

peanut, wheat millfeeds, distiller's and brewers' dried grains, and fish meals are all down. Holding up and ahead of last season are: linseed cakes and meals, copra cakes and meals, gluten feed and meal, rice millfeeds, and alfalfa meal.

### Western Capacity for Tin Plate Now Half Its Needs

Further progress toward area self-sufficiency was made for the western canning industry in the middle of this month when Columbia-Geneva Steel Division of U. S. Steel Corp. completed a 68% boost in capacity of its tin plate and sheet steel mill at Pittsburg, Calif. Some 20% of the 5.2 million tons of tin plate currently produced in the U. S. is consumed in the West, and addition of a second high-speed electrolytic tinning line and another cold reduction mill by Columbia-Geneva raises western capacity for tin plate to about half its needs. Rounding out the expansion picture at Columbia-Geneva are several auxiliary pieces of equipment, including a second continuous pickling line and additional annealing furnaces.

Columbia-Geneva's tin plate capacity has been doubled to about 400,000 tons per year, and sheet steel capacity is now 250,000 tons per year. While the canning industry's interest naturally centers on the tin plate expansion and mill. The new mill is used for sheet steel, and the older five-stand mill is more available for rolling tin plate, where the extra stand is necessary to reach the lighter tin plate gages.

The company says the new electrolytic tinning line is one of the three most modern in the country. The first such line at Pittsburg was installed during an earlier expansion completed in 1948. Cost of the present expansion was \$35 million. Alden G. Roach, division president, says no further expansions are planned at the moment. As a matter of fact, the mill is not yet operating at capacity because not enough sheet steel is available.

### Revised Labeling Manual Issued by MCA

With the increasing tendency of the state and federal governments to regulate the labeling of hazardous chemicals, the recent announcement of the third revision of the Manufacturing Chemists' Association Labeling Manual should be welcome news to chemical manufacturers and formulators. The MCA publication "Manual L-1: Warning Labels," prepared by the association's committee on labels and precautionary information (LAPI), presents the principles of proper warning label information and includes illustrative labels for



Representatives of the British chemical industry recently conferred with the MCA labeling committee. The British representatives are interested in developing a manual for their industry. C. W. Richards of Imperial Chemical Industries, Ltd. (left); Frank Lewe, Food Machinery & Chemical; and Peter D. Moll, ICI

about 250 industrial and agricultural chemicals.

In addition to providing a sound basis for labeling information the manual has also served as a guide for state regulations. Four of the five states and territories which now have chemical labeling codes essentially follow the recommendations of the manual.

Most of the suggested labels present information beyond that required by the federal laws. In this respect the MCA seems to follow the premise that the federal regulations are the minimum requirements and the manual labels are for use in addition to, or in combination with, those required by law.

Copies of the 98 page booklet are available from the Manufacturing Chemists' Association, Inc., 246 Woodward Bldg, Washington 5, D. C., price \$1.20.

### Research

#### Vitamin K<sub>1</sub> Prepared From Synthetic Isophytol

A vitamin K<sub>1</sub> with racemic phytyl side chain which, in its properties, differs only slightly from natural vitamin K<sub>1</sub> with the optically active phytyl side chain, has been prepared, using synthetic isophytol and 2-methylnaphtho-hydroquinone.

At the meeting of chemists held in Innsbruck, Austria, recently, O. Isler and K. Doebel reported on these recent syntheses in the vitamin K series. The conference was a joint meeting of the Association of Austrian Chemists, the Society of German Chemists, and the Swiss Chemical Society.

The new compound shows the same ultraviolet spectra and gives the same combustion analysis as the natural vitamin. Its biological effectiveness on

vitamin K-deficient chicks and on rabbits with dicumarol-prothrombin anemia has been reported to be equal to that of the natural compound, within the margin of experimental error.

The conventional syntheses of vitamin K<sub>1</sub> and of the dihydro-vitamin K<sub>1</sub>

### GE Opens Lab for Studying Cold Sterilization

Dedication of General Electric's cathode ray sterilization research laboratory brought almost 100 scientists to Milwaukee, Wis., for a discussion of progress in the irradiation sterilization of food and drugs. The scientists saw a demonstration of GE's 1 million volt x-ray unit modified for cathode ray production. Starting a demonstration are: Herbert Schreiber, Jr. (left), Harold Boeker, and Joseph Ranftl of GE's x-ray division



diacetate from 2-methylnaphthohydroquinone and phytol or phytol acetate can be improved by the introduction of borotrifluoride etherate as an acid condensation medium. In the Hoffmann-La Roche laboratories in Basle, Switzerland, the synthesis has been carried out using the following: phytol, phytol acetate, phytol formate, phytol dichloroacetate, phytol methyl ether, synthetic isophytol, isophytol acetate, and isophytol from optically active phytol.

### Ground Limestone Good Insecticide Carrier, Finds USDA

A free flowing limestone dust giving good coverage of plants from airplane and ground equipment has been reported by entomologists of the Department of Agriculture. Previously limestone has been considered too alkaline and mechanically unstable for use as a carrier dust; however, according to the USDA a manufacturer in the South has developed a chemical process which yields a dust which flows freely and stores well even under moist conditions.

The entomologists reported that limestone mixtures with DDT, EPN, gamma BHC, and parathion all were effective after a year of storage. They reported that: "None of the insecticides broke down or lost their effectiveness when stored in glass-stoppered bottles at room temperatures." Only BHC showed appreciable deterioration following storage in paper bags at 100% humidity.

### Illinois Planning Research Center for Corn Genetics

The University of Illinois is planning to inaugurate a corn genetic research center July 1. Included in the plans is a scheme to maintain genetic corn stock of the corn belt region. The genetic project will be supervised by Marcus M. Rhoades and J. R. Laughnan, professors at the university.

In addition to maintenance of present genetic stocks the center will: develop new combinations of chromosomal testers, determine linkage relations of unplaced genes, and search for new genes.

The project will be supported by a grant from the U. S. Department of Agriculture.

### Leaf Analysis to Study Nutrients Efficiency in Orchards

Leaf analysis and tree symptoms are considered the best basis for studying nutritional problems in California orchards, according to Omund Lilleland of the University of California. As the result of his analyses of leaves he says that fertilizers applied on the soil in some

California orchards remains positionally unavailable and are not absorbed by the trees.

For this reason leaf analysis has been favored for evaluating the nutrient needs of the orchards in California. The technique has proved valuable in establishing requirements for potash, magnesium, and manganese in many orchard trials.

### Keep 'Em Happy and They'll Lay

The University of California has a research problem aimed at more and better production from the laying hen. One group of workers has been studying the effect of sunlight and other environmental factors on egg production. They found that 13 hours of light was about optimum for laying hens, in the absence of sunlight artificial light seems to be an adequate substitute.

Another group at the University has started on a project to break 17,000 eggs, hoping to find whether a whole flock of chickens can lay grade AA eggs. These researchers believe that by examination of the interior quality of eggs they may be able to develop a superior genetic stock combining the two desirable features of quality and quantity production. The egg breaking experiment is part of the project to evaluate egg quality.

### Education

#### Aids to Graduate Students In Food Technology at MIT

Scholarships, fellowships, and assistantships are available to qualified graduate students who wish to study in the department of food technology at Massachusetts Institute of Technology.

The aids for the year 1953-54 are available to students who desire to specialize in various fields of food technology. Many of the fellowships are sponsored by the food industry. In addition recipients of several national fellowships awarded by such agencies as the National Research Council and the National Science Foundation choose to do their graduate work at MIT.

Further information may be obtained from the Director of Admissions, Massachusetts Institute of Technology, Cambridge 39, Mass.

### \$100,000 Worth of Canning Equipment Given to U. of Calif.

More than \$100,000 worth of food processing equipment has been received in the food technology building at the University of California's Davis campus. The two dozen pieces of equipment, most of them donated by industry, are expected by Sherman J. Leonard, associate

specialist in food technology, to make the Davis pilot plant the most fully equipped in the nation for food processing research and teaching.

According to Leonard, the pilot plant will be able to handle most of the fruits and vegetables processed in California under conditions similar to commercial canneries.

Peach pitters, pit shaker, cup down, rotary washer, conveyors, elevators, graders, sorting conveyors, cooker and siruper, cup-down peeler-blancher, and distribution systems are among additions to the canning line.

The university hopes to have additional equipment for studying tomatoes and their products, fruit juices, and concentrates eventually.

### Government

#### Congress Discusses Inspection Legislation

Representatives of the canning and drug industries have urged passage of legislation pending before congress which would grant the Food and Drug administration a legal basis for inspection of processing plants. The legislation was introduced following the Supreme Court decision in the Cardiff case, in which the court ruled that, under existing law, the FDA does not have the right to inspect plants without the owner's permission.

Secretary Hobby has testified that the legislation has been introduced for the sole and limited purpose of eliminating the requirement that permission be granted before inspection can take place. The hearings have, however, developed into a discussion of the whole problem of inspection procedures with several congressmen expressing interest in the methods and limits of inspection after entry has been granted.

Current discussion seems to center on how far the right to inspect should extend, prescriptions and manufacturers formulations have been cited as material which the manufacturer should be able to restrict from inspection. The discussion of procedure developed as a result of consideration of the brief filed in the Cardiff case by the FDA. Some critics believe that the FDA claimed rights to inspect privately developed processes in that brief.

#### FDA Cool Toward Cold Sterilization

The Food and Drug Administration will not stand as a bar to progress in the use of cold sterilization of foods and antibiotics, according to W. B. Rankin.

Rankin, assistant director of field