industry, largest user of tin-plate in the world, get busy and look for a substitute.

A Parkerizing process, by which steel is coated with an impenetrable black oxide that resists corrosion, was suggested by the metallurgist as one possible situation.

The bulk of the world's tin comes from the Malay peninsula, on which Singapore, under British control, is located. Since tin is required for military purposes, a protracted European or Asiatic war might curtail the possibility of getting tin in sufficient quantities for America's gigantic tinning industry.

Raw Milk Causes Epidemics

Blame for 40 milk-borne epidemics a year in the United States was placed squarely on the use of raw milk by Dr. James A. Tobey, health department director for the Borden Company, who declared that these epidemics are "due chiefly to contaminated raw milk supplies in the smaller communities."

Forms of tuberculosis and undulant fever spread by infected cattle constitute a problem, but both hazards can be eliminated by universal pasteurization, he asserted.

About 88 per cent. of milk sold on the market in cities of 10,000 or more is pasteurized, "but the picture is less roseate in the smaller communities of this country. In places having populations between 1,000 and 10,000, only about 39 per cent. of the milk is now pasteurized, the proportion usually growing less and less as the population decreases.

"Efficient pasteurization of all market milk is an efficient sanitary measure."

Wider use of irradiated milk, rich in vitamin D which combats rickets, was urged by Dr. Tobey. "The more general use of vitamin D milks would tend further to reduce the incidence of rickets, a disease that is still one of our important public health problems."

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About 25 per cent of grape juice is sugar.