

Polyoxyethylenes Deemed Superior for Food Products

NEW YORK—While much was said last year for and against the use of polyoxyethylene stearates in bread, culminating in their exclusion for this purpose by the Government in favor of the glycerides, the prediction was made here that the "polys" would make immediate inroads into the glyceride market for this purpose should they be again ruled as permissible agents in bread.

The speaker who made this assertion at the Association of American Soap and Glycerine Producers convention, E. McCauliff, Glyco Products Co., however felt it was unlikely that new hearings would be called at this time on the bread standards. While his company makes both products, Dr. McCauliff said that for retention of bread freshness and quality, the polyoxyethylene stearate materials possessed what he termed superior efficiency.

The polyoxyethylenes were made from stearic acid, and the ruling resulted in the loss of a market for many million pounds of that material, it was contended.

Recently a somewhat similar situation has developed in connection with ice cream. As a result of hearings being

held by the Food and Drug Administration concerning standards of identity for that product, the speaker said, those in a position to evaluate the evidence predict that when standards of identity for ice cream are issued, probably in mid 1954, they will not contain permission for the use of the polyoxyethylene fatty acid esters in ice cream stabilizers. As such they have had an appreciable, although not extremely large, tonnage use up to the present time.

Ice cream stabilizers usually consist of a gum such as alginate or other vegetable gum or gelatin, together with an emulsifier which produces smoothness and freedom from ice crystals in the product. The emulsifiers for ice cream have been, as in the case of bread, either glycerides or the "polys."

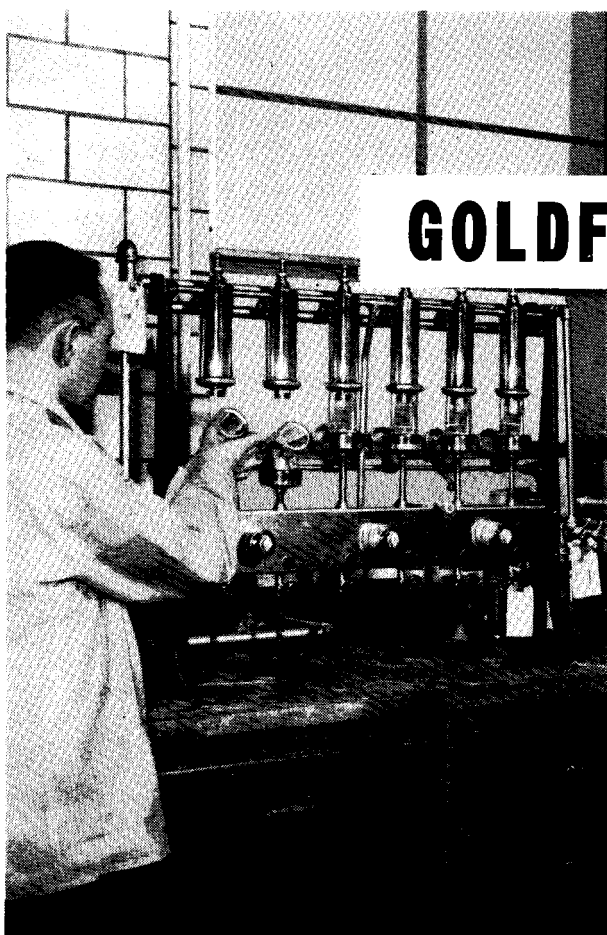
Emulsifiers have widespread uses in the insecticide field, in various types of sprays, wettable dusts, emulsifiable concentrates, and the like. There has been a tremendous increase in the tonnage of agricultural chemicals requiring emulsifying agents, and while the trend has been towards smaller percentages of more efficient emulsifiers, the over-all

trend is nevertheless substantially upwards.

Dr. McCauliff stated that simple and relatively uncomplicated esters and sulfonates originally came to the forefront as emulsifiers in this field. But with the progress of research in the laboratories of the manufacturers of emulsifiers, more efficient and tailor-made materials have been developed. Although many of these are ethers, sulfonates, or other products not requiring fatty acids in their manufacture, nevertheless there are many products, particularly nonionic fatty acid esters, which are obtaining a definite and stable position in the picture.

Glycerol researches into many varied channels were reported to the meeting. C. S. Miner Jr., Miner Laboratories, referred to two papers on the solubility of various sugars in glycerol-water mixtures, one of which has already appeared in AG AND FOOD. The other has been accepted for publication soon, he said.

Dr. Miner thought that probably the most intriguing and unusual new use for glycerol is in the preservation of living



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cells by freezing and low-temperature storage. The unique value of glycerol in this process was discovered several years ago, but 1953 brought great progress. In fact, the recent advances in preservation of red blood cells by freezing in glycerol-containing media constitute the subject of a conference that was being held the day that Dr. Miner spoke, Jan. 27, under the auspices of the National Research Council.

One field of growing importance for glycerol, said E. Scott Pattison, manager of AASGP glycerine division, has been that of monoglyceride emulsifiers for margarine and shortening, as well as for other food and industrial uses. Aceto stearins, made with glycerol, are getting commercial trial as plastic food coatings.

Industry

Mathieson Begins Operating New Fertilizer Unit in Texas

Mathieson Chemical has completed a \$1.5 million expansion of its Pasadena, Tex., plants and has started commercial production at its new \$1.1 million fertilizer unit.

The new fertilizer unit, which will produce high-analysis, pelletized products, increases Mathieson's production at Pasadena by 25%. The announcement did not include capacity figures of the plant.

The other \$400,000 of the expansion program was devoted to modifying the existing sulfuric acid and fertilizer units there. According to the Houston operations manager, John R. Beatty, the expansion provides the Southwest with its largest fertilizer plant.

Mathieson continue to make the same grades of fertilizer there as before. Processing improvements have been made, however.

Du Pont Adopts Trade Names for Herbicides

Du Pont has announced adoption of two trade-marks to identify its substituted urea herbicides. Karmex is the trade-mark for agricultural herbicides formulations of these compounds. For industrial weed-killing formulations, the name Telvar will be used.

Karmex W will apply to 80% formulation of CMU for selective weed control in asparagus, sugar cane, and pineapple, and for general use in agricultural areas where complete control of vegetation is desired. The W refers to a wettable powder.

In Karmex DL, which is to be available this year in limited quantities for pre-emergence control of weeds in cotton, the D indicates that the active in-

gredient is 3-(3,4-dichlorophenyl)-1,1-dimethylurea, and the L means it is in liquid suspension.

Telvar W identifies the CMU formulation intended for use by custom applicators and industry for vegetation control over an extended period of time. Industrial trials of Telvar DW are planned this year.

California Strawberry Grower Rebuilds Freezing Plant

California Farm Products, grower and processor of Shasta strawberries, has completed the renovation and modernizing of its processing plant in Watsonville, Calif. Frank Saveria, president of the company, says the plant will be in full operation by 1954 harvest.

Fire destroyed 75% of the plant in January 1953, necessitating the rebuilding program. Facilities of the new plant include tunnel and room-type freezers. Six tunnels, capable of maintaining temperatures at -35° F., have been installed and each tunnel can quick-freeze five tons of strawberries in one operation. Adjacent freezing rooms will enable the plant to freeze an additional 30 tons at the same time.

Total processing capacity of the plant will be an estimated 20 million pounds per year.

Davison Triple Super Sales In Heavy Chemicals Department

Davison Chemical's sales of triple superphosphate will be handled by the company's heavy chemicals Department, it is announced. William Caspari, Jr., is general sales manager of the department. Other products coming under this department are sulfuric acid, run-of-pile, and granulated 20% normal superphosphates, and phosphate rock.

Tri-State Building Fertilizer Plant at Henderson, Ky.

Tri-State Co. has awarded the contract for building a new fertilizer plant in Henderson, Ky., to Davidson-Kennedy Co. of Atlanta, Ga.

Estimates of the cost are said to be in excess of \$130,000. Davidson-Kennedy will supply all equipment, which is to be as automatic as possible, design the plant, and supervise construction.

The new plant will supply mixed fertilizers designed for use within a 50-mile radius of Henderson.

CSC to Build Large-Scale Facilities for Nitroparaffins

Commercial Solvents has announced it will build large-scale facilities for producing nitroparaffins at its Sterlington, La., plant. In addition, nitroparaffin operations at Peoria, Ill., are to be enlarged. Total cost of the two projects is expected to be around \$5 million.

The nitroparaffin family has been found useful as raw materials for manufacturing chemicals used in agriculture and the food industry, as well as a number of other industries. Basic products CSC plans to make are nitromethane, nitroethane, 1-nitropropane, 2-nitropropane, nitrobutane, and their amino-hydroxy and hydroxylamine derivatives.

Research

Chlordan Boosts Yields of Sugar Cane in USDA Tests

Chlordan used to destroy soil insects and related pests boost sugar cane yields, according to reports from USDA entomologists. Chlordan prevents root-feeding damage and, in turn, the entry of rot organisms into pest-inflicted root wounds, they found.

Cooperative field tests over five years by the Agricultural Research Service and the Louisiana Agricultural Experiment Station, resulted in an average increase in both cane and sugar of more than 12% over untreated plantings. Average yield increased from 21.3 to 24.1 tons per acre and from 3852 pounds of sugar to 4315.

Gains were achieved by applying chlordan as a 1% dust into open furrows containing seed at the rate of two to four pounds of actual insecticide per acre. Cost of insecticide and application was estimated at \$4.50 an acre, whereas the average cash gain from increased yields amounted to around \$18 during the test years, 1948-52.

Tests designed to determine carryover effect showed an even greater yield increase in the second year after application. Two plots treated with two and

On The Cover

The Law Is Also a Factor

THE LAW is a factor of increasing importance in consideration of the problems of food production and processing. This statue, symbolizing the authority and power of the law, stands in front of the Supreme Court Building in Washington. The power of the law is rather universally acknowledged. However, the authority of the law, in many instances, requires study and understanding. The law of nature and the laws of man, as studied by the scientist and lawyer, cannot logically be in conflict, but there is a need for an interchange between students of the two types of law to recognize the areas and limits of different types of legal authority.