

Field work on the plant is to start this fall and construction is expected to be finished during the latter part of 1955.

Hydrogen is to come from Bunker C fuel oil, which is to be shipped by barge on the Columbia River. The plant will also be designed to use natural gas when it becomes available in the area.

Marketing of anhydrous and aqua ammonia, urea, ammonium sulfate, and urea-ammonium nitrogen solutions for agricultural use will be handled by Pacific Supply Cooperative.

Hercules Starts Ammonia Line At Mo. Ordnance; May Produce Other Chemicals

Hercules Powder has announced that production of anhydrous ammonia at the Missouri Ordnance Works at Louisiana, Mo., has started. One ammonia line is now operating and the other two lines are to be in within the next few weeks. Hercules also announced that studies are being made of the possibilities for producing other chemicals there. One of the ammonia lines, it said, could be readily converted to produce methanol. Pentaerythritol and formaldehyde production are also being contemplated.

Armour Feed Plant Burns In Chicago; \$500,000 Loss

Armour & Co. suffered a \$500,000 loss in a fire at its animal feed plant in Chicago near the stock yards. There were no injuries or fatalities. A fourth of Chicago's fire fighting equipment was summoned to prevent the flames from reaching chemicals and natural gas stored near an adjoining fertilizer plant.

The fire was thought to have been started by a dust explosion.

Du Pont to Build Freon Plant at Louisville

Du Pont has announced plans to build a new plant for increasing production of Freon-22 monochlorodifluoromethane, refrigerant and aerosol propellant. The plant, capacity for which was undisclosed, will be constructed on the site of the company's Louisville, Ky., works.

Completion of the plant, with which the company expects to meet needs for many years, is scheduled for the fall of 1955.

Central Soya to Put Up Feed, Soybean Plant at Chattanooga

Central Soya Co. of Fort Wayne, Ind., had announced plans to build a soybean-processing and feed-manufacturing plant

on a 67-acre tract near Chattanooga, Tenn. The plant will be operated by McMillen Feed Mills, the feed division of Central Soya. The plant will increase the company's soybean capacity to more than 40 million bushels annually and its feed manufacturing capacity to over 1 million tons per year.

Calspray Affiliate Opens Insecticide Plant in Mexico

Insecticidas Ortho, an affiliate of California Spray-Chemical, has opened a warehouse and dust mill for making finished insecticides in Lower California at Mexicali. It is designed to serve the rich Mexican agriculture area nearby and will be operated entirely by Mexican personnel. The plant is the 46th opened since Calspray and its affiliate began an expansion program in 1947.

Du Pont to Build Laboratory For Studying Packaging Film

A laboratory for studying synthetic polymers for packaging and industrial film is to be built at Du Pont's experimental station near Wilmington. The new building, to cost \$1,275,000, is the first major addition to the \$30 million station since its dedication in 1951.

The laboratory will accommodate about 45 employees.

Research

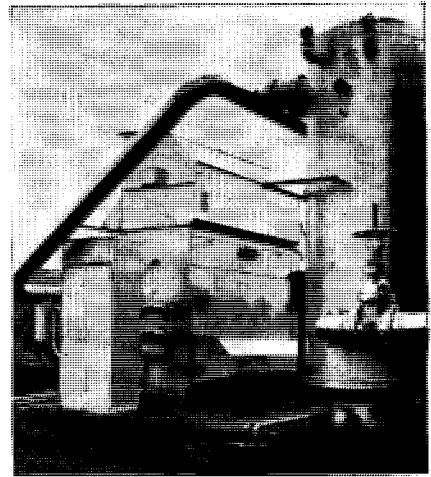
Cesium-137 Sterilizes Trichina Economically in Packing Plants

Gamma radiation equipment designed to break the trichina cycle in hogs can be installed and operated in a 2000-hog-per-day packing house for about one quarter of a cent per pound of pork processed, it was disclosed at Ann Arbor, Mich., recent International Congress on Nuclear Engineering, sponsored by the American Institute of Chemical Engineers.

In a typical packing house, the cleaned and spread hog carcasses spend from 24 to 28 hours in a chill room before being further processed. Their proposed trichina sterilization process might well be fitted into this period, say H. J. Gomberg, S. E. Gould, L. E. Brownell, and J. H. Nehemias, University of Michigan. The necessary dosage, about 30,000 rep, would be administered by conveying the still intact carcasses in two lines past both sides of a 6 foot by 5 foot by 0.4 inch plaque containing radioactive cesium-137. Such an installation could handle 2000 hogs a day, say the authors; conveyor speed at this capacity would be 6.67 feet per minute.

Gamma dosages of up to 60,000 rep have been found to cause no detectable

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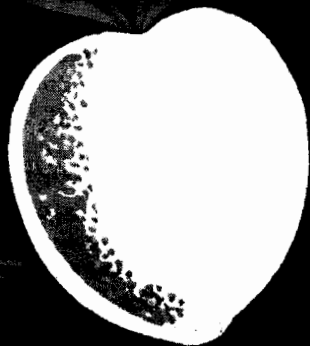
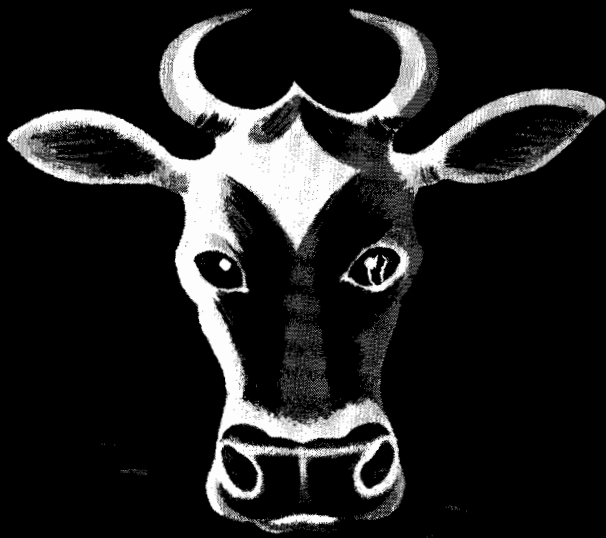
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flavor changes in ground pork. The proposed 30,000 rep dosage is therefore quite feasible from the flavor viewpoint, the authors believe, and while it does not kill trichina outright, it does destroy their ability to propagate, which is all that is necessary to break the cycle. There is a desirable secondary effect too; 30,000 rep increases the refrigerated shelf life of pork by nearly 30%.

The design depreciation period was taken as 5 years, but since cesium-137 has a half-life of 33 years, the authors believe depreciation might well be spread over a 10-year period. This would cut the predicted quarter of a cent a pound processing cost nearly in half.

Salt Can Substitute for Part of Potash Used on Some Miss. Soils

Sodium can be substituted for part of the potassium on much of the low-potash soil in Mississippi, according to C. Dale Hoover, head of the agronomy department at the state's agricultural experiment station. His experiments with cotton yields show that about 25% of the potassium fertilizer requirement can be supplied with sodium, as sodium chloride, which may be cheaper.

About 65 to 95% of Mississippi soils that are low in potash content could be fertilized with sodium to meet part of the potassium requirement, says Dr. Hoover. Approximately 40% of Mississippi soils outside the Delta region are potash deficient for cotton production as are many of the soils of the southeastern cotton-producing states, according to Dr. Hoover.

Analyses of 1200 soil samples indicate that low potassium-level soils containing less than 50 pounds of exchangeable sodium per acre can be expected to respond to sodium applications under cotton. He reports that no consistent effects on fiber quality due to sodium were found.

Sodium can be applied as sodium chloride and mixed with prepared fertilizers for broadcast application or the salt can be applied separately provided it offers a cheaper way of meeting one quarter of the potassium needs of the soil.

11 Research Grants from NVF For Nutrition, Vitamin Studies

The National Vitamin Foundation has announced the awarding of 11 grants totaling \$55,085 for research in the fields of vitamins and nutrition. The new grants become effective on June 30. Grants were awarded to:

William F. Alexander, St. Louis University, for studies on the relation of vitamin B₁₂ to nerve cell metabolism.

William B. Bean, and Robert E. Hodges, State University of Iowa, for studies on human pantothenic acid deficiency.

Walter J. Bo, University of North Dakota, for studies of the processes involved in metaplasia in the rat uterus following vitamin A deficiency and of the relationship between estrogen and vitamin A deficiency in producing metaplasia in the rat uterus.

Bacon F. Chow, The Johns Hopkins University, for biochemical studies on the process of aging.

Louis D. Greenburg and J. F. Rinehart, University of California, for studies on the fundamental biochemical and morphological pathology of vitamin B deficiencies in the Rhesus monkey.

B. Connor Johnson, University of Illinois, for studies on carnitine (vitamin B₇) levels in the blood, urine, and skeletal muscle of healthy individuals and in patients suffering with nutritional disease.

R. W. Luecke, Michigan State College, for studies of the quantitative requirements of the baby pig for certain B vitamins.

Marjorie M. Nelson, University of California, for studies on multiple congenital abnormalities produced by maternal vitamin deficiencies.

E. W. McHenry, University of Toronto, for studies on vitamin B₆ and intermediary metabolism.

Elaine P. Ralli, New York University, for studies on the influence of nutritional and hormonal factors in patients with diabetes mellitus.

People

Martin Succeeds Rost as Head Of Minnesota Soils Department

Clayton O. Rost, head of the University of Minnesota soils department, retired July 1 after 41 years in the department. His successor is William P. Martin, professor of agronomy and bacteriology at Ohio State.

E. D. Crittenden, director of research for the Nitrogen Division of Allied Chemical & Dye, has been awarded the Distinguished Service Award by the Virginia Section of the AMERICAN CHEMICAL SOCIETY. He has been in nitrogen research since taking his Ph.D. at Columbia in 1922, working first for the Fixed Nitrogen Research Laboratory and later for Atmosphere Nitrogen Corp., predecessor of the Nitrogen Division.

Robert M. Hagan has been named chairman of the department of irrigation at the University of California's Davis campus, succeeding Frank J. Veihmeyer, who retired July 1. Dr. Hagan has been associate professor of irrigation.

R. W. Gunder has been promoted to western sales manager of Stauffer Chemical Co. His headquarters will be in San Francisco.

Henry B. Smith has been promoted to technical director for engineering and commercial development at General Foods' central laboratories in Hoboken, N. J., and Robert C. Reeves to technical director for product and process development. Both were formerly laboratory directors in their respective fields.

Hiram B. Young has been elected vice president in charge of eastern production for Hooker Electrochemical and Thomas E. Moffitt, vice president in charge of western operations.

Paul R. Elliker, chairman of the department of bacteriology at Oregon State College, won the 1954 Borden Award for outstanding research in the field of dairy bacteriology. The award recognized his research on the prevention of spoilage in dairy products, viruses damaging dairy starter cultures, and dairy sanitation.

Charles N. Frey, MIT lecturer and industrial consultant, has been awarded the 1954 Nicholas Appert Medal for his work on yeast, bread production, vitamin D in milk, soluble coffee, and other food research.

Donald B. Benedict has been appointed works manager of Carbide & Carbon Chemicals Co., a division of Union Carbide & Carbon Corp.

Denman Penniston has been promoted to assistant to the president of the Solvay Process Division of Allied Chemical & Dye. Succeeding him as director of sales is John H. Elleman. New assistant directors of sales are: Arthur Phillips, Jr., Harry R. Stoothoff, and Neal M. Draper.

J. A. Field, assistant manager of the fine chemicals department of Carbide & Carbon, is on leave to serve as consultant to the chemical division of the Business and Defense Services Administration, U. S. Department of Commerce. He is slated to become assistant administrator of the chemical division of BDSA.

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