

By comparing these threshold concentrations for number of different salt compounds he arrived at the conclusion that taste perception in the cockroach is a function of the ionic mobilities of the cations of the salts. As a result of these studies it was possible to construct a graph in which the stimulative efficiencies of different salts were plotted against the ionic mobilities of the cations. There was also a variation in acceptability with concentration of a given salt; similar shifts in taste with concentration have been reported for man.

To test the spectrum hypothesis derived from cockroaches, a number of salts were presented to human volunteers for taste testing. The human tasters thus were able to provide points on the graph for sweet, salty, bitter, and sour. With the information thus gained the mobility hypothesis was used to predict thresholds and taste for two salts which had not been previously tested. The salts, cesium and rubidium chloride, were found to have ionic mobilities like potassium chloride, the rejection threshold for the roach was found to be as predicted, and human volunteers reported that the two salts tasted like potassium chloride. This corroborative

experiment is cited by Dr. Frings as another example of the similarity of taste between the cockroach and man.

One of the reasons Dr. Frings has found humans difficult taste testers may be that there are actually 10 different classes of tasters among humans. On the basis of taste testing with two odorless chemicals Arthur L. Fox of Colgate Palmolive Co. can divide humans into classes based on taste alone. He offers this as a scientific explanation of why different foods taste differently to different people.

The taste class groups are found to have distinctly different food preferences with regard to likes and dislikes of such diverse materials as sauerkraut, grapefruit, buttermilk, and cottage cheese.

The chemical taste test is based on the reactions of people to two chemical compounds, phenyl thiocarbamate and sodium benzoate. The phenyl thiocarbamate divides a random group into two large classes, those who find the chemical tastes bitter and those who find it tasteless. Using sodium benzoate each of the major classes is divided into five additional classes based on the reaction to this chemical as sweet, sour, bitter, salty, or tasteless.

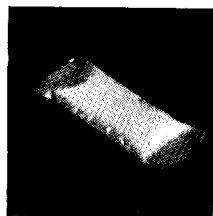
Dr. Fox believes that many food preferences can be explained on the basis of taste classes. If this is valid then it would seem to be important to have representatives of each of the taste classes on any taste testing panels. However, greater weight should be given to the opinions of the panelists who belong to the four major classes of which constitute about 76 percent of the population.

Industry

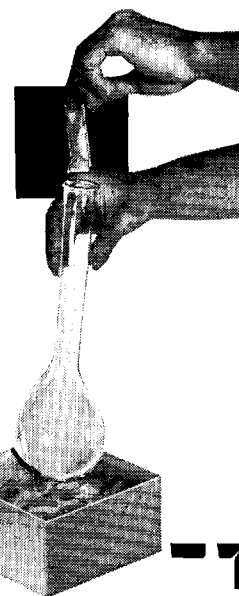
Brea Chemicals at Full Production

Brea Chemicals, Inc., subsidiary of Union Oil Co. of California, is now producing more than 250 tons per day of ammonia at its new \$13 million ammonia plant recently completed at Brea, Calif. Most of the output of the plant is being marketed in the form of Brea Aqua Ammonia, a high nitrogen fertilizer solution.

Brea has already set up a network of 13 distribution terminals in California, the Pacific Northwest, and Hawaii, providing 21 million gallons point-of-



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Kel-Pak Powders* are a precision blend of nitrogen-testing chemicals in inert, foam-reducing polyethylene packets.

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use storage capacity. A carbon dioxide plant also is in full production, with 70 tons of dry ice per day. An ammonium phosphate plant is under construction within the present plant area.

Girdler Completes Hydrogen Plant for Newport Industries

As part of its current expansion program, Newport Industries, Inc., recently added a Hygirtol hydrogen manufacturing plant to its facilities at Pensacola, Fla. It is designed to operate over a wide production range. Girdler Co., a division of the National Cylinder Gas Co., performed all design, engineering, procurement and construction services.

The hydrogen is produced by the catalytic steam-reforming of natural gas. Two stages of carbon monoxide conversion, each followed by carbon dioxide removal, and a final methanation stage are employed for the purification of the reformer furnace effluent. The purified hydrogen is compressed to 1050 pounds per square inch gage. At this pressure it will be used in a hydrogenation process to be placed in operation as soon as other facilities are completed by Newport Industries, Inc.

The hydrogen is employed in edible oil hardening and coal hydrogenation, and in the production of hydrogen chloride, ammonia, nylon intermediates and other petrochemicals.

American Potash Operating New Control Laboratory

American Potash & Chemical recently put into operation its new \$150,000 control laboratory at Trona, Calif. The dustproof, air-conditioned laboratory is of all-metal windowless construction and measures 60 by 40 feet. The laboratory will be used to test chemical solutions, before, during, and after processing. Over 60,000 individual tests are made each month.

Education

Rutgers Offers 4-Year Dairy Administration Course

Rutgers University has announced that it will offer a four-year course in dairy administration for the first time this year.

The course is designed to supply graduates with training in business methods and dairy technology, including also a background in liberal arts, according to Samuel A. Lear, associate professor of dairy industry at the college of agriculture. It is expected that graduates of this course will be equipped to fill such

positions as teacher, research worker, laboratory technician, dairy products processor, quality control supervisor, dairy plant manager, and salesman in the dairy industry and allied fields.

Dr. Lear stated that the new course was made possible by eliminating certain requirements for subjects such as geology and advanced chemistry and permitting the student a wider choice among the liberal arts and in such courses as letter writing, public speaking, and management.

The University of Georgia has a similar course, which it is offering this year for the first time.

Further information can be obtained from Westervelt Griffin, assistant dean, College of Agriculture, Rutgers University, New Brunswick, N. J.

Research

Cigar Manufacturers to Increase Research Grants

The Cigar Manufacturers Association of America announces that in order to expand its research program additional grants will be made available for scientific studies on the genetics, biochemistry, and chemistry of cigar tobacco types.

One of the purposes of these studies is to enhance the present knowledge of the substances present in the leaves of cigar tobacco types, and of the chemical conversions which these substances undergo during the various stages of the industrial processing and during the smoking of cigars.

All applications for research grants should be sent to Charles H. Horn, CMA Research Committee, Room 1321, 350 Fifth Ave., New York 1, New York. The scientific members of the CMA Research Committee will screen applications and award the research grants.

People

New Officers of Olin Mathieson Chemical

F. Stillman Alfred, John C. Leppart, and Stanley de J. Osborne have been elected executive vice presidents of the new Olin Mathieson Chemical Corp. Other officers of the firm, all of which were formerly with one or the other of the predecessor companies, are: **Russel R. Casteel**, vice president; **Norman H. Collisson**, **Donald W. Drummond**, **R. L. Hockley**, **Milton F. Meissner**, **S. L. Nevins**, and **J. J. Toohy**, vice presidents for operations; **Fred Olsen**, vice president for research; **Russell Hopkinson**, vice president for development; **Ralph A. Ostberg**, vice president for produc-

tion; **Robert W. Lea**, vice president for organization; **R. B. Lewis**, vice president for financial analysis; **David T. Marvel**, vice president for sales; **Theodore Weicker, Jr.**, vice president for overseas operations.

Otto Vasak has been appointed research engineer at California Spray-Chemical's plant in Richmond, Calif. Formerly a staff engineer at the plant, he will now be in charge of the main pilot plant engineering for manufacture of Orthocide.

Charles E. Trunkey has been named assistant secretary of the Middle West Soil Improvement Committee. He is a recent graduate in agronomy of Iowa State College.

M. K. McConnell, former manager of the USDA's soil conservation office in Richland Parish, La., has joined the agricultural chemicals sales department of Commercial Solvents.

Desmond B. Hosmer has been named manager of Monsanto's plant at Anniston, Ala., replacing **Wallace K. Belin**. Mr. Belin is to become production manager of the plant now being built at Kearney, N. Y.

George Reiger has left Hercules Powder, where he served as assistant manager of the sales research division, to become head of the market research activities of Diamond Alkali's new commercial development department. His headquarters will be in Cleveland.

Wayne S. Dodds, has left Northwestern Technological Institute where he was executive director of the chemical engineering laboratory to join the central laboratories of General Foods. He will be an assistant laboratory director in engineering research and development. Other new members of the laboratory staff of Hoboken, N. J., are **John A. Rikert**, a recent Ph.D. from Rutgers, and **Edith B. Bleisch**, a 1954 graduate of the University of Rhode Island.

Eugene Butler, president of the *Progressive Farmer* and editor of the magazine's Texas Division has been named chairman of the Beltwide Pink Bollworm Committee. He succeeds **George A. Simmons** of Lubbock, Tex.

Deaths

Harry F. Dietz, manager of the agricultural chemicals section of the Grasselli technical division of Du Pont, died of a heart attack on Sept. 4 at the age of 64. Dr. Dietz had been with the Grasselli division since 1932 and before that was in entomological work in Indiana, Ohio, and with USDA.