

CHEMISTRY

Levulinic Acid Prepared Easily From Cornstarch

Long Known Only as Laboratory Curiosity Because of Difficulty of Preparation, Can Now Be Made Cheaply

ANOTHER acid that has long been known only as a laboratory curiosity because of its difficulty of preparation and consequently high cost, can now be made available very cheaply in industrial quantities. It is levulinic acid, a highly reactive organic compound. The process by which it may be made commercially available was disclosed to the American Chemical Society by Dr. Wendell W. Moyer of the A. E. Staley Manufacturing Company of Decatur, Ill.

The acid is prepared from any sufficiently abundant carbohydrate; cornstarch is an almost ideal starting substance. It is converted first into glucose, and the latter, through a process of several steps involving treatment with a mineral acid, into levulinic acid.

Because of its lively properties, Dr. Moyer foresees a good future for the acid in industry, and especially in medicine, where calcium levulinate has already become an important pharmaceutical chemical.

Dr. Moyer discussed other medicinal and related possibilities of levulinic acid: "The most significant uses of levulinic acid depend upon the unique properties of the free acid. It is nontoxic to animals but retards the growth of bacteria and fungi. Applications in the food-processing fields are indicated. Perhaps the most interesting and valuable discovery is that levulinic acid is a powerful plant growth stimulant. Extensive tests now being made indicate that the acid may be a factor for increasing the yield of agricultural crops."

Science News Letter, May 2, 1942

May Replace Tapioca

WAXY maize starch, product of a peculiar-looking kind of corn that seems to be waxy though it contains no actual wax, promises to become a strong competitor for tapioca. Not that a new kind of blanc-mange will replace tapioca pudding: desserts are the least of tapioca's business, anyway. The real competition will come in industry, for

tapioca starch is one of the great industrial starches; for one thing, it furnishes practically all the "stickum" on envelope flaps and the backs of postage stamps.

Possibility of waxy maize starch from home-grown corn replacing imported tapioca was suggested by Prof. R. M. Hixon and Dr. G. F. Sprague of the Iowa Agricultural Experiment Station at Ames. It is a business worth trying for. According to Drs. Hixon and Sprague, the United States has imported annually for the last three years about 350 million pounds of duty-free starch, mostly tapioca. This is about one-fourth of the nation's starch supply.

Science News Letter, May 2, 1942

● RADIO

Saturday, May 9, 1:30 p.m., EWT

"Adventures in Science," with Watson Davis, director of Science, over Columbia Broadcasting System.

Results of the Eighth Pan American Child Congress will be discussed by one of the participants.

Tuesday, May 5, 7:30 p.m., EWT

Science Clubs of America programs over WRUL, Boston, on 6.04, 9.70 and 11.73 megacycles.

One in a series of regular periods over this short wave station to serve science clubs, particularly in the high schools, throughout the Americas. Have your science group listen in at this time.

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